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SECTION
APPLIED ECONOMICS
BUSINESS ADMINISTRATION

The Perception of Entrepreneurial and 3rd Generation University in Turkey

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Increased competition caused by globalization has led to philosophical changes in private and public businesses. This situation has affected educational institutions and they have needed dynamic, innovator and transformational tools in order to survive in competitive environment. The universities defined as "3rd Generation Universities" need commercialization, network among universities, close co-operation among institutions and entrepreneurship as well as intellectual and innovative changes. In this regard, the aim of the research is formed by the analysis of "Entrepreneur University" concept from the perspective of the academicians that served at managerial positions at the universities in Turkey. The research is limited to the opinions of the academicians that served at top, middle and lower management at randomly chosen 20 universities.

Keywords: Entrepreneurial University, Managerial Academics, 3rd Generation University, Economic Structure of 3GU

JEL classification: L26, L33, L31, M10, M20, E02.

Introduction

The institutions converting with the widespread competition effect of globalization are repositioning themselves in the information era and developing effective strategies on global scale. This change and conversion has also given universities which provide higher education a great shock. Universities are developing long-term strategies related to contemporary radical changes by excluding the traditional definitions in the fields of management and education. At the universities, where competition is escalated, strategies to gain high-grade students and experienced academicians started to arise. Worldwide universities are in the fight of attracting the top-quality students to their campuses by providing them with the opportunities created for the students with the supports of their own business integrations as well as state and local governments. Wissema (2009) emphasizes in their study that the universities, which open up to the world with the effect of globalization, are in a great competition with each other in order to attract high-grade international students.

The universities are the top institutions that the educational and research activities take place. Today, the functions of the universities are grouped as; (1) education, (2) basic scientific researches and (3) community services (Gürüz, 1994). The universities are functionally organized to perform mainly one function among them (ERDEM, 2005). When these functions are examined, two different characteristics of universities are found; (1) "research universities" and (2) "mass education universities" (Gürüz, 2001). In the near future, it is estimated that the Council of Higher Education (YÖK) is going to form new aims and vision for the universities and redefine the universities in Turkey in two groups as research and mass education universities.

In the traditional university model, the universities were expected to only produce information; however, now they are expected to use the produced information effectively, create resource for new productions and commercialize the outputs. According to Kiper (2010), universities must subsidize research studies which are suitable in their way by looking out for universal and/or common good and/or industrial support alongside of their educational functions. Also in the last century, developing and applying the model of relationship based on mutual interest among these institutions and universities have shown an accelerated increase (Kiper, 2010). Worldwide universities which proved their qualities have been undergoing a radical change with reference to

the science based university model. In order to understand this change better, the process of development and change of universities from generation to generation must be examined. The First Generation Universities (1GU) evolved from (de Ridder-Symoens, 2003) and later, turned into special academic structures in order to train more students of good quality professionally. The idea of "the discovery and development of new information" came out of the philosophy of "protection and transfer of accepted information" in the transitional period. The Second Generation Universities (2GU) considered the basic laws of science in every thinking process and adopted "know-how" practices. The Third Generation Universities (3GU) aimed to commercialize "know-how" practices and created information, when they focused on the scientific studies and educational aims. The main factor forcing universities to change is the fund seeking emerging from increasing costs of researches with the technological developments (Wissema, 2009). Therefore, universities adopted entrepreneurship qualifications in a progressive pace. The universities try to improve academic entrepreneurship (Çetin, 2007) and to update the existing state around entrepreneurship by focusing on scientific projects, overseas education, patent and license applications, long-term industrial collaborations and updating curriculum activities. The leading universities in the world increased the number of industrial collaborations in the way to become Entrepreneur University and the Third Generation University and made this situation permanent with long-term agreements. Thus, a high level of synergy began to form among the institutions which carried on business in two different worlds. The high level of competition and change brought by globalization speeded up the activation of universities and the integration to market conditions. In this process state and local governments got into the competition of attracting the most qualified students in the world into their universities by supporting 3GU and the entrepreneurship of universities with their policies. Thus, a serious competition comes into question with globalization which is specific to worldwide student (Wissema, 2009) and it triggers seeking of qualified academicians in a sequence. The increased need of qualified human capital in global environment has given birth to the obligation of universities to be upgraded to the 3rd Generation. This formation has triggered universities' becoming entrepreneur in international arena. The gap between the universities, which implement these qualifications, which adapt this philosophy and which increase their competitive capacities, and the universities that do not have the qualifications of the 3rd Generation is becoming wider day by day. Entrepreneur universities are the institutions that are open to change, they have economic freedom, they are autonomous and they complete their industrial integration; and also, they can commercialize knowledge.

Gürüz (2001) argues that as modern universities are largely dependent on public funding; their autonomy will not be possible. Gürüz supports the changeover to "entrepreneur university model". Besides Gürüz (2001) defines the contemporary and modern university as follows; it is integrated with the all sections of society, it is inspected to see in which level it fulfills its accountability towards public in terms of its activities and its activities are led by society, it creates additional funds by utilizing all kinds of facilities, equipments, accumulation of knowledge and manpower with an entrepreneur mind, it has an extraordinarily complex structure which is managed with modern business techniques. According to Didou-Aupetit (2002), USA and Canada, which have advanced higher education systems, consider international education as a financial resource to be sold as a service in market logic. Today the universities are being managed professionally as if they are large companies. Universities accept knowledge as goods to be put on market and to be sold. Now, it is the market that determines which lessons will be given, which researches will be supported, which student profile they will serve and which enrollment policies will be adapted. The effects of rapid changes on universities since the last quarter of 20th century can be summarized as follows (Didou-Aupetit, 2002, Lee, 2004, McBurnie, 2002, Tural, 2002, Erdem, 2006);

- i. The effective usage of information technology in researches, in presenting educational services and in distance education:
- ii. Changing relationship among government and universities:
- iii. Public institutions of higher education's having rivals:
- iv. Facing towards pragmatic university:
- v. University autonomy's facing towards the axis of the responsibility of answering to the public:
- vi. Accepting universities as knowledge-based societies and resource for economy, and a complex business rather than accepting them as student-teacher community:
- vii. Universities' becoming international:

Methodology

Aim of Research

The aim of this research is to find two objectives. The first objective of this research is to determine the level of perception belonging to the academicians who has administrative functions in the private and public universities within YÖK in Turkey about "Entrepreneur University and the Third Generation University" and to determine approaches related to this concept. The second aim is to statistically determine the significance level

of the relationships between the survey answers and demographic features of the academicians who had administrative functions.

Method and Procedure of Research

In the study, the relational screening model which analyzes the existence and amount of interaction between variables has been used. According to Karasar (2002), the relational screening model is a research approach that aims to define the situation in the past and the situation at present as they are.

In this study, probabilistic sampling method has been used. In Turkey, there are 193 universities registered in the Council of Higher Education (YÖK). The groundmass of the study consists of the academic staff that had administrative function at the universities within YÖK. It is believed that the academicians with administrative function in their past are the people who can define Entrepreneur University and 3rd Generation University concepts, analyze the current situation and offer solutions. “Cluster Sampling” and “Simple Random Sampling” methods have been used in the sampling choice. Simple random sampling assumes that the probability of getting into sampling of each factor which forms groundmass equals to the weight to be given to the each factor in the statistical calculations (Arıkan, 2004). Whereas in cluster sampling, the groundmass is grouped as clusters and random samplings are chosen from each cluster (Çömlekçi, 2001). While the survey questions were being formed for the researched, the opinions of 23 academicians working at Celal Bayar University with administrative function in their past were taken. In the light of their opinions, a literature review was made for the subjects of “3rd Generation University”, “Entrepreneur University” and “Competition, Finance and Collaboration in Higher Education”, and totally 24 questions were formed, six of which were demographic, by making use of sources (Ökmen and Bal, 2013, Aslan, 2010, Odabaşı and Odabaşı, 2004, Farsi et al., 2012, Heidler and Lengensdorf, 2015)

In 18 questions, five point Likert scale was used in order to determine the approaches and perception level of administrators related to “Entrepreneur University and 3rd Generation University” concepts.

In this study, 20 universities were chosen randomly among the universities registered in YÖK and their website addresses were taken from the link “<http://www.yok.gov.tr/web/guest/universitelerimiz>” (Table 1) is chosen.

Table 1 Universities and Web Sites

University	Web Site
Abdullah Gül University	http://www.agu.edu.tr
Amasya University	http://www.amasya.edu.tr
Ardahan University	http://www.ardahan.edu.tr
Atatürk University	http://www.ataturk.edu.tr
Bingöl University	http://www.bingol.edu.tr
Bozok University	http://www.bozok.edu.tr
Celal Bayar University	http://www.cbu.edu.tr
Cumhuriyet University	http://www.cumhuriyet.edu.tr
Çağ University	http://www.cag.edu.tr
Doğu Akdeniz University	http://www.akdeniz.edu.tr
Dokuz Eylül University	http://www.deu.edu.tr
Dumlupınar University	http://www.dumlupinar.edu.tr
Düzce University	http://www.duzce.edu.tr
Gazi University	http://www.gazi.edu.tr
Gaziosmanpaşa University	http://www.gop.edu.tr
İstanbul Teknik University	http://www.itu.edu.tr
Karadeniz Teknik University	http://www.ktu.edu.tr
Marmara University	http://www.marmara.edu.tr
Ondokuz Mayıs University	http://www.omu.edu.tr
Tokat University	http://www.tokat.edu.tr

The web pages and tabs “University Home Page”, “Faculties”, “Institutes”, “Schools of Higher Education” and Vocational Schools of Higher Education” of 20 chosen universities were analyzed, and the “names”, “sir

names", "titles", and "e-mail addresses" of the academicians in administrative function and who were in administrative function in the past were entered in MS Excel© table. The online survey which was designed via Google Drive© was sent to these academicians with personalized e-mail by using "title", "name" and "sir name". It is known in the literature that the percentage of answering e-mails sent for researches by academicians or other individuals is very low. In the frame of this information, high percentage of reply was aimed with practice of the method of personalized e-mail (title, name, sir name and official e-mail address). The e-mails were sent from the Celal Bayar University's official e-mail address in order to minimize the risk of receiving e-mails as "spam" for the target group. In total, 283 surveys were answered in four months period. By using SPSS 20 pack program, the data obtained from surveys were evaluated in terms of frequency distributions, arithmetic mean, and standard deviation and chi square values. The reliability co-efficient (cronbach alpha) of the survey consisting of 18 questions was found 0,612. When the questions 7, 8 and 17 were taken out and the cronbach alpha was calculated, the result increased to 0,709.

Findings and Discussion

The research results were analyzed in five categories as follows; demographic information, the views related to changes and autonomy at universities, the views related to "Entrepreneur University" and "3rd Generation University", the views about university-industry collaborations, and finally the views related to the economic structure of universities. The demographic information of research participants are demonstrated in Table 2.

Table 2 Demographic Information

Administrative Tasks	Frequency	Percent	Branch	Frequency	Percent
Rector, Deputy R., R. Consultant	11	3,9	Science and Engineering	99	35,0
Manager, Vice Manager (HS, VHS, Central M.)	95	33,6	Social Sciences	94	33,2
Dean, Vice Dean	46	16,3	Educational Sciences	29	10,2
Other Administrative Tasks	131	46,3	Health Sciences	61	21,6
Total	283	100,0	Total	283	100,0
Administrative Mandate	Frequency	Percent	Number of Students	Frequency	Percent
Less than 1 year	32	11,3	10000 and less	63	22,3
1-3 years	81	28,6	10001-20000	48	19,0
3-5 years	59	20,8	20001-30000	51	22,0
5-8 years	9	10,2	30001-40000	34	14,0
8 and more years	102	29,0	40001 and more	87	22,7
Total	283	100,0	Total	283	100,0
Organized Industry	Frequency	Percent	Entrepreneur University and 3GU	Frequency	Percent
Yes	254	89,8	Our university is entrepreneurial university	244	86,2
No	29	10,2	Our university is not entrepreneurial university	39	13,8
Total	283	100,0	Total	283	100,0
University Revenues	Frequency	Percent	Gender	Frequency	Percent
Yes	126	44,5	Woman	44	15,5
No	157	55,5	Man	239	84,5
Total	283	100,0	Total	283	100,0

It is seen that 53.7% of the participants are at senior management (Rector, Deputy R, R. Consultant, Manager, Vice Manager, Dean and Vide Dean) and are at the position of direct decision makers. It is revealed that 29% of the participants are experienced individuals having experience of more than 8 years of administrative function. 88.7% of the participants' having experience of more than one year of administrative function will increase the confidence of research data. It is seen that 35% of the participants are from the fields of science and engineering, and 33.2% of the participants are from the field of social sciences. It is confirmed that 44.5% of the universities have side income. There are Organized Industry in 89.8% of the area where the universities are located. It is seen that 86.2% of the participants have conceptual information about "Entrepreneur University and 3GU". It is obvious that 22.7% of the universities where the participants work have more than 40000 students and that there is an equilibrium distribution among answers. The 84.5% of the participants are male and 15.5% of the participants are female; thus, it can be inferred from the statistics that administrative duties are generally assigned to males.

Table 3. Comments Related to Change and Autonomy at Universities

Items	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total	Std. D.	Mean
Q1. Change is obligatory at universities.	201 %71	53 %18,7	7 %2,5	12 %4,3	10 %3,5	283 100,0	0,987	1,498
Q6. It is positive that state universities depart from their public nature.	202 %71,4	53 %18,7	6 %2,1	12 %4,2	10 %3,5	283 100,0		
Q9. Universities are autonomous enough.	8 %2,8	29 %10,2	52 %18,4	95 %33,6	99 %35,0	283 100,0	1,089	3,876
Q14. It is necessary for universities to earn money.	89 %31,4	110 %38,9	40 %14,1	25 %8,8	19 %6,7	283 100,0		

In Table 3., the percentage of sharing idea of the administrator academicians to the propositions related to change and autonomy at universities are shown. The academicians inside the management positions are observed to positively agree with the proposition stating "Change is obligatory at universities" with a high percentage of 89.7%. It reveals the fact that universities cannot progress in the present program and they need to reach to the entrepreneur qualifications in order to obtain competitive capacity. In that sense, change becomes an obligation rather than a choice for universities. For 90.1% of the academicians in management positions, it is a positive situation that public universities leave their public nature. It can be said that the bulky structure of public is one of the factors for preventing universities from change and improvement. 68.6% of these academicians think that universities are not autonomous enough. When it is thought that the managements making decisions independently are more entrepreneurs, more competitive and more successful, it can be said that the concept of "real autonomy" is one of the biggest obstacles for the universities in Turkey. Another aspect of autonomy is economic autonomy. When the universities reach at the qualifications of Entrepreneur and 3rd Generation University, they will generate higher incomes by transferring "know-how" applications to the market. 70.3% of the participants support this opinion by stating that universities must generate their incomes.

Table 4. Comments Related to "Entrepreneur University" and "3rd Generation University"

Items	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total	Std. D.	Mean
Q4. In recent years, universities adopted Entrepreneur University model.	20 7,1	86 30,4	108 38,2	54 19,1	15 5,3	283 100,0	0,985	2,851
Q5. Most of universities are 3GU in Turkey	16 5,7	43 15,2	63 22,3	106 37,5	55 19,4	283 100,0		
Q13. The universities finding their own resources are open to improvement and entrepreneurship.	114 40,3	113 39,9	21 7,4	25 8,8	10 3,5	283 100,0	1,072	1,954

Table 4 shows the percentage of agreement of the academicians at the managerial positions with the propositions related to "Entrepreneur University" and "3rd Generation University". According to Etzkowitz (2012), universities must work with industrial zone in an integrated way and must adapt the entrepreneur university model in order to improve the quality of academia. 37,5% of the academicians with administrative function have the opinion that universities adapted the "Entrepreneur University" model in the last few years. However, it can be seen that 24.3% of them do not agree with this propositions and 38.2% of them are undecided. It can be inferred that universities fail to satisfy in terms of adapting "Entrepreneur University" model and developing plan, program and strategies in this direction. The aims of the 3rd Generation Universities are not only education but also revealing research and "know-how". The role of these universities is creating value rather than defending the truth or discovering the nature. As method, 3GUs focus on modern science and interdisciplinary studies and they are led by scientists and entrepreneurs. 56.9% percent of the academicians at the managerial position do not agree with the proposition stating "A great part of the universities in Turkey are 3rd Generation Universities". Most of the universities in Turkey are doubtful if they have updated themselves from 2GU to 3GU or not. 80.2% of the participants think that the universities generating their own incomes are the ones that are open to progress and entrepreneurship. Universities with the entrepreneur characteristics can provide economic development by planning projects, patents, and by integration with startup companies and industrial zone rather than needing state subsidy.

Table 5. Views Related to Economic Structure of Universities

Items	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total	Std. D.	Mean
Q2. Universities must create their own economic resources.	114	105	33	23	8	283	1,049	1,961
	40,3	37,1	11,7	8,1	2,8	100,0		
Q3. Higher-education finance is a public service that has to be met by the government.	20	115	62	67	19	283	1,08	2,823
	7,1	40,6	21,9	23,7	6,7	100,0		
Q10. Budgets prepared for universities are enough.	15	43	36	90	99	283	1,228	3,759
	5,3	15,2	12,7	31,8	35,0	100,0		
Q11. The universities forming their own economic resources are entrepreneurs.	68	101	53	41	20	283	1,202	2,448
	24,0	35,7	18,7	14,5	7,1	100,0		
Q15. There is a linear relationship between universities' being autonomous and their earning money.	72	97	59	34	21	283	1,201	2,417
	25,4	34,3	20,8	12,0	7,4	100,0		

Table 5 shows the percentage of agreement of the academicians at the managerial positions with the propositions about the economic structure of universities. With a high percentage as such 77.4%, the academicians at the managerial positions at universities agree with the proposition stating "Universities must generate their own economic resources". 47.7% percent of the participants agree with the proposition "The finance of higher education is a public service that needs to be satisfied by the government". 66.8% of the participants think that the budget given to the universities is not sufficient. When the universities in Turkey are compared to the worldwide universities in the budget basis, the budgets of the universities in Turkey are by far low. For instance, İstanbul University, which receives the highest budget in Turkey, receives only 324.000\$ annually (Maliye-Bakanlığı, 2015). The budgets of the universities in USA receive billion dollars. For example, the annual budget of Harvard University is 32 billion \$. 59.7% of the participants define the Entrepreneur Universities as generating their own economic resources. Also, 59.7% of the participants think that there is a linear relationship between autonomy of universities and earning money.

Table 6. Views Related to the Collaboration of University and Industry

Items	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total	Std. D.	Mean
Q12. University must give priority to the researches that industry needs.	116	95	25	41	6	283	1,127	2,031
	41,0	33,6	8,8	14,5	2,1	100,0		
Q16. University-Industry Collaboration is necessary.	184	62	11	12	14	283	1,079	1,621
	65,0	21,9	3,9	4,2	4,9	100,0		
Q18. I think Techno parks are necessary for universities.	142	86	17	15	23	283	1,225	1,908
	50,2	30,4	6,0	5,3	8,1	100,0		

Table 6 shows the percentage of agreement of the academicians at the managerial positions with the propositions about universities' having collaboration with the industry. The academicians with administrative function agree with the proposition "Universities must give priority to the researches that are needed by the industry" with a percentage of 74.6%. Most of the participants (86.9%) argue that university-industry collaboration is a necessity. 80.6% of the participants express that Techno-Parks are necessary for universities.

Conclusion

The universities in many developed countries completed the industry integration and built a system on creating value and making profit by integrating the concept of "know-how" to their research philosophy. These universities embraced the global world university qualifications and synthesized modern science with interdisciplinary approaches. These qualifications, which are defined with 3GU, built a vision for the universities and formed a frame including competitiveness, creating their own economies, entrepreneur, having international network, focused on synergy and practices for the universities. "Entrepreneur University" model, which is one of the components of this frame, has been accepted as the lead in the economic growth of the countries (Farsi et al., 2012) and has been supported by government and state policies in most of the countries. Some interesting results related to the "Entrepreneur University" and 3GU concepts, which were analyzed from the perspective of the academicians at the managerial position at the universities in Turkey, were revealed. In this study, the opinions of the academicians at the managerial positions related to these concepts were received and important observations about the situations of the universities in Turkey were made. The participants deduced that the universities in Turkey were not able to improve in the present situation and they needed to reach at the point of entrepreneur and 3GU qualifications in order to obtain international competitive capacity. In this regard, change and improvement are obligation rather than choice for the universities. Nevertheless, the most important finding which can trigger this is universities' defecation of the bulky structure of public. Most of the academicians with administrative function emphasized that the universities were not autonomous enough, and the current situation about finance and budget had to be changed. A different aspect of autonomy is that universities generate fund and resources. This aspect makes "Entrepreneur University" model easy to be adapted. Besides, almost all of the participants support collaboration between university and industry, and think that techno-parks are significant for the university and market integration.

It is found as a result of the researches that academicians with administrative functions embraces Entrepreneur University model which attributes importance to the university-industry collaboration and they lean towards future collaborations in this direction. However, it can be inferred that the universities are insufficient in adapting "Entrepreneur University" model and making plan, program and strategies in this direction. If the government develops a policy in this frame and supports universities, the transition to 3rd Generation Universities will be easier. The number of participants (283 managerial academicians) and the limited number of questions in the survey form which are constraints of this study must be taken into account in the process of evaluation. There were similar studies in this field before; nonetheless, lack of an extensive study from the perspective of academicians at the various managerial positions makes this subject authentic in its field. In the future studies, analysing 193 universities in Turkey by making distinctions of private-public universities and taking equal number of sampling will be more accurate. These propositions can be asked to the academicians at the managerial position at the universities in different European countries and a comparison between Turkey and Europe can be made, and also the differences can be examined.

Reference

1. ARıKAN, R. 2004. Araştırma teknikleri ve rapor hazırlama, Ankara, Asil Yayın Dağıtım.
2. ASLAN, G. 2010. Öğretim Üyelerinin Girişimci Üniversite ve Üniversite Sanayi İşbirliği Kavramlarına İlişkin Görüşleri. *Eğitim Bilim Toplum Dergisi*, 8, 7-22.
3. ÇETİN, M. 2007. Bölgesel Kalkınma ve Girişimci Üniversiteler. *Ege Academic Review*, 7, 217-238.
4. ÇÖMLEKÇİ, N. 2001. Bilimsel araştırma yöntemi ve istatistiksel anlamlılık sınamaları. Ankara: Bilim Teknik Yayınevi.
5. DE RIDDER-SYMOENS, H. 2003. A history of the University in Europe: Volume 1, universities in the middle ages, Cambridge University Press.
6. DIDOU-AUPETIT, S. 2002. Küreselleşme, NAFTA ve Meksika’da Yüksek Öğretim Sistemi: Konular, Tehditler ve Reformlar. *Kuram ve Uygulamada Eğitim Bilimleri*, 2, 81-92.
7. ERDEM, A. R. 2005. ÜNİVERSİTENİN VAR OLUŞ NEDENİ (ÜNİVERSİTENİN MİSYONU)*. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 17, 75-86.
8. ERDEM, A. R. 2006. Dünyadaki yükseköğretimin değişimi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15, 299-314.
9. ETZKOWITZ, H. 2012. Triple Helix Clusters: Boundary Permeability at University—Industry—Government Interfaces as a Regional Innovation Strategy. *Environment and Planning C: Government and Policy*, 30, 766-779.
10. FARSI, J. Y., IMANIPOUR, N. & SALAMZADEH, A. 2012. Entrepreneurial university conceptualization: case of developing countries. *Global Business and Management Research: An International Journal*, 4, 193-204.
11. GÜRÜZ, K. 1994. Türkiye’de ve dünyada yükseköğretim, bilim ve teknoloji, *Türk Sanayicileri ve İşadamları Derneği*.
12. GÜRÜZ, K. 2001. Dünyada ve Türkiye’de Yükseköğretim (Tarihçe ve Bugünkü Sevk ve İdare Sistemleri), Ankara, ÖSYM Yayınları.
13. HEIDLER, J. & LENGERSDORF, D. 2015. The entrepreneurial University from the Perspective of Gender Studies: between Awakening and Perseverance. *Feministische Studien*, 33, 154-156.
14. KARASAR, N. 2002. Bilimsel Araştırma Yöntemi Ankara: Nobel Yay. Ekim.
15. KİPER, M. 2010. Dünyada ve Türkiye’de üniversite-sanayi işbirliği: ve bu kapsamda üniversite sanayi ortak araştırma merkezleri programı (ÜSAMP), TTGV.
16. LEE, M. N. 2004. Global trends, national policies and institutional responses: Restructuring higher education in Malaysia. *Educational Research for Policy and Practice*, 3, 31-46.
17. MALİYE-BANALIĞI 2015. GENEL BÜTÇE KAPSAMINDAKİ KAMU İDARELERİ 2015 YILI BÜTÇESİ ÖDENEK TEKLİF TAVANLARI.
18. MCBURNIE, G. 2002. Transnational education, quality and the public good: case studies from South-East Asia.
19. ODABAŞI, H. & ODABAŞI, Y. 2004. Girişimci üniversitelere doğru. *Cumhuriyet Bilim Teknik Dergisi*, 18, 20-21.
20. ÖKMEN, M. & BAL, V. 2013. Üniversite Yönetimlerinin Girişimci Üniversite Kavramına İlişkin Görüşleri. *Journal of Higher Education/Yükseköğretim Dergisi*, 3.
21. TURAL, N. K. 2002. Küreselleşmenin üniversite üzerine etkileri: Çeşitli ülkelerden örnekler. *Eğitim Araştırmaları*, 6, 99-120.
22. WISSEMA, J. G. 2009. Towards the third generation university: managing the university in transition, Edward Elgar Publishing.

Pivot Tables - Toolkit: the Constraints to the Business Development in the Former Socialist EU Countries from the Central and Eastern Europe between (2008-2016)

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When cooperation between countries is in harmony, trade and investment patterns are based on economic considerations. However, in times of geopolitical reconfiguration of ranking supremacy, economic events held on a stage that sums up all the world, with everything that means material resources, financial resources, polarized areas of intervention, causation so "equation", sometimes with many and unpredictable variables, may not be so easy to solve it. The measurements and econometric calculation are indisputable correct, analysis and the economic forecasts must be accompanied by correct investment strategies on international road map being important to not overlook tension that may weaken national strategy. Informational abundance is as dangerous, or more correctly ineffective, like is the shortage of information. I approached the topic " Pivot tables - toolkit: the constraints to the business development in the former EU socialist countries from the Central and Eastern Europe" in terms of the possibility of accessing easy, accurate and timely a lot of sources of information because, this aspect is desirable, that the result of research overcome the academic space and to become a useful and efficient tool both to researchers, the decision makers and for vectors of economic policy. How large were the constraints and limitations which occurred, which is architecture of their evolution curve for the horizon 2008, 2016, all of these are coagulated aspects in this paper and accessible with one click.

Keywords

Unjust economic policies, inadequate infrastructure business, ICG- global competitiveness index, tool support for innovative initiatives, macroeconomic and financial framework

JEL Code: O 52

Introduction

Fees that firms base their decisions, the degree of political stability, dynamic GDP, inflation, unemployment, consumer preferences, lifestyle, prices of technology and degree of innovation, labour market flexibility, training level, demography, public trust of politicians, government inefficiencies, wasted expenses, the efficiency of the legal framework in conflict resolution, security, cost of doing business, the effectiveness of boards, protection of shareholders' interests, improving the infrastructure of roads, railways and the port, the quality of transport infrastructure, access to electricity, phone lines (figure no. 1) may be at a certain time inhibitors or enhancers of the economy of a nation.

When cooperation between countries is in harmony, trade and investment patterns are based on economic considerations. However, in times of geopolitical reconfiguration of ranking supremacy, economic events held on a stage that sums up the entire world, with everything that means material resources, financial resources, polarized areas of intervention, causation so "equation", sometimes with many and unpredictable variables may not be so easy to solve it.

The measurements and econometric calculation are indisputable correct, but analysis and the economic forecasts must be accompanied by correct investment strategies and to not overlook tension that may weaken national strategy. The Caryatids which sustain economic temple of any nation, twelve in number, although they have the same name in all economies world, they are so different in profile, waist and foundation so that stability or dynamic of economic platform is configured so different.

P	Undue influence	Transparency of government policies	Ineffective government	Favouring the decisions by government officials	Political instability
E	Right of ownership	Tax rates	Tax regulations	Inadequate supply infrastructure	Access to finance
S	Restrictive labor laws	Inadequate education infrastructure	Inefficient national workforce infrastructure	Social instability	Labor migration
T	Road infrastructure	Railways infrastructure	Port and air transport infrastructure	Access to electricity, telephone lines, CT	Insufficient capacity for renewal of technology, innovation

Figure no.1: Matrix of Factors constraint in developing countries in the former socialist economies from The Central and Eastern Europe

Source: Zeca D.E.

A mix of pluses and minuses, after their quantification, places the state in a hierarchy Global, on an honourable position or not. This aspect is shown by the 12 indicators, namely: institutions, infrastructure, health, education, market efficiency, university education and the degree of training, labour market efficiency, technological evolution, financial market development, market size, business complexity and innovation (figure no. 2).

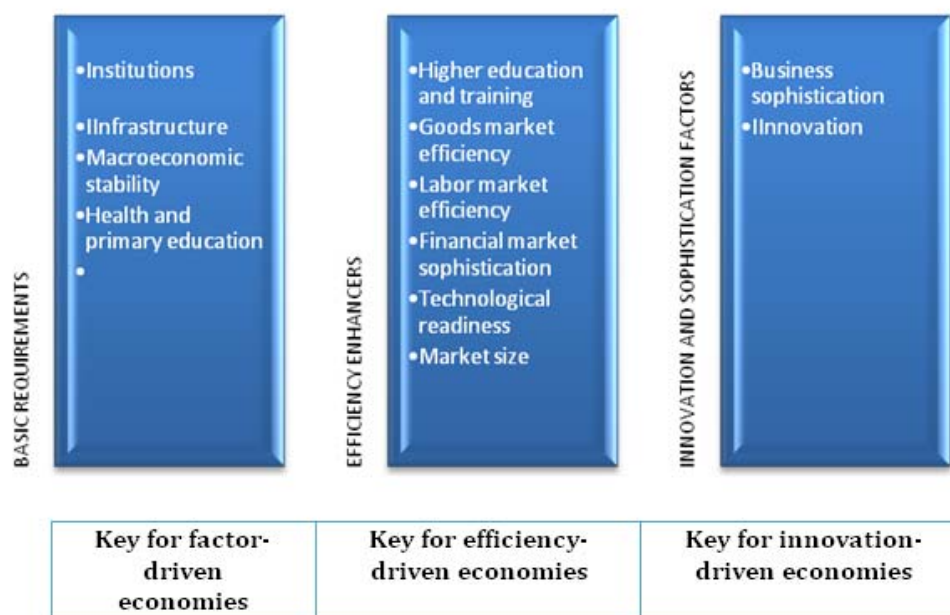


Figure no. 2: The pillars of economic competitiveness

Source: Zeca D. E.

How large were the constraints and limitations, which was mainly architecture of their evolution curve in interval 2008-2015, all of these are coagulated issues in this paper. Gross domestic product, as measurement

tool of standard of living, expressed as a percentage of world GDP in the former socialist countries of Central and Eastern Europe, calculated for the period [2007 - 2014] is explicitly rendered in (table no. 1) .

Table no. 1: Gross Domestic Product (GDP) as a percentage of world GDP in the former socialist countries of Central and Eastern Europe, calculated for the period [2007-2014]

	2007	2008	2009	2010	2011	2012	2013	2014
Bulgaria	0.13	0.14	0.13	0.12	0.13	0.13	0.12	0.12
Croatia	0.11	0.11	0.11	0.11	0.1	0.09	0.09	0.08
Czech Rep	0.38	0.38	0.37	0.35	0.36	0.35	0.33	0.29
Estonia	0.04	0.04	0.04	0.03	0.04	0.04	0.03	0.03
Hungary	0.3	0.29	0.27	0.25	0.25	0.24	0.23	0.23
Latvia	0.06	0.06	0.05	0.04	0.04	0.05	0.05	0.05
Lithuania	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.07
Poland	0.96	0.97	0.98	0.97	0.98	0.96	0.94	0.88
Romania	0.38	0.39	0.36	0.34	0.34	0.33	0.33	0.36
Slovak Rep	0.17	0.17	0.17	0.16	0.16	0.16	0.15	0.14
Slovenia	0.08	0.09	0.08	0.08	0.07	0.07	0.07	0.06
CHINA	10.83	11.4	12.52	13.61	14.32	14.92	15.4	16.32
GERMANY	4.34	4.23	4.03	3.96	3.93	3.85	3.72	3.45
USA	21.36	20.69	20.46	19.74	19.13	18.87	19.31	16.14

Sursa: Zeca D.E., according to data released by Global Competitiveness Report 2008-2009,..., 2015-2016, pp 87-373: Full Data Edition, published by the World Economic Forum within the framework of The Global Competitiveness and Benchmarking Network.

Based on data from this table is found that Romania's GDP share has evolved between values in the range [0.33-0.38], being at one third of that of Poland and approximately 1/30 of that of China.

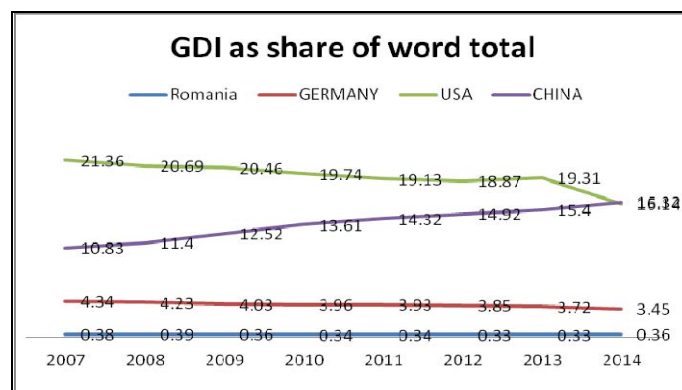


Figure nr. 3: PIB share Romania, China, Germany, SUA

Sursa: Zeca D.E. based on: The Global Competitiveness Report 2008-2009,..., 2015-2016

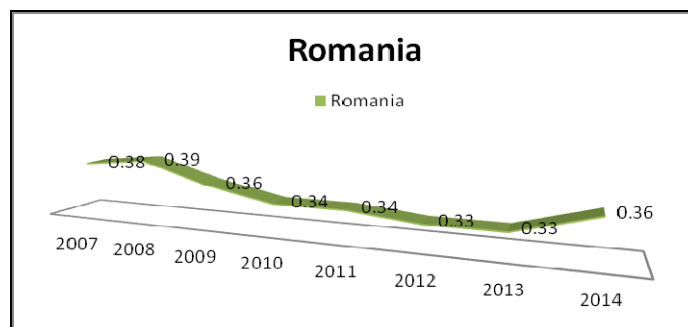


Figure no. 4: GDP (PPP) as share (%) of world total

Sursa: Zeca D.E. based on: The Global Competitiveness Report 2008-2009,..., 2015-2016

Qualitative analysis

Qualitative analysis of the phenomenon on the factors constraining the development of the economies of the former socialist countries of Central and Eastern Europe brings into question the fact that large residual structures delayed local and regional transformation processes in these countries, but with an intensity highest in Romania.

The drawback of this situation was propagated and designed in poor collection of taxes, maintenance arrears of state enterprises and the high level of corruption. Flexible labor market has hardly achieved. Continuing education courses have not reached the goal every time, because it was not linked to real labor market needs of the target group profile trained. Teaching based on inadequate curriculum.

The reconversion and activities creating the value was cumbersome. Interest to study has been decreasing because unjust salaries and a labor market with refractory attitude towards young people and persons aged over 50 years. A lot of people became vulnerable group and led to a high unemployment rate.

Table no. 2: Constraints in business development in Romania between 2008-2015

	Policy instability	Tax rates	Tax regulations	Inefficient government bureaucracy	Inadequate supply of infrastructure	Inadequately educated workforce	Corruption	Access to financing	Poor work ethic in national labor force	Inflation	Restrictive labor regulations	Foreign currency regulations	Poor public health	Government instability/coups	Crime and theft	Insufficient capacity to innovate
2008	13.2	12.8	11.2	10.8	9.7	9.2	8.4	6.8	6.2	5.5	3.4	1.3	2.4	7.9	2.6	*
2009	15.1	12.5	15.7	9.3	6.7	4.7	7.3	14.2	3.9	4.7	2.8	1.2	1.1	0.8	0	*
2010	8.6	11.6	11.2	12.2	13.9	4.7	6.9	15.9	2.5	3.5	5.2	2.5	0.1	0.4	0.6	*
2011	11.9	15.5	8.7	13	8.9	3.6	9.7	10.8	4.4	5.5	2.8	1.8	0.5	2.3	0.5	*
2012	5.4	13.9	7.6	12.8	7.1	4.2	17.4	12.1	3.3	7.1	3.3	0.4	1	1.2	1.2	*
2013	7.3	17.8	11.8	10.2	6.2	5.7	13.4	10.5	3.3	6.2	2.8	1.3	0.9	2.3	0.2	0.4
2014	4.7	15.6	9.9	9.9	12.8	1.6	11	16.6	1	4.7	4.9	2.4	0.1	2.5	2	0.5
2015	3.3	15.8	7.4	14.7	12.6	6.8	8.7	14	4.3	1.3	4.7	1.2	1.3	0.6	0.8	2.5

Source: Zeca D.E. according to data released by The Global Competitiveness Report 2008-2009,..., 2015-2016: Full Data Edition was published by the World Economic Forum within the framework of The Global Competitiveness and Benchmarking Network.

Transmission of information, at the university level, was done on a value chain of knowledge that have been always reconfigured, but not centered on the requirements of employers.

On R & D infrastructure: funding, small salary reduced the number of researchers performers. Because research topics was addressing chaotic and not as part of an action-strategy contributed to weak R & D.

The health system, underperforming, but with different emphases from country to country owing to poor infrastructure and the phenomenon of migration of health professionals, a phenomenon exacerbated in Romania. There are also major risk of entering the system frameworks (medical) poorly trained, given competition from low admission to faculties of medicine and due to the fairly permissive selective filter.

Business infrastructure was inadequate, being underdeveloped land transport routes and the river and sea are not used.

Bureaucracy, unfair competition, lack of support tools to support innovative initiatives and entrepreneurship, unfair economic policies to small businesses that has led them to a reserved attitude towards loans and investments, such as only 16.8% of new enterprises had this tendency to set up a stable business environment, especially the domestic capital (figure no. 3).

Constraints, in business development in Romania are presented for the 2008-2016 period (table no. 2).

The data presented in the reports volumes 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012, 2013, 2013-2014, 2014-2015, 2015-2016 of "The Global Competitiveness Report Full Year Edition" published by the World Economic Forum in the Global Competitiveness and Benchmarking Network, substantiates claims the below:

In 2008 political instability proved to be considered an element of risk in business development in Romania, with the largest negative impact.

Tax regulations, policy instability and tax rate were brakes for development in 2009.

In 2010 brakes for development in business in the former socialist countries was the access to finance, inadequate supply infrastructure and tax rate.

In 2011, political instability, tax rates and constraints to financing were related of poor development in business.

Since 2012, government bureaucracy and corruption have determined the large constraints in business development in Romania.

Report values are the result of ranking made by respondents to a survey. They arranged five of the most problematic items for doing business in their country. The string of factors was 15 items long.

Results of research work are Pivot Tables.

Based on these Tables everyone can construct pivot tables to show and to study various constraints on business development in Central and Eastern European countries along 2008, 2016.

Was used a scale of 1 to 7, in the current working environment of the respondents. At one end of the scale, 1 is the worst possible operating condition (situation), and at the other end of the scale, 7 is the best condition.

Table no. 3: Constraints in business development in Central and Eastern Europe [2008-2009]

	Policy instability	Tax rates	Tax regulations	Inefficient government bureaucracy	Supply of infrastructure	Inadequately educated workforce	Corruption	Access to financing	Poor work ethic in national labor force	Inflation	Restrictive labor regulations	Foreign currency regulations	Poor public health	Government instability/corruption	Crime and theft
Bulgaria	3.6	2.8	1.2	14	10.2	11.2	15.7	6.6	7	10.2	3.5	1.3	2.4	7.9	2.6
Croatia	2.9	9.6	10	18.5	5.2	10	12.7	9.7	5.7	4.1	5.7	1.6	0.4	0.5	3.2
Czech Rep	3.3	11.6	7.4	17	5.9	9.1	13.3	4.9	9.4	2.6	9.2	10.5	1.4	0.5	3.7
Estonia	4	5	4.7	8.9	4.7	18.2	3.7	6.8	8.2	19.7	11.4	0.7	1.4	1.6	0.8
Hungary	13.1	16.4	17.7	12.1	3.5	6.1	6.7	7.5	3.8	6.8	1.4	0.6	0.2	3.5	0.5
Latvia	5.4	5.3	11.5	14.7	5.6	7.8	8.5	6.7	3.4	22.4	3.6	0.7	0.1	4.2	0
Lithuania	5.9	10.1	7.2	13.8	2.1	9.3	10.6	4.1	8.2	14.4	10.8	0.6	1.2	1.2	0.8
Poland	7	6.8	14.9	14.6	12.8	4.6	5.9	7.2	4.2	2.3	9.3	1.2	3.5	4.2	1.4
Romania	13.2	12.8	11.2	10.8	9.7	9.2	8.4	6.8	6.2	5.5	3.4	1.3	0.9	0.5	0.1
Slovak Rep	1.5	2	6.1	17.8	17	10.7	14.2	5.8	8	0.8	13.5	0.8	0	0.9	1.1
Slovenia	2.2	7.8	14.2	13.5	4.1	8.8	5.7	5.3	4.5	18.1	12.7	0.2	0.4	2.1	0.5
CHINA	13	6.8	8	11.5	7.2	6.2	7.4	137	4.1	10.8	4	3.9	0.9	1.9	0.6
GERMANY	1.9	17.7	23.4	12.2	1.6	9.5	0.1	6.8	0.7	1.3	22.8	1.5	0.1	0.1	0.3
USA	7.6	14.7	14.3	14.2	3.8	12.1	0.9	9	4	9	5.6	1.7	1.7	0.6	0.9

Source: Zeca, on the basis of data provided by The Global Competitiveness Report 2008-2009, Full Year Edition is Published by the World Economic Forum, pp79-353

In 2008-2009 (table no. 3) and in 2015-2016 (table no. 4), worst problem registered in the former socialist countries of Central and Eastern Europe was marked with red and with blue the best one.

Table no.4: Constraints in business development in Central and Eastern Europe [2015-2016]

	Policy instability	Tax rates	Tax regulations	Inefficient government bureaucracy	Inadequate supply of infrastructure	Inadequately educated workforce	Corruption	Access to financing	Poor work ethic in national labor force	Inflation	Restrictive labor regulations	Foreign currency regulations	Poor public health	Government instability/corruption	Crime and theft	Insufficient capacity to innovate
Bulgaria	9.6	5.8	3.2	10.7	5.4	9.9	11.4	12.7	6	4.3	6	0.9	1.1	7.1	1.1	4.7
Croatia	12.7	5.7	10.4	21.8	5.2	7.1	13.2	3.5	5	0	7.6	1.4	0.5	1.1	1.1	3.8
Czech Rep	13.9	12.5	9.3	16.6	2.4	5.8	5.6	10.2	4.8	0.7	9.8	1.2	0.4	2.1	2.9	1.9
Estonia	1.7	18.3	5.3	10.3	7.6	19.7	1.6	11	7.4	1.2	4.4	0.3	2	0.1	0.3	9
Hungary	15.7	9.8	9.5	12.2	3.6	7.6	14.6	6.3	7.3	1.3	1.9	1	2.9	0.7	3.2	2.5
Latvia	7.6	15.1	10.2	14.5	4.7	9.2	5.4	11.5	5.6	0.9	4.4	0	0.3	1.9	0.5	8.2
Lithuania	3.6	14.8	10.2	16.6	3	9.3	8.8	7.4	3.8	1.2	13.5	0.3	0.2	3.4	0.8	3
Poland	5.1	12.8	21.3	11.1	5.8	5.1	2.3	7.8	3.7	0.5	14.7	0.4	2.5	0.9	0.8	5.1
Romania	3.3	15.8	7.4	14.7	12.6	6.8	8.7	14	4.3	1.3	4.7	1.2	1.3	0.6	0.8	2.5
Slovak Rep	8.8	11.4	9.5	16.6	4.6	6.6	18.1	3.5	3	0	11.3	0.1	0.8	0.5	1	4
Slovenia	7.8	15.7	7.9	15.9	2.5	2.1	6.3	14	2.4	0	16.5	0	0.8	5.3	0.1	2.8
CHINA	8.1	8.5	6.7	9.2	9	4	8.3	11.6	4.3	5.8	3.7	3.6	1.2	3.1	0.6	12.5
GERMANY	1.6	15.1	16.8	16	2.8	7.6	1.5	8.9	4.7	0.8	14.4	1.6	1	0.1	1.3	5.9
USA	5.2	14	12.5	13.7	5.3	8.6	1	6.7	7	3.5	9.7	3.3	1.6	1.2	1.1	5.5

Source: Zeca on the basis of data provided by The Global Competitiveness Report 2015-2016, Full Year Edition, Published by the World Economic Forum, pp 87-373

Conclusions

Romania and generally speaking the former socialist countries, came out in 1989 from that bubble where was a certain way of doing economics and entered as actor on a stage where have to play their economic and social role, to confront obstacles in trade, technology transfer, with uncertainty on supply chains, with strategic projects of economic infrastructure of the migrating of crossholdings from west to east and from east to west of the European continent of workforce. Former socialist European countries, crossing the last decade, they no have constantly evolved in a stable macroeconomic and financial setting.

Governments have developed policies in areas that are important for competitiveness, such as administrative reform, education and research, but they did, they do so without taking into account the specific needs of companies and without a stable strategic vision. The impact of these policies is reduced. Meanwhile, the business community has not always been sufficiently engaged, motivated and stimulated long-term.

Index Global Competitiveness (IGC) is a working environment between government, business and civil society, effectively used can serve as a catalyst for reforms to improve productivity in order to stimulate the growth of living standards of inhabitants, demonstrating to what extent competitiveness it is the result of a mix of good governance, macroeconomic stability, efficiency of production factors, flexibility of technology, innovation and flexibility of the potential workforce.

References

1. Georgescu-Roegen N., 1971, *The Entropy Law And The Economic Process*, Editura Harvard University Press, Cambrigde, pp. 504- 523
2. *The Global Competitiveness Report 2008-2009 Full Data Edition* published the World Economic Forum, pp 79-353, available at < <http://www.weforum.org/reports>>, access January 2016
3. *The Global Competitiveness Report 2009-2010 Full Data Edition* published the World Economic Forum, pp 61-333, available at < <http://www.weforum.org/reports>>, access January 2016
4. *The Global Competitiveness Report 2010-2011 Full Data Edition* published the World Economic Forum, pp 69-353, available at < <http://www.weforum.org/reports>>, access February 2016
5. *The Global Competitiveness Report 2011-2012 Full Data Edition* published the World Economic Forum, pp 87-377, available at < <http://www.weforum.org/reports>>, access February 2016
6. *The Global Competitiveness Report 2012-2013 Full Data Edition* published the World Economic Forum, pp 81-375, available at < <http://www.weforum.org/reports>>, access February 2016
7. *The Global Competitiveness Report 2013-2014 Full Data Edition* published the World Economic Forum, pp 95-397, available at < <http://www.weforum.org/reports>>, access February 2016
8. *The Global Competitiveness Report 2014-2015 Full Data Edition* published the World Economic Forum, pp 99-393, available at < <http://www.weforum.org/reports>>, access March 2016
9. *The Global Competitiveness Report 2015-2016 Full Data Edition* published the World Economic Forum, pp 87-373, available at < <http://www.weforum.org/reports>>, accesat March 2016

Comparative Statistical Analysis Regarding the Shares of the Research-Development Expenditures from the Gross Domestic Product Between Romania, French and Germany

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This paper reflects the architecture of the methodology for to achieve the statistical modeling of the trend concerning the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014, with the help of the „Least Squares Method”. Also, this research reflects the manner in which we can to reflect that there is a significant difference between the values regarding shares of the research-development expenditures from G.D.P. in Romania and the values concerning the shares of the research-development expenditures from G.D.P. in French, respectively in Germany, in the period 2005-2014 by means of the „t” test.

Key words: shares, research-development expenditures, „t” test.

JEL Code: C1, C12, C2.

1. Introduction

In this research, I present a personal contribution which reflects a statistical analysis of the trend model regarding the shares of the research-development expenditures from G.D.P. in Romania, in the period 2005-2014. The purpose of the research reflects the possibility for to anticipate the values concerning the evolution in future of the shares regarding the research-development expenditures from G.D.P. in Romania, in the period 2005-2014, by means of the forecasting methods. The statistical methods used are the „Coefficients of Variation Method”, respectively the „Least Squares Method” applied for to calculate the parameters of the regression equation and the „t” test. The sections 2 presents the methodology for to achieve the trend model concerning the shares of the research-development expenditures from G.D.P. in Romania, in the period 2005-2014, with the help of the „Least Squares Method”. The section 3 reflects how we apply the „t” test for to express if there is a significant difference between the values regarding shares of the research-development expenditures from G.D.P. in Romania and the values concerning the shares of the research-development expenditures from G.D.P. in French, respectively in Germany, in the period 2005-2014 by means of the „t” test. The state of the art in this domain is represented by the research belongs to Carl Friederich Gauss, who created the „Least Squares Method”[1].

2. The modeling of the trend concerning the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

In the period 2005-2014, we observe the next evolution regarding the shares of the research-development expenditures from G.D.P. in Romania, according to the table no. 1:

Table no. 1 The evolution regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. IN ROMANIA (%)
2005	0,41
2006	0,46
2007	0,52
2008	0,58
2009	0,47
2010	0,45
2011	0,50

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. IN ROMANIA (%)
2012	0,48
2013	0,39
2014	0,38

Source: „Romania in dates” 2015, I.N.S.E.E., Bucharest

We want to identify the trend model concerning the shares of the research-development expenditures from G.D.P. in Romania, in the period 2005-2014, using the table no.1.

- if we formulate the null hypothesis H_0 : which mentions the assumption of the existence for the model of tendency concerning X factor, where $X =$ the shares of the research-development expenditures from G.D.P. in Romania, as being the function $\alpha_{t_i} = a + b \cdot \beta_i$, then the parameters a and b of the adjusted linear function, can to be calculated by means of the next system [1]:

$$S = \sum_{i=1}^n (x_i - x_{t_i})^2 = \min \Leftrightarrow S = \sum_{i=1}^n (x_i - a - bt_i)^2 = \min$$

$$\begin{cases} \frac{\partial S}{\partial a} = 0 \\ \frac{\partial S}{\partial b} = 0 \end{cases} \Rightarrow \begin{cases} 2 \sum_{i=1}^n (x_i - a - bt_i)(-1) = 0 / (-\frac{1}{2}) \\ 2 \sum_{i=1}^n (x_i - a - bt_i)(-t_i) = 0 / (-\frac{1}{2}) \end{cases} \Rightarrow \begin{cases} na + b \sum_{i=1}^n t_i = \sum_{i=1}^n x_i \\ a \sum_{i=1}^n t_i + b \sum_{i=1}^n t_i^2 = \sum_{i=1}^n x_i t_i \end{cases} \Rightarrow$$

Therefore,

$$a = \frac{\begin{vmatrix} \sum_{i=1}^n x_i & \sum_{i=1}^n t_i \\ \sum_{i=1}^n x_i t_i & \sum_{i=1}^n t_i^2 \end{vmatrix}}{\begin{vmatrix} n & \sum_{i=1}^n t_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n t_i^2 \end{vmatrix}} = \frac{\sum_{i=1}^n x_i \sum_{i=1}^n t_i^2 - \sum_{i=1}^n x_i t_i \sum_{i=1}^n t_i}{n \sum_{i=1}^n t_i^2 - \left(\sum_{i=1}^n t_i \right)^2} \quad b = \frac{\begin{vmatrix} n & \sum_{i=1}^n x_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n x_i t_i \end{vmatrix}}{\begin{vmatrix} n & \sum_{i=1}^n t_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n t_i^2 \end{vmatrix}} = \frac{n \sum_{i=1}^n x_i t_i - \sum_{i=1}^n t_i \sum_{i=1}^n x_i}{n \sum_{i=1}^n t_i^2 - \left(\sum_{i=1}^n t_i \right)^2}$$

Table no. 2 The estimate of the value for the variation coefficient in the case of the adjusted linear function, in the hypothesis of the linear evolution concerning the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. IN ROMANIA (x_i)	LINEAR TREND				
		t_i	t_i^2	$t_i x_i$	$x_{t_i} = a + bt_i$	$ x_i - x_{t_i} $
2005	0,41	-5	25	-2,05	0,497181818	0,09
2006	0,46	-4	16	-1,84	0,499545454	0,03
2007	0,52	-3	9	-1,56	0,483909090	0,04
2008	0,58	-2	4	-1,16	0,477272727	0,10
2009	0,47	-1	1	-0,47	0,470636363	0
2010	0,45	1	1	0,45	0,457363636	0,01
2011	0,50	2	4	1	0,450727272	0,05
2012	0,48	3	9	1,44	0,444090909	0,04
2013	0,39	4	16	1,56	0,437454545	0,05
2014	0,38	5	25	1,90	0,430818181	0,05
TOTAL	4,64	0	110	-0,73	4,639999996	0,46

If we calculate the statistical data for to adjust the linear function, we obtain for the parameters a and b the values:

$$a = \frac{4,64 \cdot 110 - (-0,73) \cdot 0}{10 \cdot 110 - 0^2} = 0,464$$

$$b = \frac{10 \cdot (-0,73) - 0 \cdot 4,64}{10 \cdot 110 - 0^2} = -0,006636363$$

Hence, the coefficient of variation for the adjusted linear function is:

$$v_I = \left[\frac{\sum_{i=-m}^m |x_i - x_{t_i}^I|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x_{t_i}^I|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,46}{4,64} \cdot 100 = 9,91\%$$

- in the situation of the alternative hypothesis H_1 : which specifies the assumption of the existence for the model of tendency regarding X factor, where $X =$ the shares of the research-development expenditures from G.D.P. in Romania, as being the quadratic function $x_{t_i} = a + b \cdot t_i + ct_i^2$, the parameters a , b și c of the adjusted quadratic function, can to be calculated by means of the system [1]:

$$S = \sum_{i=1}^n (x_i - x_{t_i})^2 = \min \Leftrightarrow S = \sum_{i=1}^n (x_i - a - bt_i - ct_i^2)^2 = \min$$

$$\begin{cases} \frac{\partial S}{\partial a} = 0 \\ \frac{\partial S}{\partial b} = 0 \\ \frac{\partial S}{\partial c} = 0 \end{cases} \Rightarrow \begin{cases} 2 \sum_{i=1}^n (x_i - a - bt_i - ct_i^2)(-1) = 0 / (-\frac{1}{2}) \\ 2 \sum_{i=1}^n (x_i - a - bt_i - ct_i^2)(-t_i) = 0 / (-\frac{1}{2}) \\ 2 \sum_{i=1}^n (x_i - a - bt_i - ct_i^2)(-t_i^2) = 0 / (-\frac{1}{2}) \end{cases} \Rightarrow$$

Therefore,

$$\begin{cases} n \cdot a + b \sum_{i=1}^n t_i + c \sum_{i=1}^n t_i^2 = \sum_{i=1}^n x_i \\ a \sum_{i=1}^n t_i + b \cdot \sum_{i=1}^n t_i^2 + c \sum_{i=1}^n t_i^3 = \sum_{i=1}^n t_i \cdot x_i \\ a \cdot \sum_{i=1}^n t_i^2 + b \sum_{i=1}^n t_i^3 + c \sum_{i=1}^n t_i^4 = \sum_{i=1}^n t_i^2 \cdot x_i \end{cases}$$

$$a = \frac{\sum_{i=1}^n t_i^4 \sum_{i=1}^n x_i - \sum_{i=1}^n t_i^2 \sum_{i=1}^n t_i^2 \cdot x_i}{n \sum_{i=1}^n t_i^4 - \left(\sum_{i=1}^n t_i^2 \right)^2}$$

$$b = \frac{\sum_{i=1}^n x_i t_i}{\sum_{i=1}^n t_i^2}$$

$$c = \frac{n \cdot \sum_{i=1}^n t_i^2 \cdot x_i - \sum_{i=1}^n t_i^2 \cdot \sum_{i=1}^n x_i}{n \sum_{i=1}^n t_i^4 - \left(\sum_{i=1}^n t_i^2 \right)^2}$$

Table no. 3 The estimates of the value for the variation coefficient in the case of the adjusted quadratic function, in the hypothesis of the parabolic evolution regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. IN ROMANIA (x_i)	PARABOLIC TREND				
		t_i^3	t_i^4	$t_i^2 x_i$	$x_{t_i} = a + bt_i + ct_i^2$	$ x_i - x_{t_i} $
2005	0,41	-125	625	10,25	0,432609632	0,02
2006	0,46	-64	256	7,36	0,467483959	0,01
2007	0,52	-27	81	4,68	0,493133688	0,03
2008	0,58	-8	16	2,32	0,509558820	0,07
2009	0,47	-1	1	0,47	0,516759353	0,05
2010	0,45	1	1	0,45	0,503486626	0,05
2011	0,50	8	16	2	0,483013365	0,02
2012	0,48	27	81	4,32	0,453315507	0,03
2013	0,39	64	256	6,24	0,414393050	0,02
2014	0,38	125	625	9,50	0,366245995	0,01
TOTAL	4,64	0	1958	47,59	4,639999995	0,31

If we calculate the statistical data for to adjust the quadratic function, we obtain for the parameters a , b and c the next values:

$$\begin{cases} 10 \cdot a + 0 \cdot b + 110 \cdot c = 4,64 \\ 0 \cdot a + 110 \cdot b + 0 \cdot c = -0,73 \\ 110 \cdot a + 0 \cdot b + 1958 \cdot c = 47,59 \end{cases} \Rightarrow \begin{matrix} a = 0,514735289 \\ b = -0,006636363 \\ c = -0,004612299 \end{matrix}$$

So, the coefficient of variation for the adjusted quadratic function has the value:

$$v_{II} = \left[\frac{\sum_{i=-m}^m |x_i - x_{t_i}^{II}|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x_{t_i}^{II}|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,31}{4,64} \cdot 100 = 6,68\%$$

- in the case of the alternative hypothesis H_2 : which describes the supposition of the existence for the model of tendency concerning X factor, where X = the shares of the research-development expenditures from G.D.P. in Romania, as being the exponential function $x_{t_i} = ab^{t_i}$, then the parameters a and b of the adjusted exponential function, can to be calculated by means of the next system [1]:

$$S = \sum_{i=1}^n (\lg x_i - \lg x_{t_i})^2 = \min \Leftrightarrow S = \sum_{i=1}^n (\lg x_i - \lg a - t_i \lg b)^2 = \min$$

$$\begin{aligned}
 & \begin{cases} \frac{\partial S}{\partial \lg a} = 0 \\ \frac{\partial S}{\partial \lg b} = 0 \end{cases} \Rightarrow \begin{cases} 2 \sum_{i=1}^n (\lg x_i - \lg a - t_i \lg b)(-1) = 0 / (-\frac{1}{2}) \\ 2 \sum_{i=1}^n (\lg x_i - \lg a - t_i \lg b)(-t_i) = 0 / (-\frac{1}{2}) \end{cases} \Rightarrow \\
 & \begin{cases} n \cdot \lg a + \lg b \cdot \sum_{i=1}^n t_i = \sum_{i=1}^n \lg x_i \\ \lg a \sum_{i=1}^n t_i + \lg b \cdot \sum_{i=1}^n t_i^2 = \sum_{i=1}^n t_i \cdot \lg x_i \end{cases} \\
 \text{Thus,} \quad \lg a &= \frac{\begin{vmatrix} \sum_{i=1}^n \lg x_i & \sum_{i=1}^n t_i \\ \sum_{i=1}^n t_i \lg x_i & \sum_{i=1}^n t_i^2 \end{vmatrix}}{\begin{vmatrix} n & \sum_{i=1}^n t_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n t_i^2 \end{vmatrix}} = \frac{\sum_{i=1}^n \lg x_i \sum_{i=1}^n t_i^2 - \sum_{i=1}^n t_i \lg x_i \sum_{i=1}^n t_i}{n \sum_{i=1}^n t_i^2 - \left(\sum_{i=1}^n t_i \right)^2} \\
 \text{and} \quad \lg b &= \frac{\begin{vmatrix} n & \sum_{i=1}^n \lg x_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n t_i \lg x_i \end{vmatrix}}{\begin{vmatrix} n & \sum_{i=1}^n t_i \\ \sum_{i=1}^n t_i & \sum_{i=1}^n t_i^2 \end{vmatrix}} = \frac{n \cdot \sum_{i=1}^n t_i \lg x_i - \sum_{i=1}^n \lg x_i \sum_{i=1}^n t_i}{n \sum_{i=1}^n t_i^2 - \left(\sum_{i=1}^n t_i \right)^2}
 \end{aligned}$$

Table no. 4 The estimate of the value for the variation coefficient in the case of the adjusted exponential function, in the hypothesis concerning the exponential evolution regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. IN ROMANIA (x_i)	EXPONENTIAL TREND				
		$\lg x_i$	$t_i \lg x_i$	$\lg x_{ti} = \lg a + t_i \lg b$	$x_{ti} = ab^{t_i}$	$ x_i - x_{ti} $
2005	0,41	-0,387216143	1,936080715	-0,304871995	0,495596242	0,09
2006	0,46	-0,337242168	1,348968672	-0,311270739	0,488347828	0,03
2007	0,52	-0,283996656	0,851989968	-0,317669483	0,481205427	0,04
2008	0,58	-0,236572006	0,473144012	-0,324068227	0,474167488	0,11
2009	0,47	-0,327902142	0,327902142	-0,330466971	0,467232483	0
2010	0,45	-0,346787486	-0,346787486	-0,343264459	0,453665277	0
2011	0,50	-0,301029995	-0,60205999	-0,349663203	0,447030131	0,05
2012	0,48	-0,318758762	-0,956276286	-0,356061947	0,440492028	0,04
2013	0,39	-0,408935393	-1,635741572	-0,362460691	0,434049548	0,04
2014	0,38	-0,420216403	-2,101082015	-0,368859435	0,427701294	0,05
TOTAL	4,64	-3,368657154	-0,703861840			0,45

Consequently, if we calculate the statistical data for to adjust the exponential function, we obtain for the parameters a and b the values:

$$\lg a = \frac{-3,368657154}{10} = -0,336865715$$

$$\lg b = \frac{-0,70386184}{110} = -0,006398744$$

Accordingly, the coefficient of variation for the adjusted exponential function has the next value:

$$v_{\exp} = \left[\frac{\sum_{i=-m}^m |x_i - x_{t_i}^{\exp}|}{n} : \frac{\sum_{i=-m}^m x_i}{n} \right] \cdot 100 = \frac{\sum_{i=-m}^m |x_i - x_{t_i}^{\exp}|}{\sum_{i=-m}^m x_i} \cdot 100 = \frac{0,45}{4,64} \cdot 100 = 9,70\%$$

We apply the coefficients of variation method as criterion of selection for the best model of trend.
We notice that:

$$v_{II} = 6,68\% < v_{\exp} = 9,70\% < v_I = 9,91\%$$

So, the path reflected by X factor, which represents the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014, is a parabolical trend of the shape $x_{t_i} = a + b \cdot t_i + ct_i^2$, with other words it confirms the hypothesis H_1 .

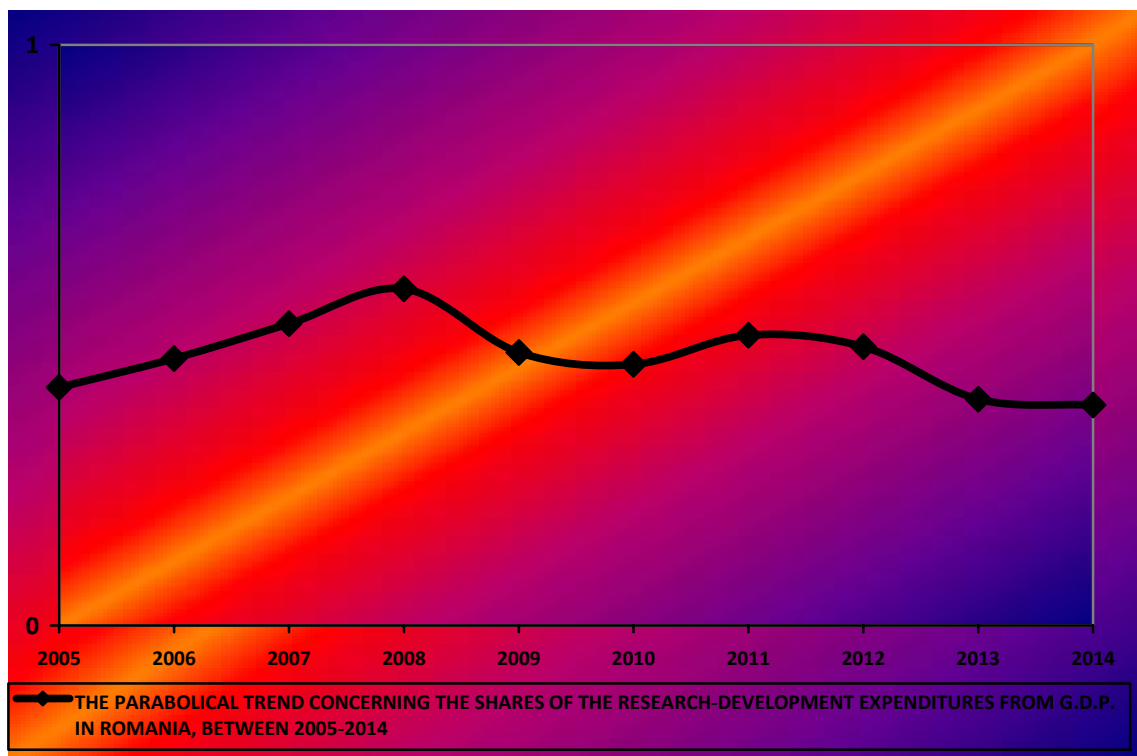


Figure 1. The trend model of the values regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014

We observe that, the cloud of points which reflects the values concerning the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014, it carrying around a parabolical model of trend, according to the type no.1.

3. The reflection of the methodology for to apply the „t” test.

According to the table no. 5, we observe between 2005-2014, the next evolution concerning the shares of the research-development expenditures from G.D.P. in French.

Table no. 5 The evolution regarding the shares of the research-development expenditures from G.D.P. in French, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. (FRENCH)
2005	2,13
2006	2,10
2007	2,07
2008	2,12
2009	2,26
2010	2,18
2011	2,25
2012	2,26
2013	2,23
2014	2,26

The source: „Romania in dates” 2015, I.N.S.E.E., Bucharest

Through the help of the „t” test and F test, we want to know if there is a significant difference between the values concerning the shares of the research-development expenditures from G.D.P. in French and the values regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014.

Table no. 6 The calculation of the dispersion concerning the shares of the research-development expenditures from G.D.P. in Romania, respectively the shares of the research-development expenditures from G.D.P. in French in each year, face to the average of values regarding the shares of the research-development expenditures from G.D.P. in Romania, respectively in French

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. ROMANIA (x_{0i})	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. FRENCH (x_{1i})	$(x_{0i} - \bar{x}_0)^2$	$(x_{1i} - \bar{x}_1)^2$
2005	0,41	2,13	0,0025	0,0036
2006	0,46	2,10	0	0,0081
2007	0,52	2,07	0,0036	0,0144
2008	0,58	2,12	0,0144	0,0049
2009	0,47	2,26	0,0001	0,0049
2010	0,45	2,18	0,0001	0,0001
2011	0,50	2,25	0,0016	0,0036
2012	0,48	2,26	0,0004	0,0049
2013	0,39	2,23	0,0049	0,0016
2014	0,38	2,26	0,0064	0,0049
Total	4,64	21,86	0,0340	0,0510

$$\bar{x} = \frac{\sum_{i=1}^n x_{0i}}{n_0} = \frac{4,64}{10} = 0,464 \cong 0,46 \quad \text{and} \quad \bar{x}_1 = \frac{\sum_{i=1}^n x_{1i}}{n_1} = \frac{21,86}{10} = 2,186 \cong 2,19$$

$$s_0^2 = \frac{\sum_{i=1}^n (x_{0i} - \bar{x}_0)^2}{n_0 - 1} = \frac{0,034}{10 - 1} = 0,003777777 ;$$

$$s_1^2 = \frac{\sum_{i=1}^n (x_{1i} - \bar{x}_1)^2}{n_1 - 1} = \frac{0,051}{10 - 1} = 0,005666666$$

$$F = \frac{s_0^2}{s_1^2} = \frac{0,003777777}{0,005666666} = 0,666666607$$

For $\alpha = 0,01$ we observe through the Fisher table that $F_{tab} = F_{f_1, f_2, \alpha} = 5,3$, where $f_1 = n-1$ and $f_2 = n-1$

So, $F_{calc} = 0,67 < F_{tab} = 5,3$

Thus,

$$t_{calc} = \frac{\bar{x}_1 - \bar{x}_0}{\sqrt{(n_0 - 1) \cdot s_0^2 + (n_1 - 1) \cdot s_1^2}} \cdot \sqrt{\frac{n_0 \cdot n_1 \cdot (n_0 + n_1 - 2)}{n_0 + n_1}} =$$

$$= \frac{2,19 - 0,46}{\sqrt{(10 - 1) \cdot 0,003777777 + (10 - 1) \cdot 0,005666666}} \cdot \sqrt{\frac{10 \cdot 10 \cdot (10 + 10 - 2)}{10 + 10}} = 56,29345821$$

So, $|t_{calc}| = 56,29345821 > t_{tab} = t_{18, 0,01} = 2,88$. Consequently, for any $\alpha \geq 0,01$ there is a significant difference between the shares of the research-development expenditures from G.D.P. in French and the shares of the research-development expenditures from G.D.P. in Romania, in the period 2005-2014.

Also, we want to know if there is a significant difference between the values regarding the shares of the research-development expenditures from G.D.P. in Germany and the values concerning the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014, according to the table no. 7.

Table no. 7 The evolution regarding the shares of the research-development expenditures from G.D.P. in Germany, between 2005-2014

YEARS	THE SHARES OF THE RESEARCH-DEVELOPMENT EXPENDITURES FROM G.D.P. (GERMANY)
2005	2,48
2006	2,54
2007	2,53
2008	2,69
2009	2,82
2010	2,72
2011	2,89
2012	2,88
2013	2,85
2014	2,84

Source: „Romania in dates” 2015, I.N.S.E.E., Bucharest

Table no. 8 The calculation of the dispersion concerning the shares of the research-development expenditures from G.D.P. in Romania, respectively the shares of the research-development expenditures from G.D.P. in Germany in each year face to the average of values regarding the shares of the research-development expenditures from G.D.P. in Romania, respectively in Germany

YEARS	THE SHARES OF THE RESEARCH- DEVELOPMENT EXPENDITURES FROM G.D.P. ROMANIA (x_{0i})	THE SHARES OF THE RESEARCH- DEVELOPMENT EXPENDITURES FROM G.D.P. GERMANY (x_{2i})	$(x_{0i} - \bar{x}_0)^2$	$(x_{2i} - \bar{x}_2)^2$
2005	0,41	2,48	0,0025	0,0576
2006	0,46	2,54	0	0,0324
2007	0,52	2,53	0,0036	0,0361
2008	0,58	2,69	0,0144	0,0009
2009	0,47	2,82	0,0001	0,0100
2010	0,45	2,72	0,0001	0
2011	0,50	2,89	0,0016	0,0289
2012	0,48	2,88	0,0004	0,0256
2013	0,39	2,85	0,0049	0,0169
2014	0,38	2,84	0,0064	0,0144
Total	4,64	27,24	0,0340	0,2228

$$\bar{x} = \frac{\sum_{i=1}^n x_{0i}}{n_0} = \frac{4,64}{10} = 0,464 \cong 0,46 \text{ and } \bar{x}_2 = \frac{\sum_{i=1}^n x_{2i}}{n_2} = \frac{27,24}{10} = 2,724 \cong 2,72$$

$$s_0^2 = \frac{\sum_{i=1}^n (x_{0i} - \bar{x}_0)^2}{n_0 - 1} = \frac{0,034}{10 - 1} = 0,003777777 ;$$

$$s_2^2 = \frac{\sum_{i=1}^n (x_{2i} - \bar{x}_2)^2}{n_2 - 1} = \frac{0,2228}{10 - 1} = 0,024755555$$

$$F = \frac{s_0^2}{s_2^2} = \frac{0,003777777}{0,024755555} = 0,152603203$$

For $\alpha = 0,01$ we observe through the Fisher table that $F_{tab} = F_{f_1, f_2, \alpha} = 5,3$, where $f_1 = n-1$ and $f_2 = n-1$

So, $F_{calc} = 0,15 < F_{tab} = 5,3$

Thus,

$$t_{calc} = \frac{\bar{x}_2 - \bar{x}_0}{\sqrt{(n_0 - 1) \cdot s_0^2 + (n_2 - 1) \cdot s_2^2}} \cdot \sqrt{\frac{n_0 \cdot n_2 \cdot (n_0 + n_2 - 2)}{n_0 + n_2}} =$$

$$= \frac{2,72 - 0,46}{\sqrt{(10 - 1) \cdot 0,003777777 + (10 - 1) \cdot 0,024755555}} \cdot \sqrt{\frac{10 \cdot 10 \cdot (10 + 10 - 2)}{10 + 10}} = 42,30894487$$

So, $|t_{calc}| = 42,31 > t_{tab} = t_{18;0,01} = 2,88$. Consequently, for any $\alpha \geq 0,001$ there is a significant difference between the shares of the research-development expenditures from G.D.P. in Germany and the shares of the research-development expenditures from G.D.P. in Romania, in the period 2005-2014.

4. Conclusions

We can to synthesize that, the evolution regarding the shares of the research-development expenditures from G.D.P. in Romania, between 2005-2014, it carrying around a parabolical model of trend. If we use the „t” test, we observe that, there is a significant difference between the values regarding the shares of the research-development expenditures from G.D.P. in French and the shares of the research-development expenditures from G.D.P. in Romania, for any $\alpha \geq 0,01$, in the period 2005-2014, respectively the values concerning the shares of the research-development expenditures from G.D.P. in Germany and the shares of the research-development expenditures from G.D.P. in Romania, for any $\alpha \geq 0,001$, in the same period 2005-2014.

References

- [1]. Gauss C. F. - „Theoria Combinationis Observationum Erroribus Minimis Obnoxiae”, Apud Henricum Dieterich Publishing House, Gottingae, 1823.
- [2]. Kariya T., Kurata H. - „Generalized Least Squares”, John Wiley&Sons Publishing House, Hoboken, 2004.
- [3]. Pearson K. - „On the General Theory of skew correlation and non-linear regression”, Dulau&Co Publishing House, London, 1905.
- [4]. Wolberg J. - „Data Analysis Using the method of Least Squares: Extracting the Most Information from Experiments”, Springer-Verlag New York – Berlin Heidelberg Publishing House, New-York, 2006.

Aspects Regarding the Use of Coco Model for Public Entities' Internal Control

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Control, from the semantic analysis point of view, is a permanent or regular activity, a situation, to track the overall progress and improvement measures. According to the Romanian legislation, internal control is defined as all forms of control exercised at the level of the public entity, including internal audit, established by management in accordance with its objectives and legal regulations, to ensure the management of public funds economically, efficiently and effective; In general, the audit includes organizational structures, methods and procedures.

Keywords: COCO model, learning and monitoring, scope control, commitment.

JEL Code: H83

1. Introduction

In November 2005, a Canadian organization proposes a new model based on Criteria of Control (COCO), which defines internal control as being defined by the whole organizational structure that includes resources, systems, organizational culture and other items, when put together, help achieve the entity's goals.

The COCO model definition is quite interesting because it defines internal control as a process that occurs at all levels and includes all activities, being designed to provide reasonable assurance. A well-organized internal control is able to master activities better, although perfection will never be reached.

The control framework developed by COCO is addressed to the board of directors, general management and line management, owners, suppliers and auditors. This frame has a much broader conceptual approach than the more famous COSO model, and prefers the term control instead of internal control.

COCO control framework is a powerful mechanism that enables an organization to be more focused on its own key structures, values and processes that together form the concept of control, where people are part of the process. Control criteria represents for inspection teams and the entire staff a way of understanding dynamically the control principles and therefore represents a more advanced control framework.

According to COCO model, internal control consists of the organization's resources, processes, tools, tasks, culture and everything that we can imagine, that is all we can take to achieve our goals, but they cannot be reached ever, due to relativity. The model graphically depicts these things in four main groups that mentions the qualities that one need to have to master the activities from his level as well as possible, as shown in Figure 1.

The Canadian model recommends to encourage development of the control and analysis beyond the framework of traditional internal accounting controls and establish criteria for effective control in an organization. Recommendations favor a model that everyone in the organization can use it in order to implement, evaluate and modify its internal control. However, the recommendations do not favor extensive guidance on the design and functioning of an organization.

An effective control may contribute to the success of an organization in different ways:

- people can express their opinions and use their own creativity, managing the risk of improper actions
- people have the flexibility needed to adapt to changes, while taking into account the known risks
- people have reliable information that are able to use them at the right time when it is best for the organization
- organization can improve its effectiveness and efficiency and increase confidence to third parties.

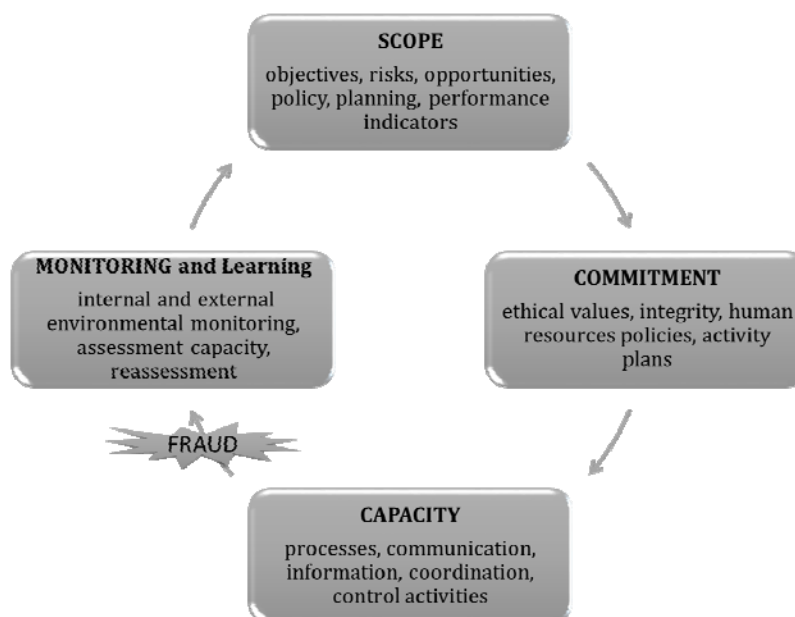


Figure 1. The COCO Model graphical mockup

2. The COCO Model Structure

The control model provides an effective way to understand the major elements of control, including the most important relationships that exist between these elements.

There are three points of interest that define the COCO framework: model definition, control criteria and grouping these criteria.

The model contains twenty control criteria, grouped into the four areas of the COCO model, as mentioned above.

2.1. Scope

The criteria for the scope will contribute to shaping the organization, which refers to: objectives (including mission, vision and strategy); risks and opportunities; policy; planning; goals and performance indicators, as follows:

- A1. Must establish and communicate goals;
- A2. Major internal and external risks to which the organization is coping in pursuit of the objectives must be identified and evaluated;
- A3. It must be established, communicated and enforced policies aimed at facilitating the achievement of the organization goals and risk management which are tackled, so that people understand what is expected of them and know the limits of their freedom of action;
- A4. Must establish and communicate the plan for guiding the efforts in achieving the organization's objectives;
- A5. Objectives and related plans should include goals and measurable performance indicators.

2.2. Commitment

The criteria for commitment contribute to the affirmation of identity and values of the organization and refers to ethical values, including integrity, human resources policies, the liabilities, responsibilities and obligation of reporting, mutual trust, as follows:

- B1. Across organization must be defined, communicated and enforced ethical values, including integrity;
- B2. Policies and practices in human resources must conform to ethical values of the organization and be consistent with its objectives;
- B3. Prerogatives, responsibilities and obligation to report must be clearly defined and consistent with the objectives of the organization so that decisions and actions will be taken by appropriate people;
- B4. Must promote a climate of mutual trust in order to facilitate the circulation of information between people and help them contribute effectively in achieving the organization's objectives.

2.3. Capacity

The criteria for capacity contributes to highlighting the membership organization and signifies knowledge, skills and tools, the processes of communication, information, coordination of control activities, as follows:

- C1. People must have the knowledge, skills and tools to help achieve business goals;
- C2. Communication processes should support the organization's values and achieve its objectives;
- C3. Managers need to define and communicate acceptable terms relevant and sufficient information to enable people in the organization to achieve the responsibilities entrusted to them;
- C4. The decisions and actions of different parts of the organization must be synchronized;
- C5. Control activities must be designed so as to be an integral part of the organization, taking into account the objectives, any risks that may affect the accomplish of these objectives and the link between control elements.

2.4. Monitoring and Learning

The criteria for monitoring and learning contribute to the affirmation of organization's evolution and means the supervision of the external and internal environment, performance monitoring, reviewing assumptions, revaluation of information needs and any related systems, monitoring and assessing control, as follows:

- D1. The external environment and internal environment must be monitored in order to obtain valuable information that may suggest the need to reassess the organization's objectives or control within the organization;
- D2. Performance must be monitored with the help of goals and indicators defined in the organization's objectives and plans;
- D3. The assumptions inherent in the organization's objectives must be reviewed periodically;
- D4. Information needs and related systems must be reassessed when changing targets or when detected impairments in communication;
- D5. Managers must establish and implement monitoring procedures to ensure that changes are made and appropriate actions are taken;
- D6. Management should periodically evaluate the effectiveness of controls in the organization and communicate the results of its evaluation to people which have the obligation to report.

3. How to use COCO's control criteria

A synthetic analysis of the model COCO seen in light of all the previous recommendations, can reveal a useful way of evaluating control, so in practical activity, managers must give proof of creativity in interpreting and applying these recommendations. Organizations can adopt this model or can use it as a starting point in drafting and then changing their own control pattern.

The model's control criteria, by the way its items are grouped into the four major elements, highlight certain aspects of comparing control. They can also be grouped considering individual features of the organization, but what really matters is that all criteria should be taken into consideration.

Control criteria allow management to deeply understand the control within the organization and to judge its effectiveness, thus they are framed so that they can easily be applied in several different contexts. Therefore, in any organization, regardless of the objective pursued, control effectiveness can be appraised using these criteria previously mentioned.

COCO model initiators says however that these criteria are not minimum rules whose application is necessary and sufficient, but managers will have to give evidence of much reason and balance to evaluate the effectiveness of control within the organization. In this regard, the criteria must be interpreted according to the specific objectives of the entity (e.g. under a department customer goal, the criterion on performance monitoring could be composed by the speed and accuracy of execution orders, seen in light of the customers' comments perspective). All criteria are relevant for any type of organization, but in a given situation some may be more important, so they will be preferred despite others.

Control criteria are interrelated, as are the elements of the control system of an organization, so control efficacy cannot be judged by evaluating each and every criterion alone.

According to COCO model, evaluating the effectiveness of internal control is done by expressing criteria in a questions' form, corresponding to its peculiarities. The answers from the table have but no value if we cannot respond to the question "How do we know that".

Table 1. Checklist

No	Questions assessing the effectiveness of control	YES	NO	
A	Scope			
1	Do we have a clear understanding of the mission and vision of the organization?			
2	Do we understand our group's objectives and how do they fit into the organization's objectives?			
3	Our information allow us to discover and evaluate the risks?			
4	How deep do we understand the risks that we have to control and the degree of residual risk acceptable to those whom we have the obligation to report, in terms of control?			
5	Do we understand the policies that have a bearing on our actions?			
6	Are our plans adjusted correctly and quickly in order to apply control?			
7	In terms of performance, are our goals reasonable?			
B.	Commitment			
1	Are our principles of integrity and our ethical values shared by all and put into practice?			
2	Are people rewarded fairly, taking into account the organization's objectives and values?			
3	Do we understand to whom we are to report and do we have a clear definition of our authorities and duties?			
4	Are the critical decisions taken by competent persons who have the knowledge and authority to do so?			
5	Are the confidence levels sufficient enough to enable the free flow of information and activities' effectiveness?			
C	Capacity			
1	Do we have the people, skills, tools and resources that we need?			
2	Are errors, bad news and other information communicated promptly, without fear of retaliation, to people who should know?			
3	Do we have the necessary information to perform our tasks?			
4	Are our actions coordinated with those of the rest of the organization?			
5	Do we have procedures and processes that allow us to achieve the objectives?			
D	Monitoring and Learning			
1	Do we review the internal and external environment to see if goals or control should be changed?			
2	Is the performance subject to monitoring on the basis of relevant indicators and purposes?			
3	Do we review the assumptions inherent to our goals?			
4	Do we receive and provide the necessary and relevant information in order to take decisions?			
5	Are our information systems up to date?			
6	Do we obtain a profit from the results of the monitoring and do we continuously improve control?			
7	Do we periodically evaluate the effectiveness of control?			

4. How to use COCO Model for a public school control

As already stated, managers should be able to modify the above form according to their own benefit, in order to use the COCO model up to its fully potential. The following checklist describes a practical way to apply the model (Scope, Commitment and Capacity areas) for the internal control done in a public school, from Galati County. The purpose of control is to verify the way the wage is set, time tracking, labor book management and data archiving.

The Monitoring and Learning area is not part of the form, as, in this case, this part is implemented after the results of the survey are known and thoroughly analyzed.

Table 2. A Public School Internal Control Checklist

Control activity	YES	NO	OBS
Objective no I. WAGE SETTING			
<i>Wage elements setting</i>			
- Is there a system of procedures for establishing the elements of wage?	✓		
- Please provide us with professional training and experience requirements for the job	✓		
- If "yes", please provide us with the job description	✓		Job description
<i>Wage amendment</i>			
- Is there a procedural system of work organization and communication on the wage amendment?	✓		
- Is it established the person in charge?	✓		
- Please provide us with professional training and experience requirements for the job	✓		
<i>Overtime wage setting</i>			
- Is there a procedural system for overtime management?	✓		
- Do you have set a person in charge to approve overtime?	✓		
Objective no. II. PRESENCE, LEAVE AND VACATION RECORD			
- Is there a comprehensive system of rules and procedures on how to record presence, leave and vacation?	✓		
- Is it established the person in charge to manage this system?	✓		
- Are there employees in charge for managing the collective attendance sheets and records of leave, sick leave and study leave?	✓		
- If "yes", please provide us with the name of the persons in charge and their job description	✓		
Objective no. III. LABOR BOOK MANAGEMENT			
- Is there a system for labor book management?	✓		
- If "yes", please provide us with necessary skills	✓		
- Is it established the persons in charge to manage this system?	✓		
- If "yes", please provide us with the name of the persons in charge and their job description	✓		Job description
- Are there nominated people who have access to the labor books management system?	✓		
Objective no. IV. DOCUMENT ARCHIVING			
- Do you have a document archiving management system?	✓		
- Is it established a person in charge to manage the document archiving system for the human resources management activities?	✓		
- If "yes", please provide us with the name of the person in charge and his job description.	✓		Job description
- Does the person in charge have the required training and experience?	✓		

The above form is just one of the many examples from real life of how a manager is able to apply the COCO model, when assessing these topics, with such an impact upon the employees.

Conclusions

The COCO model recommendations apply to all types of organizations, including profit-making organizations in the private or public area, non-profit organizations, governments and public administrations, as well as other public entities. Meanwhile, the recommendations also apply to entities with different ways of management, centralized or decentralized, respectively.

The model's recommendations allow full freedom on how to implement control, as they do not provide detailed policies and procedures. Thus, small organizations do not need a very structured control

mechanisms, because communications are fewer and more direct. Often, organizations give more weight to the adherence to values that motivate volunteers than the standard control activities, even if they have their own importance within the organization. Also, within an organization, the importance of criteria differ from one behavior to another and may change in time.

References

1. Griffiths P. *Risk-Based Auditing*, Gower Publishing Limited, England, 2005.
2. Ghiță E., Ghiță M. *Audit și control*, Editura Fundației România de Mâine, București, 2007.
3. Ghiță M., Popescu M. *Auditul intern al institutiilor publice: teorie și practică*, ed. CECCAR, București, 2006.
4. Ghiță M. et. al. *Guvernanta corporativă și auditul intern*, ed. TEHNICA-INFO, Chișinău, 2009.
5. Morariu A., Suci Gh., Stoian F. *Audit intern și guvernanță cooperativă*, Editura Universitară, București, 2008
6. Oprean I., Popa I. E., Lenghel R. D. *Procedurile auditului și ale controlului financiar*, ed. Risoprint, Cluj-Napoca, 2007.
7. Popescu M. *Control financiar, audit financiar și expertiză contabilă*, Editura Bren, București 2005
8. <http://www.knowledgeleader.com/>

Effects of Regional Policy in Romania

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Regional development is a process that requires effective and efficient institutions and close cooperation between public authorities, businesses and social groups at all levels. In fulfilling this objective, European regional policy has an important role, whose aim is to transform economic and social problems into opportunities. Regional development policy has become one of the most important and complex EU policies, status arising from its goal of reducing economic disparities - between different social regions of Member States.

Keywords: regional policy, European Union, funds, development

JEL Code: R10, R11

Introduction

Regional development policies of the European Union, were made in 1957 with the creation of the European Community. Increasing the role of regions in European development, was a defining phenomenon of recent decades, it is a cornerstone of European construction of the XXI century. As a natural consequence of the growing importance of regions, one is speaking increasingly more of a "Europe of regions". One of the most important consequences of disruptions caused by the resources manifested itself in a territorial form as regional imbalances. The existence of inequalities in economic development in different countries or within the same state, between different regions thereof, is a reality accepted, explained, and about to be at least partially remedied. EU acts on areas significant for development such as economic growth and the SME sector, transport, agriculture, urban development, environmental protection, employment and training, education.

Regional development policy is a policy of investment for economic development, sustaining competitiveness, raising living standards, improving quality of life, job creation and sustainable development, being the only policy which has created its own institution - Committee of the Regions¹.

Regional policy has thus become a key policy of U.E, primarily aimed at achieving economic and social development of all Member States, policy that is supported by major financial structural instruments over the past 5 decades.

The purpose of the regional policy is regional development, focused on identifying effective methods to use the resources at regional and local level in order to develop the use of inputs and ensuring a high standard of living of the population of that area.

EU Cohesion Policy, which supports regional and sector investments in economic development, was an important factor during the past 20 years in helping disadvantaged regions to compete in the single European market and to catch up with more developed regions.

The great differences between Member States and regions have existed since the beginning of the process of European integration and worsened with every expansion. In the first regional investment models, resources were directed towards major infrastructure projects such as transport networks and community facilities².

Gradually it was noted, institutionally, that regional policies must be comprehensive, to promote economic growth and employment opportunities in less developed regions. Several innovative programs were initiated, infrastructure investments still remain important, but there was also the need to invest in research, innovation, training, marketing development etc. All these actions have confirmed the EU's commitment to invest in human resources through training and retraining and in understanding the requirements change in the labor market in the light of technological development³.

During the 90s, one began to realize more and more the need to fight the environmental consequences of economic growth. Regional policies were designed to ensure compatibility of increased

¹ Dumitrică C.D, Applying the principles of regional development in Romania, Doctorate Thesis, SNSPA, București, 2012, pg. 22

²http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag26/mag26_en.pdf

³http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag26/mag26_en.pdf

production and employment opportunities with environmental protection and direct liability of operators and other economic actors for damages.

At the same time, the economic restructuring of the 90s, social disparities between different population groups became more evident, with particularly negative effects on marginalized groups. In order not to undermine the cohesion objective there appeared the need to tackle social exclusion.

Therefore, regional policy has been resized because the inhomogeneous access to opportunities threatened to undermine the growth and economic development. The decisional leaders in Europe have developed and adopted the necessary legislation to help resolve economic and social problems in order to ensure a more effective use of financial resources and also to support the European Union to solve different circumstances economic and social appeared after enlargement. Integrated programs have generated growth and development of new skills, while seeking to involve communities to protect and improve their living environment.

Currently, EU regional policy is conceived to act in three main directions.

The first direction focuses on sustaining real **economic convergence**, with the aim of helping disadvantaged regions, which generally belong to the Member States of the E and S-E Europe, to reduce the gap between them and the most prosperous regions.

The second direction concerns the application of those measures with the objective of promoting **competitiveness and employment at regional level**.

The third direction aims to foster **cooperation** between regions and countries, in order to reduce the economic significance of national borders.

European experience has shown that the success of policies which promote economic growth and development depends very much on their interaction with national economic policies (sectoral policies, tax, labor market policies). Effective macroeconomic conditions and a favorable microeconomic framework (regulatory framework, business environment) are prerequisites for effective policies to help underdeveloped regions⁴. If national policies encourage regions to remain immobile then development is a difficult struggle.

2. U.E strategic expenses - Regional policy

Regional policy currently benefits from the largest part of the EU budget for the period 2014 - 2020, ie more than 351.8 billion euros out of a total of approximately 1,100 billion, representing the main investment instrument.

Financial resources are used to fund strategic infrastructure of transport and communications, in order to promote the transition to a greener economy, to help small and medium enterprises (254 800 businesses have received direct support investment, 121.308 number of start-ups supported- Chart No.1) so that they become more innovative and competitive, creating new jobs (between 2007-2014 there were created 940,000 new jobs in the EU -Chart no. 2), for the modernization and strengthening of education systems and to build a more inclusive society⁵.

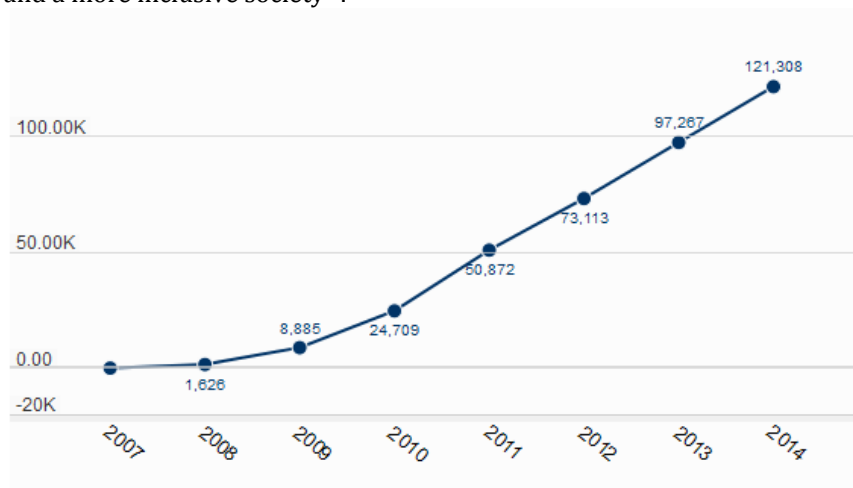
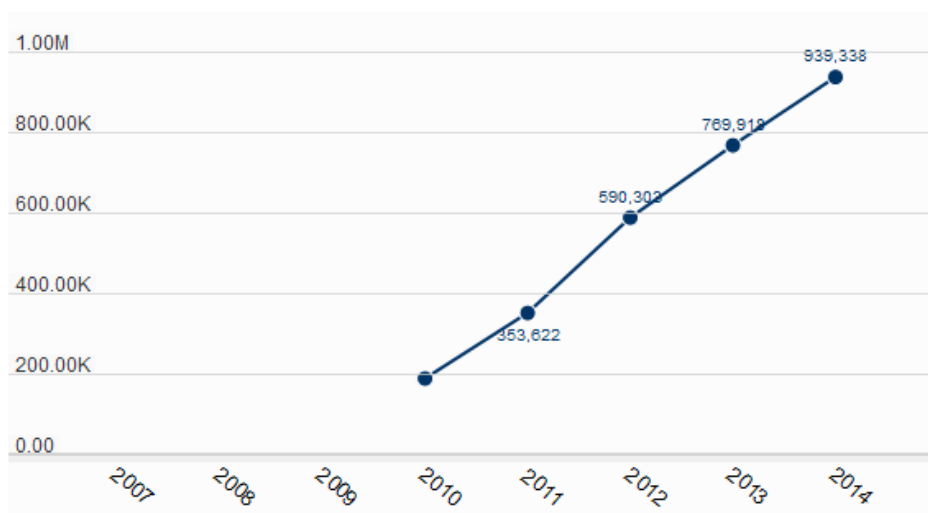


Chart No.1- Number of start-ups supported

Source: http://ec.europa.eu/regional_policy/en/policy/what/key-achievements/#3

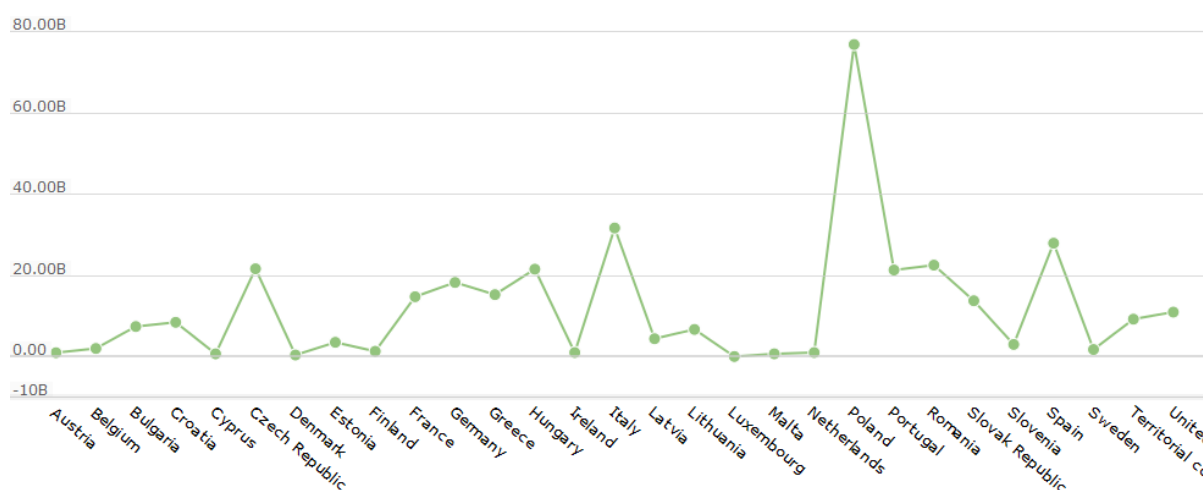
⁴ Popescu L., G., Public Policy and European Union Governance, Editura Economică, București, 2014, pg. 113 - 130

⁵Istrate M., EU Regional Policy, Editura ASE, București, 2008, pg. 189

**Chart No.2 -Aggregate Jobs**

Source: http://ec.europa.eu/regional_policy/en/policy/what/key-achievements/#1

As such, regional policy is a catalyst between public and private funds, not only because it obliges the Member States to co-finance projects of their national budgets, but because it helps strengthen investor confidence. Considering this national contribution and the leverage effect of financial instruments, the overall impact of EU investments for the period 2014 - 2020 could amount to over 500 billion euros⁶ (Chart no.3).

**Chart no.3 - Total amount of allocation (€)**

Source: <https://cohesiondata.ec.europa.eu/dataset/Financial-allocations-2014-2020-Available-Budget-b>

By supporting public investment and by implementing flexible EU investments, for example by reprogramming funds or by raising co-financing in countries such as Cyprus, Greece, Hungary, Ireland, Portugal and Romania, regional policy has mitigated the effects of the financial crisis that began in 2008. Also, in the context of sustained fiscal consolidation, EU regional policy has become paramount. In the absence of cohesion policy, public investment so badly needed in less developed Member States would have decreased by another 45% during the crisis.

We can admit that the analysis and regional and local situational awareness is fundamental to understanding how it can achieve its strategic goal - sustainable development. The programs must be carefully adjusted to the specificities of each region, in relation to the targeted needs and aims⁷.

⁶Basarabă A., Regional Policy, Editura Eurobit, Timișoara, 2008, pg. 52

⁷Iancu D. C., European Union and public administration, Editura Polirom, Iași, 2010, pg. 235-238

3. The effects and importance of regional policy for Romania

The impact of structural funds and national regional policy efectele highlights that are found in particular in creating new jobs and developing infrastructure (transport, social infrastructure, etc.), but they are visible in a wider context, on some areas such as tourism (actions to promote the brand of the country, tourism promotion centers etc.), urban development (integrated development plans), business (supporting microenterprises).

The amounts allocated to Romania, in the period 2007-2013 for the implementation of regional policy from structural funds were aimed at achieving strategic convergence among Member States of the European Union, the total value of these funds was 3.72 billion euros, to which was added the national funding of 1.2 billion euros.

The expected results of the implementation of the ROP (Regional Operational Programmes) were the creation of 15,000 new jobs by the end of 2015 and preventing the growth of inter-regional disparities in terms of GDP / capita in 2007-2013⁸.

Regarding health care, the budget being of EUR 224 727 991, the results were the increasing number of health services, their quality, the number of patients treated and the degree of satisfaction in the medical units who benefited from this funding.

In terms of social infrastructure, the budget was 97,829,252 euros, its objectives were achieved: the creation of new jobs, increased the number of beneficiaries of social services for the elderly, improved social services in the centers supported, for children and adults with severe disabilities there were contributions to modern equipment, in compliance with current EU regulations and standards regarding accommodation and providing new opportunities for social inclusion.

In terms of educational infrastructure, the budget being EUR 441 295 015, the results of regional policy were: increased educational quality service, which generated better study conditions for all the school actors which were the direct beneficiaries of the measure (students, staff teachers, support staff, the management team at school level), providing space for extra-curricular activities, which contributed to increasing the participation and raising the level of academic performance etc..

In terms of business support structures, area of intervention that has a budget of EUR 234 737 282, it was aimed at the creation and modernization of regional and local business support, attracting investment, reviving and development of local and regional economies. The results have been: creating new jobs (an average of 9 seats on administrative staff), the employment rate of the infrastructure created is 86%, diversification of services offered by business as well as development of the skills of human resources involved.

The field of support for SME development, aimed to help develop micro-enterprises in the construction sector, industry and services, located in urban areas to finance 1,500 micro and create 3,000 new permanent jobs by the end of 2015, the budget allocated the total is 200 million euros.

Among the effects of quantitative and qualitative obtained we mention: increase of employment, despite the economic crisis, the benefiting companies increased their staff by an average of 3 employees, increase of the entrepreneurial capacity of beneficiaries, of the capacity of strategic guidance and reorientation - change the field of activity, the shift from marketing to production.

Regarding infrastructure development in tourism there was desired the creation, development and modernization of tourism infrastructure for the exploitation of natural resources and improving the quality of tourism services. The budget allocated to this area was 68.5 million euros, only ERDF contribution. In this area, the results were remarkable: increasing the number of rooms and newly created accommodation, increases 2-3 times the number of "arrivals in accommodation 'and' overnight stays in accommodation", occupancy of infrastructures funded by regional development policy has grown, on average, from 37.44% to 45.63%, above the levels seen at the national level, about 25%, increasing the turnover of the beneficiaries.

We also have noted *the impact on socio-economic development*, stronger at a local and regional level, through the jobs created, taxes paid to the local budget, but also by stimulating investment and other related business⁹.

An important budget of EUR 140 786 655 has been allocated by the regional development policy to *promote tourism potential*. This budget has been used to create a positive image of Romania as a tourist destination by defining and promoting the national tourism brand (which has not yet produced economic results), the development and consolidation of domestic tourism by supporting tourism products and specific marketing activities that allowed an increase in tourist flows, creating the national centers for tourist information and promotion (CNIPT) and equipping them –they have helped to promote tourism development

⁸ www.mdrap.ro

⁹ www.inforegio.ro

by integrating CNIPT in the system of national tourism, infrastructure development of centers and improve the quality of their services¹⁰.

One of the EU's objectives is to promote economic and social progress, balanced and sustainable by strengthening economic and social cohesion of member countries. An important role in this process is given to regions and Romania as a EU member country, through regional development policy aimed at reducing disparities of economic and social development between more developed and less developed regions, through sustainable development and improving infrastructure and business.

Conclusions

The results of recent assessments show that interventions financed by regional policy have increased the number and quality of services offered, to job growth and the number of users. The benefits to end users - citizens and local communities - are found in all areas of health, emergency management, business support, decontamination of polluted lands, tourism development.

References

1. Popescu L., G., *Public Policy and European Union Governance*, Editura Economică, București, 2014
2. Istrate M., *EU Regional Policy*, Editura ASE, București, 2008,
3. Basarabă A., *Regional Policy*, Editura Eurobit, Timișoara, 2008
4. Iancu D. C., *European Union and public administration*, Editura Polirom, Iași, 2010
5. Dumitrică C.D, *Applying the principles of regional development in Romania*, Doctorate Thesis, SNSPA, București, 2012
www.mdrap.ro
www.inforegio.ro
http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag26/mag26_en.pdf
ec.europa.eu/regional_policy/ro/funding/available-budget/

¹⁰www.mdrap.ro

Shipments of 2015 in Romania

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Transport Services represents a branch of the national economy means include all road, shipping and airline which provides movement of persons and the circulation of material property. Keywords: Development of transport has been imposed on the development always ascending of the factors of production.

Jel code: K20,K22,R48

Introduction. The analysis of the evolution of transport in Romania

Transport Network in Romania is quite varied, this country should be from this point of view to an acceptable level compared to other countries. Urban transport operations are inside cities but and long-distance toll charges. The emergence and development of transport in Romania is closely linked to both of the other structures of the police and of the development of the means of communication in our country, which they have taken momentum in the second half of 19th century, like a large part of Europe, feeling need for commercial links between safe and rapid West Europeans and the eastern Europe and further to east.

In Principalities United States first railway, what he was doing connection between Bucharest and Giurgiu, was inaugurated in the year set up in 1869 but in the Transylvania under the Austro-Hungarian occupation there is already a network of railways relatively developed for that time. With the passage of time and with socio-economic development of the country, the network of railways shall be increased continuously, and also the traffic of goods and passengers Danube, in particular after the first world war, and with increasing the number of passengers and the volume of goods carried appears and the need for the protection of them.

So in the year 1929 appears Regulation for the transport service at border posts, in ports and stations and in the year 1936, at the request of Autonomous Direction of Railways, there shall be set up first legion of gendarmes CFR who brought out additional income earned by this and a change of order and discipline imposed on travelers. In the following year appears the Law 118 of exploitation of Romanian Railways, have a special chapter relating to the detection of infringements by transport communication in stations and in ports.

Road transport. The greatest competitive advantage of road transport is its ability to carry goods throughout Europe and on the whole continent, with a unmatched flexibility at a low price.

Transport by rail between 1970 and 2002 the market share of rail transport has fallen down from 21,15 to 8.4%.

Air transport. Of all types of transport, air transport has had the largest increase in the past 20 years.

Sea and inland waterway transport

Transport on the water is the least used and developed even if it is not a cheap way of transport and is less pollutant than road.

At the present moment in Romania there is no official statistics on number of persons who use motor vehicles personal property, but only those relating to long-distance and international traffic. So in the year 2008 there have been a total of 384.515.000 passengers, they 296.954.000, (77 %) have traveled by road, and 78.252.000 , (20 %) have chosen the train as a means of transport. Plane has been preferred by about 9.077.000 people, the remaining passengers preferring the inland waterways and sea.

Transport growth in EU countries

Transport represents an area of socio-economic activity that achieves moving material property and of the people in the space, by means of vehicles or special installations, on certain traffic routes, in order to meet the material and spiritual necessities of the company.

Development of transport has been imposed on the development always ascending of the factors of production. Many advancements in science and technology, more or less spectacular at that time, have been

placed in the service base development and modernization technical materials for transport which, in its turn, was able to ensure that people with a broad range of services in a time of less.

Continual increase the volume of production materials, the need to exchange of goods, the need for travel from long distances of goods and people have constituted factors promoters of ascending development of transport, of vision advancing labor and within the framework of this activity.

A decisive influence on the development of the transport had, for example, inventing machine with steam, which has facilitated the emergence of railways, navigation using oceanic sea-going vessels and set in motion by the force steam. A number of other developments in technology: construction first automobile powered by an internal combustion engine (1855); the invention of the internal ignition combustion engines (1899); inventing the first plane (N° 1905/83 (9),) "there are many events that will mark progress and diversification transport (transport auto appearance and then the air).

At present, transport has become an indispensable element of life, whereas society offers members of possibilities of travel, communication, for the collection and assimilation, as much of what gives civilization. Modern civilizations, characterized by an intense pace of development in the various areas, through a massive exchange of material and spiritual values, complain of a continuous movement of goods, a permanent movement of people from one place to another.

Economic Development of any country increases considerably the volume of economic goods created and emphasizes the mobility of population within urban settlements. In the transport sector will not be created economic goods, but also services, and for this reason, production in this field of activity is expressed in units of measure abstract.

The effect on the economy transport

Transport is one of the most important branches of the national economy. In Romania transport, together with the storage and communications, represents almost 10% of the GDP.

Transport growth, the emergence of new means of transport improved and specialized allowed specialization and exchange of activities, training and national market of the world market, development of trade on the domestic and international. In addition to the impact on the economy of the country shipments have and implications for social aspects (tourism, health, education, culture) and political.

The transport activities, especially those railways and aircraft, are capital-intensive requiring massive investments, accessible only corporate.

At the same time transport offers great opportunities for economies of scale, so that there is a large proportion of fixed costs which are distributed on a larger number of users to reduce unit costs. As with all services, the transport service cannot be stored.

Therefore, it is necessary to develop and the organization of the base solid technical materials, technical and commercial speed of the means of transport, the full utilization of their capacity to eliminate transport through the empty or with partial load, so that the transport needs of the company can be met with minimum expenditure of social work.

Transport system is not only the connection between economic branches and the circulation system on trade in goods between the different states of the world, but also an important factor in the training population GDP and employment. Without a system to transport organized at the global level can be achieved international economic trade and cannot integrate in the world of all areas and geographical regions of the world and cannot benefit from the advantages of globalization. Efficiency of economy depend not only on technical quality or productivity, but also to transport quality in all modes of transport.

No member cannot develop economic and neither the people may not have access to a degree of civilization as far as acceptable without a transport system developed and well organized.

Transport in Romania

Transport Network in Romania is quite varied, this country should be from this point of view to an acceptable level compared to other countries. Urban transport operations are inside localities but and long-distance toll charges. Through the share of 9.8 % branch of transport and communications in the GDP, Romania is among the most well positioned countries, and there is positive and the fact that labor productivity is higher than in other classes, whereas this sector occupies only 4.9 percent of the total workforce.

These figures confirm excellent geo-strategic position of Romania and accentuates excellent prospects for our country to become a major link connection between east and west and Central Europe, becoming a real transit station in the Black Sea basin.

All statistics show that, during the period 2002-2007, transport have had a positive development, the routing of goods (measured in million tonnes-km) increased by 74 %. By far, the most significant growth has occurred at a road transport: 254,9 %.

An interesting phenomenon was surprised by statistics is the fact that, in the last quarter of the year 2008 and until the end of May of this year, the transport carried out by means of transport of the Romanian was greater than the value obtained with foreign means, so that the balance of payments and receipts in the field of transport services has become positive (plus 13 million euros in the first five months of 2009, as compared to a balance of minus 17 million euros in the same period of 2008).

If we take into account the declarations of the officials, we should put up with the idea that, for transporters in Romania will handle it and that even in time of crisis infrastructure in all modes of transport will be modernized, by the construction of motorways in a rhythm or by adding a financing railway infrastructure and aircraft.

Structure of the network of public transport

The public network infrastructure in Romania includes:

(A) public railway network that covers, practical, all over the country.

Density of lines on the holding of 46,1 km/1000 Hmp, provides the connection to all railway networks of neighboring countries.

Network length is 10,981 km and was served in a territory of 1051 of stations and staging of the railway, 50 depots and discounts of locomotive, 120 service wagons and workshops on the area and 106 polling stations maintenance on the lines, art works and installations of centralization and telecommunications.

At present, the entire rail network is in the process of rehabilitation and modernization to allow passenger trains to move with a speed of 160 km/h). In the long term, will be carried out maximum speed of 200 km/h for passenger trains and 120 km/h) for freight.

(B) road network published, which provides access motorized in most localities. Network density is 0.64 km/kmp; the length is the network of 73,435 km (only street) of which 14,685 km¹) (20 %) national roads (4,672 km European roads of which 113 km motorways) and 58.7502) km roads county and local budgets.

From the point of view of the degree of modernization public road network holds 24.6 % (18,084 km) roads upgraded, 28.4 % (20,836 km) roads with lightweight coverings road and 47 % (34,515 km) roads gritted and the earth. National Roads network constitute majority of the country, on them as indicated approximately. 70% of the road traffic.

To make the traffic in general, and to prevent heavy traffic in towns, the Ministry of Public Works, Transports and Housing provided for a program to construct variants of the by-pass of cities in Craiova, Timisoara, Pitesti and Sibiu. Following the completion of projects of rehabilitation and of the work of progress of major repairs to national roads have improved technical parameters of these roads, reducing the length roads with the operational life expired and resulting in an increase in the capacity of the road and the safety of crossing over the railway lines by the construction of uneven passages.

(C) inland waterway network is located entirely in the south and south-east of Romania with a density of 6.5 km/1000 kmp.

Network length is 1,779 km of which 1,075 km Danube waterway international, 524 km inland waterway arms of the river Danube and 91 km inland waterways man-made vitreous (Danube - Black channels and the gate Alba-Navodari). On the network of inland waterways and the Black Sea are integrated 35 ports of which 3 ports, 6 ports river- maritime and 26 ports inland waterways. Romanian ports feature about. 49,000 M triplet for berthing of vessels, of which 18.1 % older than 50 years, requiring urgent rebuilding.

(D) The network airline shall be constituted in the Romanian airspace in which define routes depending on traffic flows coordinated at European level by Eurocontrol.

The Romanian airspace, i.e. airways, are used for both overflight while securing of the supervisory service and route the air traffic as well as for taking-off and landing on airports, they are thus connected with airports around the world. Airport system in Romania is made up of 17 airports, of which 4 are open to traffic domestic and international passenger and cargo and 13 are specific to local interest.

Specific objectives make reference to :

- *Road modernization of the network of national interest* where particular attention will be given construction of motorways, Approx. 1052 KM will be build in this period. Will be upgraded and constructed circuitous variants in length approx. 301 Km).
- *Modernization of equipment and airport facilities* in the four airports of national interest, in order to allow an increase in traffic of passengers at 11.3 million passengers per year in 2017.

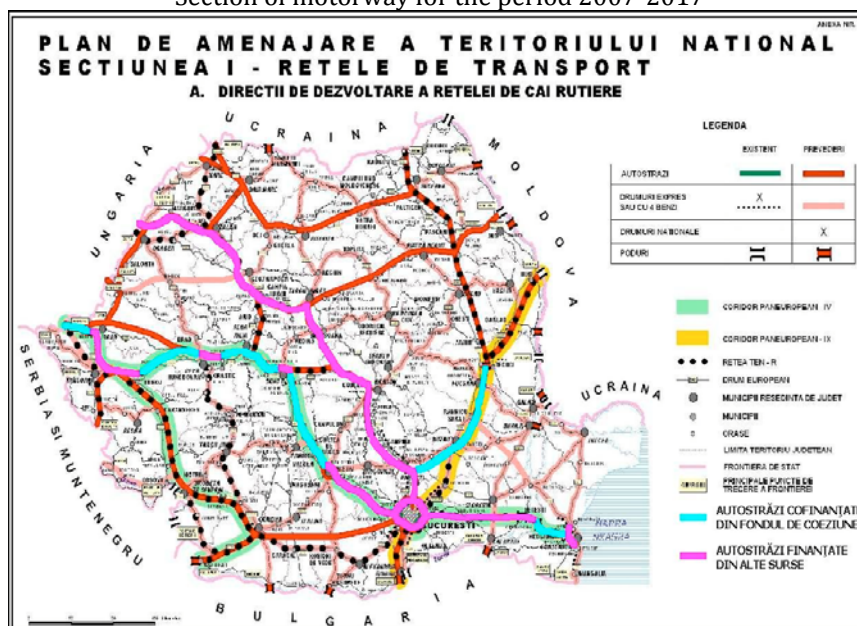
The objective general and specific objectives of national development priority "The Development and modernization of the transport infrastructure" is done by actions grouped into three sub-priorities :

1) Modernization and development of infrastructure trans-European transport networks and connection element which will generate territorial cohesion between Romania and the EU, by reducing travel times to the main destinations.

2) Modernization and construction of road infrastructure trans-European; as far as watch complete motorways under construction, construction of new highways and roads construction quick circuitous variants of cities situated on TEN-T and the modernization of roads and bridges from TEN-T.

Priority projects will also imply the construction of the highway branch north of the corridor Pan - European IV between localities Nadlac - Arad - Timisoara - Lugoj - Deva - Sibiu - Pitesti, Bucharest, Constanta.

Section of motorway for the period 2007-2017



Conclusions

Shipments have a contribution consequence in the development of economy, their share in the GDP ranging between 3-7 %, in most world's countries. Transports development has eliminated economic insulation permitted development of trade and national economies and international".

References:

1. "The network of the European transport 2020 GDP - rail International, Belgium 2005 - Camelia Pavel
2. "SERVICES" ECONOMY 2007- Viorica major battlefield
3. Information material documentary- technical information No 5/2005
4. ***WWW.transport.ro
5. ***WWW.IGPR.ro

Cases when Criminal Action Stops for not being well Grounded

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This work focuses on analyzing the circumstances and obstacles that stop the criminal action beginning and exercise, clearly provided by the content of the New Criminal Procedure Code, for not being well grounded.

Key words: criminal action, criminal trial, obstacles, criminal liability, defendant, evidence.

General aspects

The cases that prevent the beginning or the exercise of the criminal action are circumstances or obstacles permanent, such as the death of suspect or defendant, the amnesty or the prescription, or temporary, such as the absence the initial complaint, of the authorization or notification of the competent body, leading, this way, to elimination or putting aside of the functional skill of the criminal action.

Generally, the New Criminal Procedure Code maintains the situations that prevent the beginning or the exercise of the criminal action, provided by art 10 of the Criminal Procedure Code of 1968, together with some alterations. Yet, by introducing the principle of opportunity of the criminal prosecution and by eliminating from the legal definition of crime of the social danger aspect as main feature, they removed the case of art 10 paragraph (1) letter b¹, of the Criminal Procedure Code of 1968¹¹.

Despite the unifying regulation, the obstacles provided by art 16 Procedure Code divide into two categories, depending on their material or judicial ground such as: impediments deriving from the lack of the action theme, provided by art 16 paragraph (1) letters a - d Criminal Procedure Code, basic impediments related to the material or judicial lack of crime, which according to art 15 paragraph (2) Criminal Code, is the only reason for the criminal liability; and obstacles deriving from the absence object of the criminal action, provided by art 16 paragraph (1) letter e - j Procedure Code, motivated by the material or judicial impossibility to have the object of the criminal action, that is the bringing to justice for criminal liability¹².

This division of cases into two categories, one based on the lack of ground and the other based on the lack of the object, is determined by a difference of solutions to be ruled depending on these impediments but also on the further effects concerning the solution of the accessory civil action, regarding the criminal treatment for the author in a new criminal trial etc.

Compared to the previous Criminal Procedure Code, the new one provides the difference between the solutions only when the criminal action ceases in the judgment phase. According to art 396 paragraph (1) Criminal Procedure Code, the Court passes judgment on the accusation brought against the defendant, ruling the sentence, the cease or postponement of the punishment measure, the acquittal or the cease of the criminal trial. Paragraph (5) states that the defendant acquittal shall be ruled in the cases provided by art 16 paragraph (1) letters a-d Criminal Procedure Code, whereas according to paragraph (6) of the same article, the cease of the criminal trial is ruled in situations provided by art 16 paragraph (1) letters e-j Criminal Procedure Code.

During the criminal prosecution, despite the cause that prevents the exercise of the criminal case, this is stopped by the same solution, classification.

The causes or obstacles which result from the criminal action lack or reason are the following: the deed is absent, the deed cannot be provided by criminal law or the guilt is not contained by the law, there are no pieces of evidence that a person committed the crime or there is a justifying or non imputable cause.

The deed is absent

This represents one of the legal impediments related to the beginning or the exercise of the criminal action. By regulating it, the lawmaker envisaged the case where the deed doesn't exist from the material point of view; in other words the surrounding world hasn't been physically modified by the deed.

¹¹ Art. 10 paragraph (1) letter b¹) of the former Criminal Procedure Code stated that: the deed doesn't have the social danger degree of a crime.

¹² A. Zarafiu, Criminal Procedure. General Part. Special Part, C. H. Beck Publishing House, Bucharest, 2014, p. 79.

This case is not identical to the one provided by letter b) art 16 Criminal Procedure Code, which states that the deed is not comprised by the criminal law. In this case a deed has been done, we have its materiality, but there is no incrimination, it is not a crime and, therefore, we have no criminal liability and applicable punishment.

The absence of the deed assumes the absence of the defendant and thus, we have the impossibility to hold somebody criminally responsible.

Only the person's external behavior can be set as crime, not the simple psychological process that occur inside the person's brains. In Latin we have the expression "*nuda cogitatio*" meaning that the simple intention of the offender to commit a crime, not materialized in external behavior as preparing actions or actual commission of the crime, doesn't lead to criminal liability.

The absence of the deed objective reality is not a cause for any liability, especially the criminal liability. Establishing the existence of the deed is also important for the exercise of the civil action in order to recover the caused prejudice. If there is no deed, there will be no source for the prejudices and after the analysis of art 25 paragraph (5) Criminal Procedure Code, we see that this case, together with those provided with at letters c) and d) of art 16 Criminal Procedure Code¹³, are not among the situations where the court, ruling the acquittal, the cease of the criminal trial, shall leave the civil action without solution so that the victim or her successors, civil part in the criminal trial, can take the case in the civil court.

The solutions that can be ruled in absence of the deed are the following: classification during the criminal prosecution phase and acquittal during the judgment phase. Art 314, Criminal Procedure Code, called "solutions for not prosecution and not judgment", states that: "after analyzing the notification, when all the necessary evidence were gathered at the file pursuant to art 285 Criminal Procedure Code, the prosecutor, being requested by the criminal prosecuting body or ex office, rules the solution for the case by order, deciding the classification, when there is no exercise of the criminal action or, depending on the case, cease the exercised criminal action given the presence of one of the cases provided by art 16 paragraph (1)". Also, according to art 315 paragraph (1) letter b) Criminal Procedure Code "classification is ruled when one of the cases provided by art 16 paragraph (1). About the judgment phase, art 396 Criminal Procedure Code named "solving the criminal action" states at paragraph (5) that the defendant acquittal is ruled in cases provided by art 16 paragraph (1) letters a)-d).

The deed is not provided by the criminal law or its guilt is not envisaged by law

Art 16 paragraph (1) letter b), Criminal Procedure Code, make part of one single cause preventing the beginning or the exercise of the criminal action, meaning the deed is not provided by the criminal law or its guilt is not envisaged by the law, cases provided by art 10 paragraph (1) letter b) and letter d) of Criminal Procedure Code of 1968¹⁴.

Differently from the above mentioned case, here we have an objective deed exists, but it is not among those presented by criminal law or the manner it was committed, its guilt, is not provided with by law, which means lack of incrimination. Pursuant to art 16 paragraph (1) Criminal Procedure Code, the deed is considered crime only has the guilt form requested by criminal law, and according to paragraph (6) of the same art, a deed represented by an action or non action is a crime when it has been committed with intention; the deed by fault is a crime only when the law provides with it clearly.¹⁵

The expression "the deed is not specified by the criminal law" shall contain, among the deeds that can be considered contraventions or misconducts, the ones which could be crimes but they lack one of the essential elements, except for those elements related to the subjective side of the crime, covered by the expression "was not committed by the guilt requested by law"¹⁶.

The notion "deed specified by criminal law" will not be mistaken with "criminal illegal", meaning the criminal deed or crime, provision in the criminal law or typicality, representing only one of the essential features of the crime. According to article 15, Criminal Procedure Code, the crime is stipulated by the criminal law, committed with guilt, not justified and imputable to the person who has done it; the crime is the only reason for the criminal liability. Typicality derives from the principle of incrimination legality "*nullum crimen sine lege*" and represents the relation between the real deed, directly or indirectly committed by a person and elements of objective and subjective nature set by the judge in the abstract patten, provided by the incriminating law.

¹³ There is no evidence that a person committed the crime; there is a justifying cause or a non-imputable one.

¹⁴ Art. 10 paragraph (1) letter b) of the former Criminal Procedure Code stated that: the deed is not provided by criminal law; art 10 paragraph (1) letter d) of the former Criminal Procedure Code stated that: the deed is lacking one essential element of a crime.

¹⁵ According to the former Criminal Code, the deed represented by an action occurred by fault is a crime only when it is provided by law [art. 19 paragraph (2) Criminal Code], and the deed represented by an inaction is a crime either because it was committed with intention, either by fault, except for the case where the law punishes only the commission of the deed with intention [art 19 paragraph (3) Criminal Code].

¹⁶ N. Volonciu, A. S. Uzlău, New Criminal Procedure Code, Hamangiu Publishing House, Bucharest, 2014, p. 47.

Article 1 of the New Criminal Code begins with the principle named "legitimacy of incrimination", stating that "criminal law lay down the deeds which represent crimes; no person can be criminally sanctioned for a deed not stipulated by the criminal law the moment it was committed"¹⁷. This rule includes both the circumstance where the deed was never included by the criminal law, and those which contain it in the criminal law, but places it outside the accusation the moment of deed commission; or, depending on the case, it was not mentioned by the criminal law when it was committed, but it was incriminated subsequently. Thus, if this rule is not satisfied, the deed is not a crime, making useless the analysis of other features of the crime and therefore, the deed cannot be the ground for criminal liability, according to art 15 paragraph (2) Criminal Code, the crime is the only reason for criminal liability, and art 14 paragraph. (1) Criminal Procedure Code, the criminal action represents holding criminally liable the persons who committed crimes.

We have to remember that the deed was not committed with the guilt provided by the incriminating law such as direct or indirect intention, clearly mentioned by art 16 paragraph (3) of the New Criminal Code, fault, direct or indirect, provided by paragraph (4), foresight or simple fault, and exceed intention or *praeter intentionem* regulated by the new code at paragraph (5).¹⁸

Consequently, if there is no relation between the deed and the abstract pattern provided by the incriminating law, both objectively and subjectively, we have an obstacle for the beginning and the exercise of the criminal action.

In case the court takes into consideration this impediment, more exactly the text of art 16 paragraph (1) letter b) thesis I Criminal Procedure Code, the civil side shall remained without solution, giving the victim or her successors, civil parts of the criminal trial, the opportunity to take the case in civil court. Thus, even though the deed is not contented by the criminal law and is not a crime, the victim has the right to claim damages and the right to take the case to a civil court as, in this matter, the criminal liability of the person shall be used for any prejudice caused, by actions or on actions, to the legal rights or interests of another person¹⁹.

The solutions for this case are the following: classification, during the criminal prosecution, the acquittal during the judgment. Art 314 Criminal Procedure Code named "solutions for not prosecution and not judgment", states that: "after analyzing the notification, when all the necessary evidence were gathered at the file pursuant to art 285 Criminal Procedure Code, the prosecutor, being requested by the criminal prosecuting body or ex office, rules the solution for the case by order, deciding the classification, when there is no exercise of the criminal action or, depending on the case, cease the exercised criminal action given the presence of one of the cases provided by art 16 paragraph (1)". Also, according to art 315 paragraph (1) letter b) Criminal Procedure Code "classification is ruled when one of the cases provided by art 16 paragraph (1). About the judgment phase, art 396 Criminal Procedure Code named "solving the criminal action" states at paragraph (5) that the defendant acquittal is ruled in cases provided by art 16 paragraph (1) letters a)-d).

There is no evidence that a person committed the crime

The ex cause of art 10 paragraph (1) letter c) of the Criminal Procedure Code of 1968 was changed from "the deed was not committed by the defendant or culprit", as provided by art 16 paragraph (1) letter c) of the New Criminal Procedure Code, because "there is no evidence that a person committed the crime". The new text is better for the nowadays needs, with the possibility to have certain evidence for accusing the suspect or the defendant but, some of them not being persuasive, the criminal action shall be prevented. So this impediment is incident not only when it is not possible to prove that the deed was committed by the culprit or the defendant, but also when there is evidence but other legal conditions regarding their legal usage are not satisfied²⁰.

In order to solution a criminal case, the judicial bodies must establish the real situation and all circumstances related to the author. The purpose of all judicial actions is discovering the truth²¹.

¹⁷ In the former Criminal Code, the legality or incrimination had other content: "the law stipulates which deed are crimes, the punishes applied to offenders and the measures to be adopted for them" with regulation at art 2 Criminal Code, while the former one began with "the purpose of the criminal law".

¹⁸ The general part of New Criminal Code defines the intention, the fault and the guilt, which, in the former code, was found only in the special part, in the constitutive content of some crimes.

¹⁹ Pursuant to art 1.349 paragraph (1) Civil Code, any person has the obligation to comply with the rules stated by the law or the local way and not to violate by his actions or non actions other persons' legal interests and rights. According to paragraph (2) of the same art, the person, with power of judgment, who violates this obligation, is held responsible for all caused damages and forced to remedy them all completely.

²⁰ The evidence must be made up only of the pieces with information that help to solve all the problems of the merits. They must be pertinent, conclusive and useful.

²¹ According to art 5 paragraph (1) Criminal Procedure Code, the judicial bodies must act, based on evidence, to find the truth about the facts and the circumstances regarding the case and the suspect or culprit. According to paragraph (2) of the same article, the prosecution must gather and manage evidence both in favor and against the suspect/culprit. Rejection or refuse to register evidence in favor of suspect or culprit are punished according to the present code.

Any element which helps to prove the existence or absence of the crime, to identify the person who did it and to know the circumstances is taken into account for ruling the right solution and for discovering the truth in the criminal case.

Object of evidence can be represented: by the existence of the crime and its commission by the culprit; the deeds related to the civil liability, when there is civil liability; real deeds and circumstances compulsory for law enforcement; any circumstance necessary for the right solution of the case.

The pieces of evidence, used to find the truth during the criminal trial, shouldn't be considered as evidentiary hearing, which is the legal manner to obtain the evidentiary piece.

According to art 97 paragraph (2) Criminal Procedure Code, "the piece of evidence is obtained during the criminal trial by the following methods: statement of the suspect or culprit; statement of the victim; statement of the civil part the civilly liable part; testimonies of witnesses; written documents, reports of experts or findings, minutes, photos, means of evidence".

The testimony of the suspect or culprit, together with the statements of other trial parts, is obtained after the hearing. Article 107 paragraph (1) of the Criminal Procedure Code states that at the beginning of the first hearing, the judicial body addresses questions to the suspect or the culprit regarding name and surname, nickname, date and place of birth, personal code, parents' names and surnames, citizenship, marital status, military status, studies, profession or occupation, work place, residence and home address and also the address chosen for communication of the procedure papers, criminal record and whether another criminal trial is being held against him, whether an interpreter is needed, if it's a person who doesn't speak or understand Romanian or cannot express, and any other information useful to make up his personal situation.

The suspect or the culprit is free to state anything he wants on the deed provided by the criminal law previously communicated to him and afterwards, he is asked questions. He can make use of his right to remain silent about the deeds or circumstances he is asked about. Statements are registered in writing and signed.

In terms of witnesses, the law stipulates that any person can be heard as witness who knows about deeds or circumstances that can be considered evidence in the criminal case²². The summoned witness is heard on deeds and circumstances object of the probation in the case.²³ Yet, the witness's testimony cannot refer to confidential or secret deeds or circumstances except for the case where the entitled competent authority or person expresses his approval for it or when there is another case related to eliminating the obligation to keep the secret or the confidentiality.

The "written document" represents the expression in writing of the thought and will. Objects like photos, drawings or tables, unless they contain speech signs, can be considered material evidence, different from the writings. Written documents can be used as evidence if their content shows deeds or circumstances useful for finding the truth. Also, the minutes with the personal findings drawn up by the criminal prosecution body or the court is evidentiary mean.

Expertise is a technical research made by an expert, ordered for finding, clarifying or assessing some deeds or circumstances important for finding the truth. Technical- scientific report is relevant for discovering the truth. Compared to others, it is urgent being ordered in emergencies cases when material evidence are endangered of disappearing or circumstances are likely to be changed. Material evidence is represented by objects that contain or bear the trace of the committed crime, as well as other objects that can be useful to finding the truth.

Article 99 paragraph (1) Criminal Procedure Code, specifies that the burden of proof belongs mainly to the prosecutor, whereas in the civil action to the civil party or to the prosecutor who acts in the civil case if the victim lacks the capacity to do it or does it in a limited way. The suspect or the culprit enjoys the presumption of innocence, not being obligated to prove his innocence and has the right not to take part at the self accusation. According to paragraph (3) of the same article, during the criminal trial, the victim, the suspect and the parts have the right to suggest the judicial bodies to make use of evidence.

During the criminal trial, only the evidence with information useful for solving all the problems of the merits, can be used. For this, the criminal trial theory and the law uses the terms of pertinent, convincing and useful evidence²⁴.

Art 100 paragraph (3) Criminal Procedure Code, states that the request for evidence usage drawn up during the criminal prosecution or during the trial is admitted or rejected by the judicial bodies. According to paragraph (4), they can reject a request on evidence usage whenever: the evidence is not relevant for the object of probation in the case; they consider that the object of the evidence was proved by usage of enough

²² Nevertheless, according to art 115 paragraph (1), (2) Criminal Procedure Code, any person can be summoned and heard as witness except for the main procedure parts and subjects. Also, persons doubtful of being witnesses can be heard only if the judicial body decides the person is able to relate, consciously, real facts and circumstances.

²³ Witness quality has priority compared to the expert, lawyer, mediator quality, or representative of one party or main procedure subject, regarding real facts and circumstances known by the person before acquiring this status.

²⁴ - I. Neagu, Treaty of Criminal Procedure. General Part, Universul Juridic Publishing House, Bucharest, 2013, p. 449.

evidentiary means; the evidence is not necessary as the deed is well known; the evidence is impossible to get; the request was lodged by a not entitled person; the evidence usage is against the law.

The appropriate pieces of evidence are the fact elements connected to facts or circumstances that must be proved in a certain criminal case. Not all the pieces of evidence are appropriate for finding the truth or ruling the solution of the criminal case. Thus, the pertinent evidence must be also convincing. The convincing evidence represents the fact elements that contribute to finding the truth or to ruling the solution in criminal trials. Logically, any convincing evidence is also pertinent, as it wouldn't be useful for a case without being related to it. Not all the appropriate pieces of evidence are also convincing. Useful pieces of evidence are the fact elements that by means of the information contained by them, are necessary to find a solution to the case. The useful evidence is implicitly convincing. The convincing evidence can also be useless, meaning that it is not necessary to the case²⁵.

Also, we must take into account the provisions of articles 101-103, Criminal Procedure Code, stating that it is forbidden to use violence, threats or other means of constraint such as promises or urges in order to get evidence²⁶. We cannot use listening methods or techniques that affect the person's capacity to remember or to relate consciously and willingly the deeds that make up the evidentiary object; the interdiction is applied even if the listened person consents to the usage of such listening methods or techniques.

The judicial bodies or other persons are not allowed to instigate a person to commit or go on committing a crime in order to obtain evidence²⁷. Also, the evidence obtained by torture, their results or those obtained by violation of law, cannot be used in the criminal trial. The nullity of the paper which ruled or authorized the usage of such evidence leads to elimination of the evidence. The resulted evidence is eliminated if they were obtained directly from the evidence of illegal origin and couldn't have been got otherwise. About the evidentiary force, the Criminal Procedure Code specifies that evidence have no value previously set by law and are subjected to free appreciation of the judicial bodies after the assessment of all used evidence in the case²⁸. When making the decision on the crime existence and on the defendant's guilt, the court decides, with motivation, by referring to all assessed evidence. The sentence is ruled only when the court is persuaded the accusation has been proved beyond any reasonable doubt²⁹.

We can retain this obstacle for several situations: first, when the used evidence doesn't prove that the passive subject of the criminal action is the one who committed the crime; this case is the cause for prevention of the beginning or exercise of the criminal action provided by art 10 paragraph (1) letter c) of the Criminal Procedure Code of 1968;

Secondly when the used evidence didn't succeed to eliminate the doubt or the contradictions concerning the crime commission by the defendant, "*in dubio pro reo*" being the rule according to which, in case of doubt, authorities adopt the most favorable solution, circumstance or hypothesis to the defendant. In the Romanian criminal procedure law this rule results from the presumption of innocence. According to art 4 Criminal Procedure Code, any person is considered innocent until it is set otherwise by a final criminal decree; after the usage of all pieces of evidence, any doubt is interpreted in favor of the suspect or defendant. This presumption can be annulled only by the certainty about the guilt, based on irrefutable evidence.

This is another obstacle, different from those of art 25 paragraph (5), Criminal Procedure Code, where the Court, ruling the acquittal, which represents the end of the criminal trial, shall leave the civil action unsolved, and therefore the victim or her successors, as civil part in the criminal trial, can move the case to a civil court. It is a solution deriving from an interpretation of art 28 Criminal Procedure Code, stating at paragraph (1) that "final decree of a criminal court prevails on the civil court regarding the deed and its author".

The solutions for this case are the following: classification, during the criminal prosecution, the acquittal during the judgment. Art 314 Criminal Procedure Code named "solutions for not prosecution and not judgment", states that: "after analyzing the notification, when all the necessary evidence were gathered at the file pursuant to art 285 Criminal Procedure Code, the prosecutor,

²⁵ - I. Neagu, Treaty of Criminal Procedure. General Part, Universul Juridic Publishing House, Bucharest, 2013, p. 450.

²⁶ Art 280 of the Criminal Code incriminates the abusive research, forbidding clearly the use of promises, threats or violence against a prosecuted or judged person in a criminal case, by a criminal prosecuting body, a prosecutor or a judge, in order to establish to make or not statements, to give or not untruthful statements or to withdraw testimonies; also, it is forbidden that a criminal prosecuting body or a judge produce, counterfeit or hide unreal evidence.

²⁷ This interdiction has also some derogations; such as, according to Law no 143/2000 on prevention and fight against trafficking and drugs consumption, republished, The Prosecutor's Office of the High Court of Justice and Cassation allows, on the legal institutions and bodies, to carry out supervising deliveries, with or without total drugs substitution or precursors (art. 20). Special policemen acting as undercover agents, together with their partners can obtain drugs, essential chemical substances and precursors, with full authorization from the prosecutor, to discover criminal activities and identify persons involved in such activities. Thus, the jurisprudence decided that an undercover investigator doesn't represent a breach of art 101 paragraph (3)

²⁸ During the trial carried out according to Romanian law, every piece of evidence has its importance according to the information provided for finding the truth.

²⁹ Pursuant to art. 4 paragraph (2) Criminal Procedure Code, after using all piece of evidence, any doubt in making opinions by judicial bodies is interpreted in favor of the suspect or culprit.

being requested by the criminal prosecuting body or ex office, rules the solution for the case by order, deciding the classification, when there is no exercise of the criminal action or, depending on the case, cease the exercised criminal action given the presence of one of the cases provided by art 16 paragraph (1)". Also, according to art 315 paragraph (1) letter b) Criminal Procedure Code "classification is ruled when one of the cases provided by art 16 paragraph (1). About the judgment phase, art 396 Criminal Procedure Code named "solving the criminal action" states at paragraph (5) that the defendant acquittal is ruled in cases provided by art 16 paragraph (1) letters a)-d).

There is a justifying or a non imputable cause

According to the New Criminal Code, there are two types of causes which remove the criminal character of the deed³⁰ : justifying and non imputable causes; art 16 paragraph (1) letter d) Criminal Procedure Code, specifies that criminal action cannot begin or applied when it's a justifying or non imputable.

Presence of such cause³¹ eliminates the criminal feature of the deed, and if the deed is not a crime, the criminal liability is absent, and thus the criminal action has no longer an object. According to art 15 paragraph (1) Criminal Code, the crime is the deed provided by the criminal law, committed with guilt, not justified and imputable to its author. The definition clearly states the three essential elements of a crime, the same for all crimes: typicality or being mentioned by the criminal law, anti-juridicity and imputability. Typical deed is not a crime if the other three elements are missing. Prosecution or the judging Court must establish, based on evidence, whether a deed is anti-judicial, meaning illegal, not allowed by the criminal law or extra-criminal and imputable to its author.

By including the institutions under the name "justifying causes" to the crime section helps avoiding all confusions regarding other institutions / operative causes in criminal – judicial matter, such as causes which remove the criminal liability or causes for not punishment, where the crime is present with all features stipulated by art 15 Criminal Code; nevertheless only the subsequent basic institution is removed – criminal liability – or the offender is defended by the punishment.³²

According to art 18 paragraph (1) Criminal code, we don't have a crime if its cause is among the justifying ones mentioned the law³³. According to paragraph (2) of the same article, the effect of justifying causes is extended also on the participants. The following are justifying general causes: legitimate self defense, state of necessity, exercise of a right or fulfillment of an obligation, the victim's consent.

These causes have an express regulation in art 19-22, Criminal Code. Pursuant to 19 paragraph (1), art 20 paragraph (1) Criminal Code, the deed committed in self defense or state of necessity provided by criminal law is justified³⁴.

According to art 19 paragraph (2), (3) Criminal Code, we have we talk about self defense if the person commits the deed in order to eliminate a material, direct, immediate and unjust attack³⁵, which puts her person in danger, another person's life, their interests or a general interest, if the defense is proportionate to the severity of the attack. It is considered to be in self defense, pursuant to paragraph (2)³⁶, the person who commits the deed in order to reject the entrance of a person on his property - dwelling, room, annexed building or surrounded area – without having the right, by violence, by cheating, by breach of close or similar illegal ways, or by night.

According to art 20 paragraph (2) Criminal code, state of necessity represents the situation where a person commits the deed in order to save from an immediate and irremovable danger³⁷, his life, his body integrity or his health, another person or a good belonging to him or to somebody else, or of general interest, if the consequences of his deed are clearly less severe than those which could have occurred in case the peril hadn't been eliminated.

Art. 21 Criminal code, stipulates that it is justified the deed provided by the criminal law represented by the exercise of a right recognized by law or for observance of law obligations, within its conditions and

³⁰ In the former Criminal Code, chapter V of Title I, dealt with causes which eliminated the criminal effect of the deed, with no difference, providing with 8 circumstances, obstacles for the beginning or exercise of the criminal action: self defense, state of necessity, physical and moral constraint, act of God, irresponsibility, alcohol intoxication, author's minority and fact error. .

³¹ This impediment involves a positive ascertainment.

³² T. Toader, M. I. Michinici, New Criminal Code with Commented Articles, Ed. Publishing House, Bucharest, 2014, p. 54.

³³ This initial article on justifying causes matter, doesn't have correspondent in the Criminal Code of 1969.

³⁴ Unlike the actual laws, art. 44 of the former regulation, the self defense was placed among the causes that eliminated the criminal character of deed, in order to produce effects in personam, given the fact that the deed provided by criminal law, committed in self defense was due to a psychological constraint.

³⁵ The New Criminal eliminated the obligation of the severity of the attack and this together with the real character of the produced effects, pursuant to art. 18 paragraph (2) Criminal Code, influences the width of the self defense institution.

³⁶ It is the case of self defense assumed to have suffered alterations at the same time with the new regulation, meaning that the space, marked with limiting signs, was removed as location for illegal breaking into, the self defense is assumed, but the hypothesis of breaking into during the night by any means, not being necessary to have violence, breaking entrance, cunning, or other similar means.

³⁷ According to the new laws, the danger receives immediate character including its imminence, a necessity demanded by Criminal Code of 1969. Also, the community interest is replaced by general interest.

limits³⁸. Also, the criminal law justifies the deed committed in order to fulfill an obligation enforced by the competent authority as provided by law, if this is not clearly illegal.

The jurisprudence warned on the importance of separating the hypothesis where exercising a right or fulfilling an obligation act as justifying cause and the cases where the same circumstance has the value of a negative element of the inner content of certain incriminating deeds, and thus, checking a real situation, removes not the anti-juridicity but typicality. Cases like these can be recognized by observing *verbum regens*, which sometimes, on certain incriminating regulations, the law maker provides that the deed is a crime only if it committed without right or by breaching legal provisions or any other similar words transferring the same message³⁹

Article 22, Criminal Code, states that it is legally justified the deed committed with the victim's consent if this had the capacity to legally make use of the endangered or injured social value. The victim's consent doesn't result in effects in case of crimes against life or when the law eliminates its justifying effect.⁴⁰

To have the victim's consent as justifying cause, we need to have several conditions satisfied: commission of a deed provided by the criminal law, not a deed against life or one related to the law that eliminates the consent justifying effect; presence of the victim's real and determined consent⁴¹; the person has to be the rightful owner of the injured social value; the owner can make legal use of such value; the presence a valid consent⁴²; the consent or lack of it should be an essential element of the law content.

There are also special justifying cases, provided in the special part of the Criminal Code or the special laws, such as the special justifying cause regulated by art 201 paragraph (6) Criminal Code, which allows the gynecologist to interrupt the pregnancy, in certain conditions; the justifying cause provided by art 203 paragraph (2) Criminal Code, when the deed is not a crime when refusing to help a person when he needs it if by helping him, the author would put his life, his body integrity or health in danger; special justifying cause provided by art 272 paragraph (2) Criminal code, stating that it is not a crime to influence statements, patrimonial agreement among offenders and the victim, occurred in case of crimes for which criminal action begins the moment of prior complaint or for which reconciliation is made possible; special justifying case stated by art 277 paragraph (4) criminal code, according to which it is not a crime to impair the interests of justice by divulging or making public papers or activities, illegally committed by authorities in a criminal case; special justifying case stipulated by art 302 paragraph (5) Criminal code, according to which it is not a crime to breach mail confidentiality, if the author happens to surprise the commission of a crime or participates to it or if he surprises deeds of public interest with importance for the community life and whose publicity leads to greater advantage for the public than for the victim.⁴³

According to art 23 paragraph (1) criminal code, it is not a crime if it was committed due to non-imputable causes. According to paragraph (2) of the same article, the effect of non-imputable causes doesn't influence the participants except for the act of God.⁴⁴

Non – imputability causes are the situations, cases, circumstances where their existence during the crimes commission determines the impossibility of their commission by the author's person⁴⁵. The committed deed is a deed provided by criminal law, not justified, thus with illegal character, non – imputable to its author.

The general non – imputable causes are: physical forcing, moral constraint, non imputable excess, minority of author, irresponsibility, intoxication, error, act of God, and, just like the justifying causes, they have a special regulation in the New Criminal Code, more exactly in art 24-31.

Pursuant to law, the deed is not imputable by the criminal law in the following cases: a physical constraint exercised on the author; a moral constraint exercised on the author or another person by irrefutable threat⁴⁶; the person in self defense, due to disturbance or fears, exceeds the limits of the attack; the person in state of necessity who didn't realize that her actions exceed the effects of the eliminated danger⁴⁷; an under aged person who didn't have the legal capacity to be held legally responsible⁴⁸ ; a person

³⁸ "Law" is not a clear notion, meaning all laws made by the Parliament, and more widely, any legal prescription. We consider that the latter opinion has greater importance as the law maker talks about a "right recognized by the law".

³⁹ T. Toader, M. I. Michinici, New Criminal Code with Commented Articles, Ed. Publishing House, Bucharest, 2014, p. 59.

⁴⁰ The decision doesn't have an equivalent in the Criminal Code of 1969.

⁴¹ Consent can be tacit but clear. Generally it must be expressed by the owner of the injured value. The consent must be given at the moment of the deed commission, being revocable during the entire period between the issuance and the end of the deed commission.

⁴² Meaning not to be influenced by consent vice: error, violence.

⁴³ M. Udrioiu, Criminal Procedure. General Part, C. H. Beck Publishing House, Bucharest, 2014, p. 59.

⁴⁴ This was not present in the Criminal Code of 1969.

⁴⁵ T. Toader, M. I. Michinici, New Criminal Code with Commented Articles, Ed. Publishing House, Bucharest, 2014, p. 66.

⁴⁶ Unlike to the moral constraint, the source of a physical constraint is not necessary to be in a willing activity of a human being. It can come from a person who acts by fault or guilt, from nature phenomena, from animals or mechanical processes. We may very well think that it can be represented by internal organic processes, uncontrollable and irresistible, inside the author's body.

⁴⁷ Self defense and state of necessity are causes for elimination of crime, as justifying causes, unlike non imputable excess that illustrates improper form of self defense and state of necessity matter, with elimination of crime character, but under judicial nature typical for non imputable cause. The criminal law does the difference between non imputable excess and excusable excess. In judicial matter, only in the

who was not able to control her actions⁴⁹, due to a psychiatric condition or other causes⁵⁰ or due to involuntary intoxication with alcohol or other psychoactive substances⁵¹ the person who, the moment of crime commission didn't know the situation or the circumstance, on which depends the criminal character of the deed. Also, it cannot be imputed a deed provided by law whose result couldn't have been fore sought by law.⁵² There are also other special causes of non imputability provided by the special part of the New Criminal Code: constraint to bribe giving, provide by art 290 paragraph (2).

The difference between the justifying and non – imputable causes is that the first category doesn't entail an illegal character for the deed, this being allowed by the judicial order, while, with the second group, the illegal deed is not imputable to the author. All other difference result from this: justifying causes produce *in rem*, while the non-imputability causes, except for the act of God, have *in personam* effects; the first ones have effects on all participants, while the second group only on the person to whom we cannot impute the deed; when the justifying causes are incident, no type of judicial liability can be exercised, such as criminal, civil administrative, disciplinary etc; whereas, the incidence of non imputable causes can lead to other liability types but the criminal one⁵³.

The solutions for this case are the following: classification, during the criminal prosecution, the acquittal during the judgment. Art 314 Criminal Procedure Code named "solutions for not prosecution and not judgment", states that: "after analyzing the notification, when all the necessary evidence were gathered at the file pursuant to art 285 Criminal Procedure Code, the prosecutor, being requested by the criminal prosecuting body or ex office, rules the solution for the case by order, deciding the classification, when there is no exercise of the criminal action or, depending on the case, cease the exercised criminal action given the presence of one of the cases provided by art 16 paragraph (1)". Also, according to art 315 paragraph (1) letter b) Criminal Procedure Code "classification is ruled when one of the cases provided by art 16 paragraph (1). About the judgment phase, art 396 Criminal Procedure Code named "solving the criminal action" states at paragraph (5) that the defendant acquittal is ruled in cases provided by art 16 paragraph (1) letters a)-d).

References

1. M. Udrioiu, *Criminal Procedure. General Part*, C. H. Beck Publishing House, Bucharest, 2014;
2. Neagu, *Treaty of Criminal Procedure. General Part*, Universul Juridic Publishing House, Bucharest, 2013;
3. N. Volonciu, A. S. Uzlău, *New Criminal Procedure Code*, Hamangiu Publishing House, Bucharest, 2014;
4. Zărafiu, *Criminal Procedure. General Part. Special Part*, C. H. Beck Publishing House, Bucharest, 2014;
5. T. Toader, M. I. Michinici, *New Criminal Code with Commented Articles*, Ed. Publishing House, Bucharest, 2014.

first case, the deed provided by criminal law committed in reality, cannot be judicially appreciated as crime and therefore, doesn't lead to criminal liability, unlike the hypothesis of considering an excusable excess, attenuation cause of the criminal cause, with general attenuating circumstance

(art. 75 paragraph (1) letter b) and c) Criminal Code, case here criminal liability is taken into account, but in favorable conditions according to art 76 Criminal Code.

⁴⁸ According to art 113 paragraph (1)-(3) Criminal Code, the child under the age of 14 years, is not criminal liable; between 14 and 16 years, only if he is proved to have had judgment; the child of 16 years can be held liable according to law. Also, pursuant to art 184 Criminal Procedure Code, it is necessary a psychological report in case the crime was committed by persons of age 14 – 16.

⁴⁹ There must be a difference between "irresponsibility" and "lack of responsibility", the second one is proper for all persons who are not 16 yet. Starting with this age, the relative criminal capacity presumption begins to have effects for all physical persons.

⁵⁰ The state of irresponsibility can be a permanent or a temporary state, an innate or acquired one, psychiatric or of other type.

⁵¹ Intoxication is specially regulated as compulsory aggravating circumstance, according to art. 77 letter f) Criminal Code. WE still have the opportunity to maintain the possibility to adopt such solutions, according to art. 75, paragraph (2) letter b) Criminal Code. The new element is that intoxication cannot be considered as judicial aggravating circumstance given the effect of giving up to the institution of judicial aggravating circumstances (optional).

⁵² Meaning a general objective impossibility to foresee the happening of a circumstance or moment of its appearance.

⁵³ M. Udrioiu, *Criminal Procedure. General Part*, C. H. Beck Publishing House, Bucharest, 2014, p. 48.

New Approaches Factor in Economic Theory of Work

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Following the recession that swept almost the entire world, the labor market worldwide is facing a tense situation. Employment policies should be oriented so that the potential of active work to be ready, capable and professionally prepared. Addressing human activity in a pragmatic manner, is the only way to deal effectively with the problems existing in the system, the common goal is to provide better access to the labor market for all walks of life and encouraging target groups to find a job easily and in a short time.

Keywords: human resources, human factors, work in economic theory, factors of production, labor market

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Introduction: Work in economic theory

There is no universally accepted, generally recognized definition for the essential human activity - work; although everyone seems to know what work means, while there is a public consensus on what should and should not be considered as work. As demonstrated in the various definitions developed by scientists in the economic, social and other fields, the definition of work varies depending on the specific approach. Clearly, an economist will focus on other aspects of the work than a philosopher. However there is an understanding that the work phenomenon, in contrast to other activities, manifests in a real way; therefore, the work itself is a fact.

The essence of human society consists largely of economic doctrines according to which the work is the source of all values.

These doctrines, both historically and analytically, are related to the evolution of human society, to its way of organization, in three major eras: the Agrarian Age, the Industrial Revolution era and the era of Economy Services.

In agrarian society, man has acquired for the first time the means necessary to change his environment and thus to ensure increased chances of survival, agriculture providing basic subsistence and occupying a fundamental place in the economy. The wealth of the nation was given by the surplus obtained from agriculture (which alone creates surplus value) and which is the source of the division of labor and economic growth⁵⁴.

In industrial society, the industrial production of goods becomes the determiner the wealth of nations, thus, the more a company produces more goods, the richer it became. In the agrarian era, labor quantity and intensity were also determined by natural conditions. Decoupling work from nature, following the introduction of production processes independent of natural conditions, has changed the way of working. (For example, gas artificial lighting made it possible to increase the daily working time of industrial workers in Germany from 10 to 12 hours in 1800, from 14 to 16 hours in 1860)⁵⁵.

As the wealth of a society depended on its ability to produce a considerable amount of goods, economic policies had to seek to enhance or promote investment, particularly in industry, to enhance this asset. The ultimate goal of such policies aimed to achieve full use of resources, especially employment. The Industrial Revolution had a great impact on social policies. Industrial workers organized in trade unions have managed to obtain social benefits and pensions.

⁵⁴ Pohoată I., Universal economic doctrines, vol.1, Editura Fundației Academice „Gh. Zane”, Iași, 1998, p. 74

⁵⁵ Seifert E., Industrielle Arbeitszeiten in Deutschland, 1982, p. 4

The impact of the Industrial Revolution on society was enormous, fundamentally changing the way of life and perception of labor. Today we are in a stage of a major change in the economy and hence in the society: the transition from industrial economy to a service economy⁵⁶.

There are moments in human history, when theory and practice must be combined in a unique way, to meet the increasing, more diverse demands of a changing society.

Dilemmas regarding the future of labor and employment, are certainly among the most important issues that society faces today.

The concept of full employment of labor has been less discussed by experts in the economy towards the end of the twentieth century. This "disinterest" is hard to accept if it is considered that the issue concerned is able to provide solutions to problems inherent in economic development. Thus, both in the developed and in the developing countries, the problem of employment has become more urgent as the crisis has accelerated the degradation of public finances, being as they were under the pressure of increasing social costs. In these circumstances, it has become absolutely necessary to develop new sources of jobs through innovative economic mechanisms.

There are situations in which economic theory and its analytical instrumentation, has no capacity to understand and evaluate contemporary economic realities and to advance solutions to economic policy, adequate to the acute problems raised by the current development of society. Each theory corresponds to a particular historical situation until its deficiencies are highlighted. At that moment there appears the need for a new theory to be introduced, to extend their knowledge of new realms. Scientists, economists seek to redefine work and build a new model of labor compatible with modern economies.

Work is more than a factor of production in a functional economic system, being at the same time, an intrinsic part of human dignity. A relevant aspect supporting this idea is the evolution of economic thought on the concept of work, value, wealth.

Large-scale changes occurring in the world today, namely the transition from the traditional industrial society to a new type of society, the society of services, the knowledge-based society, induce changes in the workplace. These changes have a major impact on education and training systems.

The traditional and new visions are based on two **aspects**:

- labor and employment, and productive activities are aimed at creating a better life for people. Closely related to this goal is the creation of wealth.
- productive activities and work are intrinsically related to human potential.

Economy and, with it, economic theory developed as a consequence of the Industrial Revolution. Employment or paid work, no longer represents the highest priority, essential for economic development. Unpaid work, voluntary or benevolent, as well as autoproduction, can no longer be considered negligible factors of well-being.

Globally there has been a change in the economy, there is a shift from industrial economy to service economy, transition demonstrated in particular by the detectable mutation of the active population in general and particularly employed population, from primary and secondary sectors towards the service sector.

Today in modern economies (especially in developed countries), the services sector has a share of 80% in terms of manpower. Services dominate all productive sectors of the economy that depend increasingly on research - development, quality control, maintenance, financing, insurance, advertising, customer service, recycling, to get the best results. This process has stimulated increased volume of unpaid work as producers of goods and services try to transfer some work on the consumer.

Alvin Toffler described this phenomenon as the transformation of the consumer in „prosumer”⁵⁷, for example substitution of the activity of bank clerks through automatic release of cash, which implies superior knowledge of usage from the customer⁵⁸.

Economic thinking, specific to industrial society has neglected two dimensions of value: value of autoproduction and the value of autoconsumption. The workload intended for autoproduction tends to increase, particularly in the use of products and services. As a result, there is an emphasis on the complementary role of these two forms of employment, unpaid and autoproducer in relation to employment, i.e. paid work.

Employment in the new society based on services

The realities of today's society come to confirm Karl Popper's not exactly positive statements, on economics that seems sterile to provide effective solutions to the problem of employment; given that we know that each science disciplines role lies first of all in identifying and addressing priorities⁵⁹.

⁵⁶ Giarini O., Liedtke P., Dilemma of employment and the future of labor, Editura All Beck, București, 2001, p. 32-35

⁵⁷ Toffler A., The third wave, Editura Politică, București, 1996

⁵⁸ Giarini O., Liedtke P., Dilemma of employment and the future of labor, Editura All Beck, București, 2001, p. 36 -37

⁵⁹ Giarini O., Stahel W.R., The limits of certitude, Editura Edimpress, 1996, p. 157

We can see, based on statistical analysis and not only, that developed countries do not attain full employment of labor. If in the post-war period until the early '70s, unemployment was not a severe problem, within a decade, from 1972 to 1982, the number of unemployed has tripled sharply to the historic peak of 35 million in the mid 90s, not taking into account an appreciable number of people without a job, but not included in official statistics still having an uptrend. Currently, the global number of unemployed will reach about 202 million according to the International Labour Organisation (ILO).

Meanwhile, labor underutilization is even more striking in developing countries, where a considerable part of the population is excluded from the economic growth and development.

We are talking about those people living in the deepest poverty, which according to UN Secretary General Ban Ki Moon, represent a quarter of the world's population and whose number increases with 25 million each year⁶⁰.

Stringent issues, which the world is facing today: crisis, unemployment and poverty, would be solved if one would achieve the desideratum of full employment of labor force and this could be achieved only if we take into account another alternative on productive labor, on value, on wealth; by incorporating in the sphere of productive labor the wide variety of activities currently excluded from a money economy. For example, those provided within the family, community and society. By default, it creates a new perspective for tackling unemployment by expanding sources of employment. It outlines a new vision in the context of which all human activities gain value and preferential advantages, which seems rational under the economic, social and moral aspect⁶¹.

A new world is emerging, a new society, a new economy based on knowledge. The economic literature states that this is actually new economy service economy. It should be noted the following aspect, that this service economy does not identify with the tertiary sector, but is characterized by its specific activities that penetrate and are intertwined in all other economic activities of the primary and secondary sector.

Both classical and neoclassical economic schools argued that all businesses can be divided into three sectors: agriculture, industry and services (i.e. the primary, secondary and tertiary). In the early modern economic theory, priority was channeled into what was considered to be the most effective means for increasing the wealth of nations: the process of industrialization. Agriculture remains an important activity, but "traditional", but the industry is in the spotlight and the service sector has been a way of classifying activities of secondary importance. But just the efficiency of production processes in industry, driven by technology was what led to the current situation, where almost all processing activities depend to a 70-80% in terms of cost, on the service activities within the structure of production. These activities include research and development, financing, distribution, storage, maintenance, security, management.

As such, *"the services sector is no longer a subordinate to other sectors, it is moving towards the forefront of economic activity, in which they become indispensable production tools in meeting basic needs and essential means through which nations can achieve wealth growth"*⁶².

In all developed countries, jobs in the primary sector declined steadily in recent decades, while jobs circumscribed to the functions of services inside and outside the so-called tertiary sector, have contributed prevalently in employment workforce. Society in general and economics in particular has witnessed a transition from industrial production to services sector.

Currently in North America only a quarter of the working population is employed in industry. In the European Union the trend is similar, only 30% of the working population is concentrated in the industrial sector. While agricultural production in recent decades has consistently absorbed only 5% of the workforce in the EU the share of services rose to 60%⁶³.

The transition process from industrial labor workforce characterized by high productivity for service activities, deemed to have low productivity was the subject of lively debate. Continuing to reduce the size of the industry, increasing pressures on jobs that were once safe under professional aspect, layoff in traditional high qualification employment in favor of labor of lower professional qualification and growth of part-time work and temporary hiring created the image that the economy it is on the verge of losing productivity.

For some economists the cause of loss of skilled employment is a problem inherent to technological shocks associated with increased worker productivity and substituting machinery to the industrial worker; for others the cause of erosion of high-paying jobs in the industrial sector is represented by trade. All studies in this context seem to share, however, a common concern: how productivity of service can be measured in relation to productivity in the sphere of industrial production. There is still no answer to this question, since services are not in opposition to the primary and secondary sectors, but in a complementary relationship. Any increase in the plan of service efficiency will inexorably have an immediate impact on traditional

⁶⁰ OCDE(2004), Employment Outlook, Paris, p. 59

⁶¹ Giarini O., Liedtke P., Dilemma of employment and the future of labor, Editura All Beck, 2001, p. 9 -10

⁶² Giarini O., Stahel W.R., Limits of certainty. Braving the risks in the new service economy, Editura Edimpress, 1996, p.87-96

⁶³ OCDE(2004), Employment Outlook, Paris, p. 59

estimates of productivity in the industrial sector. Based on these studies regarding the service productivity one would recommend consideration of the concept of quality of results as part of quantifying productivity services. Optimizing the quality of performance is the yardstick for measuring productivity in the new economy, the services.

One should also consider the reverse, namely, for a long time it was believed that the services can ensure unlimited absorption of labor, but the very high productivity of new technologies specific to the new economy, leads to a state of crisis in terms of employment⁶⁴.

New approaches to the labor factor in economic theory

The new economy is based on the modern theory of factors of production, which is centered on the concept of resources and emphasizes on labor resources, knowledge becoming the essential component of the current economic system development. Knowledge, in the form of intellectual capital, hold first place by reference to the classical factors of production: labor and capital. Intellectual capital consists of accumulations and flows of knowledge available to an organization.

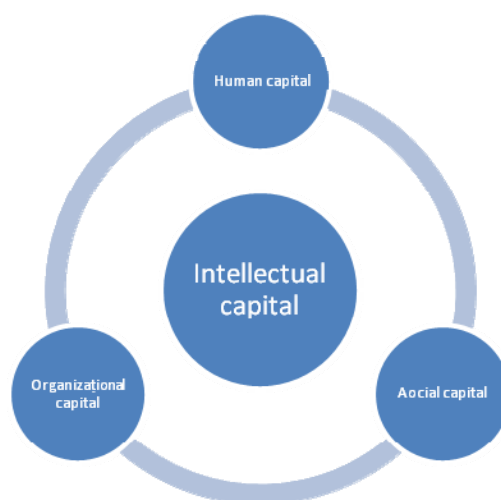


Figure 1. Elements of intellectual capital

The three elements of intellectual capital are:

- ✚ Human capital - the knowledge, skills and abilities of employees in an organization.
- ✚ Social capital - the accumulation and knowledge flows arising from networks of relationships inside and outside the organization.
- ✚ Organizational capital - Youndt defines as institutionalized knowledge baggage actually in possession of the organization, stored in the database manuals.

The labor market needs to be addressed correlative with the company (organization), which is the basic unit of the market economy system. A knowledge-based organization can inject a new entrepreneurial spirit and can motivate managers to transform their organization into one able to attract, utilize and develop its value. Obviously, knowledge, skills and abilities of individuals are the ones that create value and that is why the focus is on the means of attracting, keeping, development and maintenance of human capital that is represented by people⁶⁵. Human capital consists of intangible resources that workers provide for their employers.

T.O Davenport observed in his *"Human Capital"*: *"People have an innate baggage of skills, behaviors and personal energy, and these elements make up the human capital they use in their work. And they are the ones who have this capital, not their employers Work is a bilateral exchange of value, not a unilateral exploitation of an asset by its owner"*⁶⁶.

21st century society appreciates its employees in relation to what they know. Therefore the information becomes the decisive driving force in the new economy⁶⁷.

⁶⁴ Aceleanu M.I., Crețu A.Ș., Employment strategies and policies in the context of the current labor market, Editura ASE, București, 2010, p.45

⁶⁵ Armstrong M., Human resources management. Manual practice, Editura Codecs, 2003, p.47-48

⁶⁶ Davenport T.O., Human Capital, Jossey Bass, San Francisco

⁶⁷ Aceleanu M.I., Crețu A.Ș., Employment strategies and policies in the context of the current labor market, Editura ASE, București, 2010, p.44

According to statistics and forecasts developed in the last 200 years, the wave of technological change would cause high unemployment and / or strong real wage declines.

But such forecasts proved wrong: labor productivity growth has been accompanied by an increase in demand for labor and higher real wages⁶⁸. And this phenomenon was due to the new economy, that of the services. It is also increasingly clear that most services require a high level of education and even continuing education throughout the life cycle of the bearer of the workforce in all fields, which requires adaptation and adjustment of the education system in the smallest details.

New theories of labor markets are based on changes in work content. The general trend in the long term, in the labor markets in developed economies regards the activities involving the development and application of knowledge and new ideas. The supply of labor is based on qualitative sides of labor, putting further value on creative capacity, design, professionalism of the individual. The new quality of work and life of the cause and direct effect of economic growth and development in the long term⁶⁹.

Jobs of the not too distant future will be determined by the major impact of communications and neofactor production which is information, the driving force of the new economy on the labor market. These developments will have an impact on production processes and systems of companies and the administrative work. However, they will require more flexibility from future employees, regarding particular work assignments.

The pervasive trend for integration of information technology in the production process, such as to connect to a vast network the solutions offered by technologies circumscribed to computers will characterize future companies and their systems of administration.

Virtually all spheres of activities will be planned, managed and monitored through a single integrated information system, encompassing all previously isolated solutions. This integration will affect both the horizontal and vertical dimension of production systems as the different tasks of planning, design, production, marketing, distribution and product recycling will undergo an instrument of control unique and ubiquitous, consisting of a computer network.

At the same time employees who will work in this environment will require an education and vocational training greatly improved, in order to effectively use the new systems and the flexibility to adapt to change⁷⁰. The continued development and expansion of new technologies directly and significantly affect the labor parameters: content, duration, degree of qualification.

Specialists in human resources are concerned with identifying the structural, organizational and managerial elements of the new content of labor. The basics are: increase in the share of personality factors, substantial changes in the ratio between physical and intellectual work, increases the element of creativity in the work place, the individual reasoning is replaced by algorithm or rule making, increasingly turning to higher intellectual functions (reasoning, deduction, analysis, capacity for decision-making), therefore there is a process of intellectualization of labor, of increase in the quantity and quality of professional knowledge, increase in the complexity of interaction between man and machine, man and his professional task based on dialogue offered by electronic computing technique⁷¹.

Conclusions

In conclusion, in the economic and social theories on employment should be linked as well as possible with reality and one needs to find the necessary tools to ensure full employment in the labor market, the reduction of unemployment and inactivity.

Knowledge society and knowledge economy ("Knowledge Economy") are the new realities of the XXI century. The new economy places knowledge and information at the basis of development, different from other production factors that deplete by usage. Information extend, multiply and diversify through use, actually representing an inexhaustible neofactor of economic development. Storage of information, of knowledge, is achieved: through experience, by mass media (reading books, newspapers or watching TV) in general and particularly through vocational education and training.

In the "first wave" society, economic growth was based on the original factors, labor and land; the "second wave" society was seen in terms of capital, and knowledge and experience was gained mainly through "learning by doing"; in the "third wave" society, the pivot of economic growth and development is the intellectual capital and individuals must prepare to enter the labor market in accordance with different levels of training, specific training system. But learning extends throughout life, and after penetrating this market, thus acquiring the system of lifelong learning skills necessary to check to conceive, create and invent.

⁶⁸ The OCDE Jobs Study, Part II, 2003

⁶⁹ Ciucur D., Suciu M.C., Labor market, Collective Department of Economics and Economic Policy, Economie, Editura economică, 2003, Ediția a șasea, p.245-247

⁷⁰ Giarini O., Liedtke P., Dilemma of employment and the future of labor, Editura All Beck 2001, p. 138

⁷¹ Manolescu A., Human resources management, 4th edition, Editura Economică, București, 2003, p.93-97

These qualities confer labor bidders ability to adapt to changes caused by technical progress in order to reduce the risk of job loss⁷².

The knowledge-based society is characterized by the democratization of access to information. The primordial role of information lies in the fact that it is a source of value and economic competitiveness, leading to a professional interactive governance, performance based on knowledge. Work is and will be subject to significant changes; routine, repetitive and programmable work giving way to the creative work, nonrepetitive addressing novel tasks. There will be needed continuous improvement along the entire active life, and even change the profession, where applicable. Specialists consider that the investment in human capital is equivalent to the work required to raise skills, knowledge, so that access to technical and productive environment to be easy in terms of growth performance of the workforce.

We must realize that the workforce has become part of the development equation, not so much by the quantitative side, as through the qualitative-structural, expressed by volume and content of knowledge; the arithmetic factor which increases in direct proportion to physical strength in number, gender and age population, employment becomes the bearer and symbol of a nation - attribute evolving today quasiexponentially due to the intellectual force ⁷³.

The criterion which is the basis for the currently classification of countries in terms of economic development (P.I.B.) is completed with the power of the intellectual force to produce and innovate.

As such, overcoming socio-economic difficulties, especially the rapid decrease in living standards, is accomplished by man – always the lever historical recovery, which in the present context is the "first of raw materials"⁷⁴.

References

1. Pohoată I., *Universal Economic doctrines*, vol.1, Editura Fundației Academice „Gh. Zane”, Iași, 1998,
 2. Seifert E., *Industrielle Arbeitszeiten in Deutschland*, 1982,
 3. Giarini O., Liedtke P., *Dilemma of employment and the future of labor*, Editura All Beck, București, 2001,
 4. Toffler A., *The third wave*, Editura Politică, București, 1996
 5. Giarini O., Stahel W.R., *Limits of certainty. Braving the risks in the new service economy*, Editura Edimpress, 1996,
 6. Aceleanu M.I., Crețu A.Ș., *Employment strategies and policies in the context of the current labor market*, Editura ASE, București, 2010,
 7. Amstrong M., *Human resources management. Practice Manual*, Editura Codecs, 2003
 8. Davenport T.O., *Human Capital*, Jossey Bass, San Francisco
 9. Manolescu A., *Human resources management*, Ediția a patra, Editura Economică, București, 2003
 10. Suci, M. C., ș.a., *Issues of human resources training and employment*, Editura Oscar Print, București, 2000,
 11. Servan- Schreider J.J., *Revolution in knowledge*, Editura Humanitas, București, 1990,
- The OCDE Jobs Study, Part II*, 2003
<http://www.globalissues.org/article/26/poverty-facts-and-stats>
 OCDE(2004), *Employment Outlook*, Paris,

⁷²Suci, M. C., ș.a., *Issues of human resources training and employment*, Editura Oscar Print, București, 2000, p.3

⁷³ L'emploi en Europe, Commission europeene, 1995, p.88

⁷⁴ Servan- Schreider J.J., *Revolution in knowledge*, Editura Humanitas, București, 1990, p.188

The Judicial Control on Bail

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The judicial control on bail belongs to the preventive measures category provided by the New Criminal Procedure Code; together with the simple judicial control, it is a freedom restrictive measure used by the judicial authorities in order to ensure a good development of the criminal trial.

Key words: preventive measure, Criminal Procedure Code, defendant, bail, real warranties

Part 1. – Introduction

The preventive measure called judicial control is provided by article 216-217 Section 4 of the New Criminal Procedure Code.

Some voices⁷⁵ rightfully said, about the general aspects of this preventive measure, that the judicial control on bail is a special form of the judicial control, containing the same obligations that must be forcedly or freely accepted by the defendant, according to art. 216 paragraph 3, with reference to art 215 of the New Criminal Procedure Code.

On the other hand, there major differences between the two preventive measures. According to art 217 of the New Criminal Procedure Code, for judicial control on bail, the defendant shall deposit a bail set by the court depending on the case characteristics, the accusation severity brought against the defendant, his financial status and his legal obligations. Also, the article states that the bail value shall not be inferior to 1.000 lei.

The conditions that must be complied with, for the enforcement of the judicial control on bail, are different from those of the simple judicial control; the first measure can be applied provided the circumstances for preventive arrest and home arrest measures are observed.

As the specialized literature showed⁷⁶, the New Criminal Procedure Code creates, without reasonable explanations, a difference between the conditions and the cases necessary for the enforcement of the judicial control preventive measure and the ones provided for the enforcement of the judicial control on bail.

Although the judicial control on bail is a preventive measure completely identical to the judicial control, there is a supplementary condition, concerning the bail deposit. If, for judicial control, art 211 of the New Criminal Procedure Code mentions the general provisions of art 202 of the same Code, art 216 of the New Criminal Procedure Code, for the judicial control on bail, makes reference to the necessary conditions for preventive arrest and home arrest.

The solution is surprising, given the logic of gradual regulation of the preventive measures in the new code; thus, for three preventive measures, with different degrees of restriction of the defendant's personal freedom, are mentioned the same conditions for their enforcement.

It means that adoption of any one of these preventive measures is not founded on certain well defined criteria in order to identify the most appropriate preventive measure, left to the judgment of the judicial authority, depending on necessity or proportionality.

We think this is bad as it leads to a rather unequal practice where, with similar circumstances and causes, a judicial body should consider the enforcement of a freedom restrictive measure, more exactly, the judicial control on bail, and another body should consider more suitable to decide a freedom privative measure, more exactly the preventive or home arrest.

We consider that the lawmaker should intervene here and provide us with a certain degree of predictability about the adoptable preventive measure.

I.1. Necessary conditions for adopting the judicial control on bail

A. Aspects on adopting the judicial control on bail when the public order is not considered endangered

The following requirements shall be met in order to rule the preventive measure of judicial control on bail in this case:

- ✚ the existence of evidence for a reasonable suspicion that the defendant committed a crime;

⁷⁵ *Comments on Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, page 468

⁷⁶ *Criminal Procedure. General Part. Criminal Procedure Code*, Mihail Udroui, 2nd edition, C.H.Beck Publishing House, Bucharest 2015, page 628

- ✚ the absence of a case to prevent the beginning or the exercise of the criminal prosecution provided by art 16 of the New Criminal Procedure Code;
- ✚ the criminal action already begun;
- ✚ the presence of one of the cases provided by art. 223 paragraph 1 letter a-d of New Criminal Procedure Code, more exactly:
- ✚ the defendant fled or hid to avoid prosecution or judgment, or made preparation of any kind for these actions;
- ✚ the defendant is trying to influence another person that took part to the crime commission, another witness or an expert or he is trying to destroy, alter, hide or eliminate material evidence or to determine a person to do so;
- ✚ the defendant puts pressure on the victim or tries to make a illegal deal with him/her;
- ✚ there is reasonable suspicion that, after the beginning of the criminal prosecution against him/her, the defendant intentionally committed a new offence or is preparing the commission of a new one.
- ✚ the defendant has already deposited the bail set by the judicial body;
- ✚ the measure of judicial control on bail is sufficient to have alternative purposes satisfied in order to adopt preventive measures provided by art 202 paragraph 1 of the New Criminal Procedure Code, having a good development of the criminal trial, the prevention of the defendant elusion from the criminal prosecution or judgment, or the prevention of committing another offence;
- ✚ the measure of the judicial control on bail is proportionate with the severity of the accusation brought against the defendant and is necessary to meet the purpose of its adoption;
- ✚ preliminary hearing of the defendant in the presence of the ex office lawyer.

B. Aspects on adopting the judicial control on bail when the public order is endangered by the defendant

The following requirements shall be met in order to rule the preventive measure of judicial control on bail in this case:

- ✚ the existence of evidence for a reasonable suspicion that the defendant committed one of the following crimes: a deliberate crime against human life; a crime which caused body injury or the death of a person; a crime against the national security provided by Criminal Code and other special laws; a crime of drugs, weapons or persons trafficking, actions of terrorism; money laundry; counterfeiting of coins or other values; blackmail; rape; deprivation of freedom; tax evasion; grave injury; judicial injury; corruption offence; IT means offence; another offence punished by prison for 5 years or more;
- ✚ the absence of a cause which prevents the beginning or the application of the criminal action provided by art 16 of the New Criminal Procedure Code;
- ✚ the beginning of the criminal action in case of the offence for which there is the suspicion that the defendant is the author;
- ✚ the necessity to have a judicial control on bail in order to eliminate a dangerous situation for the public order; the lawmaker sets the conditions for such situation considered dangerous for the public order in art 223 paragraph 2: the severity of the offence; the way and the circumstances the crime was committed; the entourage and the environment of the defendant's origin; the defendant's criminal record; any circumstance regarding the defendant; the measure of judicial control on bail is sufficient to have alternative purposes satisfied in order to adopt preventive measures provided by art 202 paragraph 1 of the New Criminal Procedure Code, having a good development of the criminal trial, the prevention of the defendant elusion from the criminal prosecution or judgment, or the prevention of committing another offence;
- ✚ the measure of the judicial control on bail is proportionate with the severity of the accusation brought against the defendant and is necessary to meet the purpose of its adoption;
- ✚ the preliminary hearing of the defendant in the presence of the ex office lawyer.

In terms of the necessity to adopt such measure to eliminate the dangerous status for the public order, the European Court of Human Rights stated that, given the special severity and the public reaction towards it, some crimes can determine social troubles that can justify preventive arrest (moreover, if the Court considers that it's possible to have a freedom preventive measure, it is also possible to adopt a measure that causes a small deprivation of human rights and freedoms such as judicial control on bail), at least for a certain period of time.

This must be considered very important and sufficient if it is based on actions that prove that by letting the defendant free, it would cause real social disturbance of public order.

Furthermore, the deprivation of freedom will be legal provided the public order is not threatened, as it cannot be used as an anticipation of the punishment by prison⁷⁷.

⁷⁷ CEDO, Decision of 26 June 1991, Letellier /vs/ France, paragraph 51

The Court appreciated⁷⁸ that the danger for the public order can be also assessed by relating it to other circumstances, such as the character, the morality, the residence, the profession and the family liaisons of the defendant.

The concept of menace for the public order is initially based on the severity of the offence which decides a powerful reaction of the public opinion, but the application of this measure is legal as long as the analysis of other criteria, concerning the defendant, supports the idea that the absence of a preventive measure would lead to a certain public disturbance and would endanger the social relations and their normal development.

C. The defendant ran or hid in order to avoid being criminally prosecuted or judged, or he made preparations for such actions

It is necessary that evidence in the case prove that the defendant ran or hid, knowing about the existence of a trial against him/her. Now the preventive measure shall be subjected to the debate, as the defendant is absent or made preparations to avoid the procedure, and the purpose was not satisfied.

The specialized literature states⁷⁹ that absconding risk is the case when the defendant leaves his residence hurriedly and secretly, when he moves to another town, country or abroad, without evident reason, in order to escape from possible restrains of the criminal trial.

When the defendant changes his residence and his identity it means he is hiding⁸⁰. In jurisprudence, the action of hiding also means when he hides inside the dwelling, in certain places, leaving the impression that he is not living there anymore.

The risk to avoid criminal procedure cannot be measured only by relating it to the severity of the action taken into account when being sentenced; it must be assessed by taking into account other elements such as the defendant's personality, his morality, residence, profession, financial resources, his relationship with his family and any other relation with the state where the criminal prosecution takes place⁸¹.

When a person⁸² is a foreign citizen or stateless or has no connection to Romania, or the country where he is accused of committing an offence, this is not sufficient to draw a conclusion about the existence of an absconding risk; clues or proofs are needed in order to support the defendant's intention to flee or hide.

When assessing the necessity of adopting the preventive measure, the judge will have regard to the possibility to eliminate such risk by other means, such as lodging a bail or the judicial control⁸³.

We think the application of the judicial control or the one on bail is a little difficult and strange if the defendant already ran or did preparation for this in order to abscond from the criminal procedure begun against him.

We are not sure that, by adopting such preventive measures, defendants will be discouraged to avoid the criminal law and change their behavior to accept it. This situation is rarely met in the jurisprudence given the social and family connections; the defendants prefer to be judged, even sentenced, rather than living a long period of time with the fear of being discovered by the authorities, especially nowadays, when the persons identifying means are more and more sophisticated for a better, quick and efficient cooperation between countries.

D. The defendant is trying to influence another participant to crime commission, an witness or an expert, or is trying to destroy, alter, hide or abscond material evidence, or to determine a person to do so

It doesn't matter whether the persons have already been heard or are to be heard, and if they have been heard, whether their statements are against or in favor of the defendant or another participant, if the statements regard the criminal or civil side.

Also, this case is incident no matter if the material evidence have been taken or not from the scene site or are held by the judicial bodies or other persons. Nevertheless, special attention must be paid to the possibility of the defendant to hide the truth by altering the proofs, meaning the impact on the judicial and procedural situation as the result of the modification already or not yet done on the evidence.

Influencing persons that can testify in the case can be done in different ways: by putting pressure or by expressing threats on them or their family members or closed friends, by corruption, illegal deals, urges or requests.

⁷⁸ CEDO, Decision of 28 March 2006, Jose Gomes Pires Coelho

⁷⁹ *Comments on Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014 pag. 502

⁸⁰ *ibidem*

⁸¹ CEDO, Decision of 28 March 1968, Neumaister /vs/ Austria par. 10

⁸² *Criminal Procedure. General Part. Criminal Procedure Code* Mihail UdROIU, 2nd edition, C.H.Beck Publishing House, Bucharest 2015 pag. 468

⁸³ CEDO, Decision of 27 August 1992, Tomasi /vs/ France, paragraph 98

Jurisprudence showed⁸⁴ that it is necessary to pay more attention to the nature and severity of the crime, to the circumstance of the suspicion about the crime commission, given the possibility to put pressure on witnesses who testified and the approaches made by the defendant to identify protected witnesses.

This risk⁸⁵ can lead to adoption of the arrest measure but it must be periodically assessed because, if it is diminished or even gone, after the hearing of witnesses and without evidence of pressure put by the defendant, this measure is no longer justified.

Talking about the hypothesis of destroying, altering or absconding evidence⁸⁶ (objects that prove the crime, object used or destined to be used to commit a crime, objects that are the product of a crime or any other object that can help to find the truth), we must prove that the defendant's activity bore this intention, of hiding the truth in the case.

E. The defendant puts pressure on the victim or tries to reach an illegal agreement with him/her

Here the purpose is to protect the victim (case 1) or to avoid the risk to lose the opportunity to find the truth (case 2). In both cases, the evidence (witnesses' testimonies, minutes of the telephone conversations, minutes of the criminal prosecution or even the clues resulted from the substantial alteration of the victim statement, in absence of a likely explanation) must prove that the defendant committed, directly or indirectly, personally or by means of other people actions in order to influence the victim not to support the criminal accusations against him/her, for hindering the truth in the case.

The patrimony agreement between the offender and the victim cannot be a reason for the adopting of the preventive measure, in case of crimes for which the criminal action begins when the complaint is lodged or when the reconciliation can appear.

Reconciliation cannot be fraudulent⁸⁷ if it is allowed by law and is carried out without the procedure provided by this. Reconciliations within legal frame can become fraudulent if they use blackmail, threats, if they mislead the victim or appeal to other illegal actions.

At the same time⁸⁸ the agreement in civil part of the case, allowed in cases where the victim claims a damage caused by the defendant deed, would become fraudulent if the victim is forced to have an incorrect behavior during the procedure, such as taking back statements, refusing to make others or stating untruthful things in order to help at exonerating the defendant from the criminal liability or to determine an attenuation of this liability.

F. The presence of a reasonable suspicion that, after the beginning of the criminal procedure against him/her, the defendant willingly committed a new crime or is preparing to do it

Here there are two cases: either the defendant has already committed another crime, or he is preparing to commit one in the future.

Both cases start from the idea that the defendant is already under prosecution for a committed crime and he/she continues to have an antisocial attitude, by committing another crime or making preparation for it.

If the defendant mentioned, in his first statement, that he had tried to commit similar deeds afterwards, we cannot draw the conclusion of incidence if there are no other data⁸⁹.

Also, there must be the reasonable suspicion that the defendant is clearly preparing to commit another crime.

If the defendant has already committed a new crime, it is not necessary⁹⁰ that both crimes, the one that is the object of the criminal case for which there is a preventive measure adopted, and the new one, belong to the same case file. Also, it is not necessary that the criminal prosecution begins for the new crime

Yet⁹¹, it is necessary to prove the commission of the new crime or the preparations for it after the defendant is informed, as the necessity of the preventive measure doesn't result from the commission of concurrent crimes, but from the behavior of the defendant who, under the accusation of commission of a

⁸⁴ *Criminal Procedure. General Part. Criminal Procedure Code* Mihail Udrioiu, 2nd edition, C.H.Beck Publishing House, Bucharest 2015 page 469

⁸⁵ CEDO, Decision of 26 June 1991, Letellier /vs/ France paragraph 37-39

⁸⁶ *Criminal Procedure. General Part. Criminal Procedure Code* Mihail Udrioiu, 2nd edition, C.H.Beck Publishing House, Bucharest 2015 pag. 470

⁸⁷ *Comments on Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, pag. 506

⁸⁸ *Comments on Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, pag. 506

⁸⁹ Court of Appeal Braşov, Criminal Section, Conclusions no 6/2003, mentioned in *Criminal Procedure. Generalities. Criminal Procedure Code* Mihail Udrioiu, 2nd edition, C.H.Beck Publishing House, Bucharest 2015, pag. 471

⁹⁰ *Comments on Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, pag. 507

⁹¹ *ibidem*

crime and being the object of a judicial procedure against him/her, willingly keeps on having an illegal behavior, placing himself/herself in a state of danger for society.

Part II – Bail

II.1 – Definition and General Terms

According to art. 217 paragraph 1 of the New Criminal Procedure Code, the bail represents a sum of money that is put at the disposal of the judicial body or by setting a real warranty, securities or real estates, within the set limits of sums of money, for the same judicial body.

The defendant or the procedure substitute is the persons who can deposit the bail. The bail deposit is a warranty for the presence of the person under the judicial control before the bodies of criminal prosecutors or the court, the good development of the justice, as well as the observance of the obligations provided by law or the judicial body⁹².

According to legal provisions, the minimum limit of the bail is 1.000 lei. Bails that exceed this limit are to be set by the competent judicial body, based on the severity of the accusation, the financial status and his legal obligations.

The jurisprudence of the European Court of Human Rights considered that for the bail setting, it is important to know the financial status of the defendant, his resources and also, if losing the bail will be an obstacle strong enough to prevent the culprit from avoiding the procedure⁹³.

Any piece of evidence can be used by the criminal prosecution bodies in order to determine the incomes of the defendant in case he/she refuses to reveal them.

II.2 – Bail Refund

Bail is refundable as it follows⁹⁴:

- ✚ the moment the judicial control on bail is revoked;
- ✚ the moment the criminal prosecution is classified or dropped out;
- ✚ when a decree, even not final, rules the renouncement to punishment application or postponing, to acquitting or ceasing the criminal trial; this is not applicable if it has been decided that the damages caused by the committed crime, the judicial costs or the fine be paid for with money taken from the bail.
- ✚ when the decree rules the sentence by prison or by paying a fine; this is not applicable if it has been decided that the damages caused by the committed crime, the judicial costs or the fine be paid for with money taken from the bail.
- ✚ any other situation where bail seizure is not ruled in the decree.

II.3 – Not-Reimbursable Bail

Impounding the bail is made pursuant to art. 217 paragraph 5 of the New Criminal Procedure Code if the judicial control on bail has been replaced by the preventive arrest or the home arrest due to the fact that the mala fide defendant hadn't complied with his obligations set by the judicial control or if there is reasonable suspicion that he had committed a new crime which caused the beginning of the criminal procedure against him⁹⁵.

The solution to be ruled on the merits is not important; the seizure can be ruled even if the adopted solution envisages the renouncement to the punishment application or delay, acquittal or cease of the criminal trial.⁹⁶

Also, we must underline that breaching the obligations ruled by the judicial control on bail doesn't necessarily lead to a harder preventive measure; it is also possible to maintain the judicial control on bail and to rule new obligations or increase of the bail quantum⁹⁷. Art. 217 paragraph 5 of the New Criminal Procedure Code states that only the Court can rule this measure. Jurisprudence and specialized literature stated 2 different opinions regarding the competent judicial body ruling the bail seizure. One opinion states that only a decision of the first phase of judgment can seize the bail. The other opinion states that giving this right only to the court is a writing mistake of the lawmaker.

⁹² Criminal Procedure. General Part. Criminal Procedure Code Mihail Udroui, 2nd edition, C.H.Beck Publishing House, Bucharest 2015, page 637

⁹³ Criminal Procedure. General Part. Criminal Procedure Code Mihail Udroui, 2nd edition, C.H.Beck Publishing House, Bucharest 2015, page 638

⁹⁴ idem

⁹⁵ *Comments on the New Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014 page 478

⁹⁶ *Criminal Procedure. General Part. Criminal Procedure Code Mihail Udroui*, 2nd edition, C.H.Beck Publishing House, Bucharest 2015 page 639

⁹⁷ *Comments on the New Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, pages 476-477

About the impossibility to seize the bail only by the court decision, they say that on the contrary, art 217 paragraph 5 and 6 of the New Criminal Procedure Code regulates the situation where bail seizure and reimbursement during the judgment phase without limiting or forbidding the seizure during other trial phases.

During the criminal prosecution phase, the judge for rights and freedoms and the judge of the preliminary chamber, through the conclusion stating the replacement of the judicial control on bail with another arrest measure, shall also decree the seizure of the money deposited as bail, based on provisions of art 216 paragraph 1 and 3, related to art 215 paragraph 3, art 217 paragraph 4 and 9 and art 242 paragraph 3 and 9 of the New Criminal Procedure Code⁹⁸.

Bibliography

1. *Comments on the New Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014;
2. *Criminal Procedure. General Part. Criminal Procedure Code Mihail Udrouiu*, 2nd edition, C. H. Beck Publishing House, Bucharest 2015;
3. CEDO, Decision of 26 June 1991, Letellier /vs/ France;
4. CEDO, Decision of 28 March 2006, Jose Gomes Pires Coelho;
5. CEDO, Decision of 28 March 1968, Neumaister /vs/ Austria;
6. CEDO, Decision of 27 August 1992, Tomasi /vs/ France ;
7. *Court of Appeal Braşov, Criminal Section, Conclusions no 6/2003*, mentioned in *Criminal Procedure. Generalities. Criminal Procedure Code Mihail Udrouiu*, 2nd edition, C.H.Beck Publishing House, Bucharest 2015;

⁹⁸ *Comments on the New Criminal Procedure Code*, coordinators Nicolae Volonciu, Andreea Simona Uzlău, Hamangiu Publishing House, 2014, page477

Cargo Contract

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The voyage charter contract is the contract under which the ship owner undertakes, in exchange for a sum of money called freight, to make available to the charterer in a particular place of loading, a good ship, able to load certain goods (made available by the charterer of the vessel) and transport it to the place of unloading cargo.

Keywords: Upgrading shipping terminals, equipping them with facilities for handling modern means of processing part-time and full of raw materials.

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Introduction. Carrying out an active cooperation between the ship and jetty.

On the market of general cargo are known more than 50 standard contracts approved, adopted or recommended by various national and international organizations. An almost universal feature of these agreements is that they tend to favour the ship-owner. In 1982 the appearance of multiform contract (a contract with a tinge pro-charter proposed by FONASBA) tried to impose it on the market, but without success because it was considered that the market of dry goods is not ready yet to accept the pro-charter contracts. The most commonly used contract in this market is **Gencon** which, despite real deficiencies which it has (many of its clauses dating back in 1922, although it has been revised in 1922, 1976 and 1994), it is still widely used, while one of the contracts relatively modern (Multiform), built with the idea to replace Gencon, it is used only occasionally.

On the market of liquid products, the situation is very different, here the number of standard contracts is considerably smaller and generally they are made in such a way as to favour charterer.

The terms of the chartering contract

The terms of the chartering contract are those terms on which an agreement has been reached through negotiation between the contracting parties.

Terms implied

In addition to the terms entered in the chartering contract there is also a series of terms intended, terms that are used only to give a travel efficiency. A period is considered to be implied only when this is necessary because otherwise the contract would not make sense or would lead to absurd consequences.

Obligations implied of the owner are the following:

- The ship to be in seaworthy condition
- The estimated date on which the ship will be ready for upload is honestly supervised by the owner and that the owner has enough reasons to believe that this is real
- "That he will be careful of the goods
- "That he will perform the voyage with the required diligence and without deviations from usual the shipping route.

Implied obligations of the owner are the following:

- In certain circumstances, to have the goods ready to be charged at the time of the ship's arrival
- In certain circumstances, to nominate a safe harbour or a safe loading berth
- To nominate the harbours in their geographical order
- "Don't charge dangerous goods without inform the previous owner
- "Don't submit for signing manifests which are not in accordance with the charter contract or to compensate for any damages to the owner as a result of the use of a manifest that imposes on the shipowner obligations greater than those imposed by manifest

Classification of the terms from the charter's contracts

Whenever certain terms of contract are not respected by one of the contracting parties, the innocent parties shall be entitled to apply for and receive damages. In certain circumstances, it may consider this violation of the contract as a repudiation of the contract, and may consider the contract as being finished. This will depend on the importance of the unobserved contract and, from this point of view, the terms of the contract shall be divided into three groups:

(a) Conditions. A condition of a contract of chartering is a promise whose importance is fundamental for the carrying out of the contract. If such a condition is violated, the innocent part shall be entitled to treat the contract as having been completed, even if the effect of failure of conditions is minor.

When the ship is nominated, it shall be entered in the contract the **name of the ship, call sign, year of construction, nationality, dead weight, gross and net tonnage, and sometimes, the speed**. The levels of detail of the description of vessel, in the charter's contract on a voyage, is to a large extent dependent on the special notes of the voyage and therefore draft, length, and height above the waterline are very important elements in the situation in which the ship must pass through narrow channels or under bridges. Other elements that may be important as the contract to be unfold are: lifting appliances of the ship, the number of the storerooms, sizes of the storerooms and cargo hatch, etc. Both shippers and shipowners must request and supply all the elements necessary to carry out the economic calculations and the planning of loading, transport and unloading operations.

An extremely important element is **the load capacity** of the ship and it can be described in more ways of which the most commonly used are the deadweight of the ship and the volumetric capacity.

Presentation in the chartering contract of a ship's position at the time of conclusion of the contract of chartering is considered to be a condition of the contract. Any incorrect information regarding to that entitles the shipowner to ask for damages or if he wishes to consider the contract of cargo as being finished. The expression *"expected ready to load under this charter about the data indicated in Box 9 ..."* is a promise made by the shipowner that, at the date of signing of the contract of chartering he has serious reasons to expect, honestly, that the ship will be ready to be charged on the date indicated. This expression is also considered a condition of the contract of chartering. Use of the word *"about"* allows the shipowner the indication of this data with an error of 3/4 days.

When in the contract of chartering is mentioned that the ship will load a merchandise with certain characteristics, then the charterer is obliged to submit to the cargo that loading, which is in the situation and condition referred to in the contract or in accordance with the use of that port. In the event that by contract the charterer has the right to choose the goods to be loaded from several types of goods, it is not obliged to choose the merchandise that best suits for that ship.

(b) Guarantees. A guarantee, in the case of a contract of charter, is a term of minor importance, which does not affect the development of the voyage. Failure to comply with such a term does not entitle the innocent part to consider the contract is complete, but permits him to claim compensations

Even if through the contract it is not expected that charterer is obliged to provide goods entered in the contract of chartering, this obligation is one implied. When availability of goods is necessary in order for the ship to become an *'arrived ship'*, then the charterers are required to provide goods in such a way as to enable the ship to be a ship arrived. If the contract stipulates that the ship becomes a ship arrived, regardless of the availability of goods or that the waiting time for the goods shall be considered time for lay days, it is not possible to say that there is a contractual term implied to impose the charterer to have goods ready to be charged.

(c) Intermediate terms. In any contract of chartering contractual provisions exist a complex nature which cannot be considered to be conditions or guarantees. Failure to do so could be considered as being of fundamental importance in a given situation and minor in another situation. Most of the times, the delimitation between condition and warranty shall be determined by the loss suffered by the innocent part.

Presentation in the contract of chartering of the ship's position at the time of conclusion of the contract of chartering is considered to be a condition of the contract. Any incorrect information regarding to that entitles the charterer to ask for damages or if it wishes to consider the contract of chartering as being finished.

The expression *"expected ready to load under this charter about the data indicated in Box 9 ..."* is a promise made by the owner that at the date of signing the contract of chartering has serious reasons to expect, honestly, that the ship will be ready to be charged on the date indicated.

This expression is also considered as a condition of the contract of chartering. Use of the word *"about"* shipowner showing this data with an error of 3/4 days.

Termination of the contract

A contract of chartering is deemed to have ended when each side from the contract has fulfilled his obligations (with no problems in dispute) or with the agreement of the parties (the Parties may consider the contract ceased or being able to change it).

When one of the parties fails to comply with a condition of a contract of chartering or on intermediate term sufficiently serious, the disadvantaged part has the option of accepting or not this non-compliance. When he chooses not to consider the contract completed, it shall remain in force in all respects. If he chooses to consider the contract completed, the obligations of the parties shall cease and the contract shall remain in force only for the following purposes:

- Settlement of disputes arising from failure terms of the contract before the end of the contract;
- Settlement of disputes for the amounts due from that have been gained and are payable before the end of the contract;

Lay/Can

In all the contracts of chartering it shall be established the period of time during which the ship must be ready to be charged to the first port of call. Usually, this is inserted in the contract in the form of an expression of the following form "Lay/Can October 1-10".

"Lay" is an abbreviation for the expression *"Lay time not to commence before 1st October"* (lay days will not begin to be reckoned before 1 October). If the ship engaged in a contract on charter, in a voyage it arrives in the port of loading before 1 October, the shipowner may not claim that the charterer starts loading before that date, and the lay days will not begin to be reckoned.

"Can" is the abbreviation for the word *"cancelling"*. If the ship has arrived at the first port of loading before October 10, most contracts of chartering give charterer the right to cancel the contract. The several clauses of cancellation are applicable when the vessel may not be reached before the deadline for reasons which may not be charged to the ship's owner and the they have done all that has been possible for the ship to arrive in time. When it is sure that the ship cannot reach in due time, it is important that the owner to announce charterer of this. The charterer is entitled to grant a new date on which to cancel or to cancel the contract. According to *"Gencon 94"*, the charterer shall express its option within 48 hours of the date of receipt of the notice, and if the charterer shall not exercise its option to cancel the contract in due time, the contract shall be considered to have been fined and the new date of canceling is the seventh day after the date approved by the owner in the notice transmitted.

The owner and the master must do everything possible for the ship to arrive at the first port of loading or at the place of delivery before cancelling. If the shipowner or the master, either intentionally or negligently, delay the arrival of the ship, the owner can be held liable for breach of contract.

The purpose of maritime transport

It is clear that the development of sea transport, within the framework of the three basic elements, the goods plays a central role, both for the development ports as well as for the evolution of ships.

All three elements are always interrelated, but research carried out in the course of time indicates that the main element in the economy transport by sea he represents, either in the form of raw material, by variety, quantity and regularity in the trade, either as manufactured products, in the laws the more varied, more complex and required in international trade, the economic progress, scientific and technical is more advanced.

Advanced Technologies and have put mark on port, which in recent years have increased the size and have been upgraded to allow for the handling of goods, cost-effectively. At the same time, at the request shipowners as a result of changes in the market of cargo, as required by the evolution of qualitative and quantitative goods in maritime traffic, innovative processes have been changing from classic cargo, to specialised vessels, which incorporates the last advanced technologies.

It is to be mentioned that, the item propellant of maritime transport is represented by the jumping qualitative-quantitative factor of cargo, the other two, vessels and ports, representing effects which in turn influences question, forming chain dialectic determinant.

Taking into account views expressed in the literature, we can say that, the goods influences development of vessels and ports by:

- Physical state;
- Flow quantity and regularity of the different relations of transport;
- Quality;
- Diversity;
- Characteristics of safe handling and stowage;
- degree of danger;
- Sensitivity;

- Perish;
- Freight rates specific to each kind of goods.

Depending on the condition and physical features of safe handling and stowage, the goods intended for maritime transport can be classified into two broad classes:

- Bulk goods (or continue), including partition of goods are homogeneous, non-packaged and sufficiently bulky to cover themselves carrying capacity of a vessel or a storeroom of a vessel and to provide a continuous flow or near-continuous loading of the ship;
- General cargo (or discontinued), which, by their nature, shall be made up of the goods from inhomogeneous partition, packaged and a smaller, but it doesn't provide a continuous flow of charge and requires special means for packing, loading, stowage, mooring, transshipment and unloading.

The impact each of these categories of goods on the development of ports and vessels for the purpose of obtaining a benefit, it can highlight through the following two aspects:

- Due possibilities for handling in a continuous stream, vessels for bulk goods (oil tankers, bulk carriers, etc.), endowed with modern technologies, it constitutes the most cost-effective segment of maritime transport, the most extensive use;
- General cargo, which are not endowed with modern handling technologies are less cost-effective, and as a result, their use does not record remarkable benefits. An ideal solution to cost general cargo transport conditions in actual development, a is the achievement and for this category of goods of a continuous flow in charge.

Quantity of the goods and their regularity flow involves the use of vessels on certain routes, depending on the transmission system - line or tramp. Depending on the characteristics of the goods (quality, diversity, characteristics of safe handling and stowage, degree of hazardousness, sensitivity, perish) are determined important serve both in the ports of loading and unloading, as well as on board ships, would have to be fitted with special tooling required handling of goods in order to preserve integrity of qualitative and quantitative.

Freight rates will be determined on the basis of such factors as: class and the tonnage of the vessel, the distance between ports, season, specific charges, the volume of goods transported, the nature and the hazardousness of the goods. The value of is different depending on the price of the goods transported, a situation that shows influence of goods on the profitability of vessels via transport prices.

Experience has shown that there is a close link between the basic elements of maritime transport, namely between: ships, cargo and ports; if one of these three components would remain behind, in a short time would be affected deeply profitability throughout the system.

Once the diversification of goods, to the growth of demand in the transport of raw materials and the products manufactured, it has become necessary to diversification and specialization of the vessels from the point of view of carrying capacity, the plant with facilities of modern mechanization and automation in the handling and transshipment of goods. This period is marked by expansion and modernization ports, and archipelago of the port for access of large, modern vessels as well as the battlefield of operation, by the construction piers, equipping ships with installations of high flow, through the construction of berths specialized maritime modernization port terminals and through the organization as far as safe assumption of the territory harbor.

Coming back to ships, it is to be mentioned that they are building the technical complexity, representing investment extremely costly. For this reason, they must meet two categories of essential conditions:

- Techno-construction, intended to ensure that ship's great resistance to requests for environmental navigation area corresponding to the category and established by the certificate of class. The conduct of these conditions shall ensure, in particular, safety of the ship and implicitly of the goods on board, as well as its staff, providing a seaworthy condition - obligation of personal shipowner and a default condition for the sake of the ship before the start of each trip.

These conditions, at the level of the ship, it may be possible to make having regard to the following aspects:

- Suitable space, reasonable accommodation and facilities effective for stacking, protect and quick handling of goods, in relation to the type and the destination ship;
- the insurance of a coefficient dead weight as high as possible;
- Inputs and operating expenses as small, both stationary and in use;
- High speed, which will ensure a higher number of passengers per year.

Both categories of conditions, technical and constructive technical economic can be met by a combination of several factors.

At the present there is in operation the following classes of vessels for the carriage of goods by sea:

- Vessels for the carriage of goods;
- Vessels for the transport of goods in bulk.
- Oil tankers and chemical;

- Ships - container;
- Ro-ro ships and for the transport of cars;
- Ships stores.

Modern sea commercial port is an area of seaside resorts are specially engineered to meet, as being merged, the ways of sea transport with terrestrial ones, of continental served by port and where exchange permanently and organized by goods in both directions.

Initially, the ports were defined as mere places in which the goods were loaded or unloaded. Over the years, they have evolved, from the status of simple interface between sea transport and inland sectors (ports of the first generation), the phase current from agglomerations industrial and commercial property, in which they are carried out in a multitude of services (ports of third-generation). So, we come to the concept of logistics to increase value, which means that, in addition to primary functions of loading or unloading, the ports add value of goods. Just to meet this new goal, currently ports are adapted and developed as near as possible to the production and distribution of goods from a territory as broad.

Taking into account views expressed by the literature, we can say that the ports, regardless of their size, they comply with the following three major functions: the function of transshipment, the function of storage and industrial function.

(A) The function of the transshipment has a primary role and shall relate to the transfer of the goods from the ships to dry and vice versa, with the aim of ensuring optimal conditions to ensure flow of goods, from the sender to the recipient.

Improving this function is determined by the following aspects:

- Higher operating speed and placing through flow of handling of goods;
- Reduce the duration of the parking of the vessels, resulting in less time transshipment;
- Upgrading shipping terminals, equipping them with facilities for handling modern means of processing part-time and full of raw materials;
- Efficient infrastructure works (tanks, quays shall be set aside) as well as for those of the superstructure represented by means of transshipment located along battlefield mooring arrangements, having regard to the transshipment takes place in the archipelago of the port , on quays shall be set aside or in operating berths;
- Carrying out an active cooperation between the ship and jetty.

(B) The function storage port, demonstrated by two forms: transitional storage and storage of storage.

Transitional Storage refers to a situation in which stocks are being created for reducing disproportion between high capacity of modern vessels in relation to terrestrial means of transport.

Storage of storage has a pronounced economic in nature, and in this case there is more than one situations:

- Storehouse of balance, due to the supply of seasonal consumption in front standing flow;
- Storage as a result of provisions, for the purpose of acquiring economies;
- Storehouse with commercial character, representing a precaution against the phenomenon of variation of prices on the international market;
- Storehouse during processing, for goods to which requires maturation prior to processing.

(C) industrial function refers to the links major ports by inland waterway inland waterways, for the purpose of concentration in the vicinity of certain undertakings from heavy industry. On the other hand, it tends to develop modern maritime ports, through extend, deepen, sealed new, artificial channels, the development within the continent's horses water communications for ships of various types, in order to avoid large agglomerations in ports.

Conclusion

Modern maritime ports simultaneously fulfilled these functions: the gate transit routes by maritime and inland transport and sea terminal, that organizational unit to enhance the transit, as well as for the processing of goods from the table. At present, all over the world are working around 85000 of vessels exceeding 100 tonnes, about half of them with the function of transport, and other ancillary functions. Maritime Traffic is in dominant concentrated on goods. One can say that, more than 70% of the volume of goods transported by sea from energy industry and metallurgical industry.

References

1. Caraiani Gheorghe- "shipments ", Bucharest, light Publishing House
2. Stanciu V. , Ionescu O. C. , Cristea I.- The " sea transport of passengers and goods, Technical Publishing House, Bucharest
3. www.shiptrans.ro

Hedging – The Use of Cautious Language in Academic Research Papers Written by Non-native English Authors

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Hedging has attracted linguists' interest beginning with 1970's and since then has been constantly analyzed from various perspectives, currently being successfully used in all types of discourse, including the economic discourse. The present paper aims at providing some insights into the use of hedges in today's written economic discourse (focusing on several research papers written in English by non-native English authors, more specifically Romanian writers). The purpose of the present paper is twofold. On the one hand, the paper attempts to shed light on the concept of hedging in academic writing (the theoretical part) and on the other hand, it attempts at achieving an inventory of hedges used in academic papers by non-native speakers of English (the empirical part).

Keywords: hedging, academic writing, economic discourse.

Introduction

An important step for entering the academic community is the publication of academic papers. When writing an academic paper, both native and non-native English speaking authors are expected to take into account and meet certain academic standards. The professional academic writing has developed its own distinct conventions, being characterized by certain linguistic features. It is structured, objective and informative, written in an impersonal style and characterized by the use of formal language and specialized vocabulary. Impersonal statements as well as passive sentences are very frequently used in academic writing. An academic writer often uses the 1st person plural (majestic or modesty) whereas the use of first person pronoun "I" is rather limited.

Some other characteristics of the academic writing are related to conciseness – an academic paper includes only the main ideas written in short sentences and short paragraphs so that the reader can easily understand the message. In this respect, great emphasis is placed on paragraph cohesion. Repetitions should also be avoided in academic writing whereas contractions are never used in formal writing – only the full form of words is used.

Some scholars have highlighted the fact that academic writing has developed one more characteristic borrowed from classical rhetoric, thus shifting its focus from content-oriented to reader-oriented, thus enhancing interaction between the writer and the reader.

In a world of uncertainty, it is very risky to make scientific statements or present opinions as 100% true and correct. Both native and non-native English speaking scientists tend to be cautious when they feel uncertain about the facts they present in their scientific papers, when they intend to soften their claims and criticism or to convey modesty. Speakers of other languages need to develop their pragmatic abilities in order to communicate effectively in a foreign language and to follow the rules and conventions that govern the academic discourse.

The present paper focuses on identifying the hedging techniques most frequently used by the non-native English-speaking authors in their scientific research submitted for publication in English. Since the incidence of hedges is impressive in the economic discourse, the corpus for this evaluation is provided by the proceedings of the International Conference – "Risk in Contemporary Economy" – 2015, available at the following internet address: <http://www.rce.feaa.ugal.ro/index.php/2014-02-04-19-50-49/rec2015>. Only the first twenty papers, written in English by Romanian authors and included in the first three sections were selected for the purpose of this analysis.

Hedging in Linguistics

The concept of hedging was introduced by Lakoff in linguistics in 1972 in his pioneering work, thus paving the way for a different approach of hedging as a linguistic phenomenon (Lakoff: 1975). The first attempts to investigate the hedging phenomenon concentrated only upon the general English language. Later

on the empirical studies have broadened their horizon into academic writing and English for Specific Purposes (ESP).

Linguists' interest in hedging as a linguistic device has increased after the 1970's, intensified during the 1980's and has continued the upward trend even today (Myers: 1989, Seleger-Meyer: 1994, Hyland: 1994, Crompton: 1997, Fraser: 2009). It is included in the category of linguistic concepts that still stir disputes among linguists.

In time, it has acquired the status of a crucial or essential element of academic writing (Myers, 1989), currently being included in the characteristic features of academic discourse.

In linguistic literature, Crompton (1997:281) states that hedging "may be used to display not only or necessarily the degree of confidence speakers have in their propositions but also how much confidence they feel it is appropriate to display".

The concept of hedging in professional academic writing has been broadly defined as the use of cautious or tentative language to convey intentionally vague messages. According to Hyland (1994:241), hedging "allows claims to be made with due caution, modesty, and humility, and the status of such claims to be diplomatically negotiated when referring to the work of colleagues and competitors".

In this respect, we should mention the contribution of Seleger-Meyer (1994:6) who provides a comprehensive definition of hedges, which "embraces a three-dimensional concept: 1. that of purposive fuzziness and vagueness (threat-minimizing strategy); 2. that which reflects the author's modesty for their achievements and avoidance of personal involvement; 3. that related to the impossibility or unwillingness for reaching absolute accuracy and of quantifying all the phenomena under observation".

While hedging in general language text and in academic writing has drawn much attention from linguists, hedging in English for Specific Purposes has witnessed a remarkable upsurge of interest. Yet little agreement has so far been reached on the inclusion of hedging in EAP syllabi.

Corpus Analysis

The phenomenon of hedging has been extensively analyzed and studied from various perspectives (regarded as a characteristic of academic discourse, as a politeness strategy, in point of pragmatic transfer, socio-pragmatic phenomenon, rhetorical device, translation studies, etc.). Hedges as markers of uncertainty and tentativeness play a major role in the scientific written discourse. As Seleger-Meyer (1994:1) put it "hedging in scientific discourse is a necessary and vitally important skill". Linguists have delved into hedging in certain domains of ESP such as medicine, computer science, chemistry, economics, biology but the field still provides an inexhaustible resource for further research.

Hedges are used in a wide variety of forms, ranging from a single word (typically an adjective or an adverb) to an entire sentence. Linguists have attempted to define, organize, classify and subcategorize them in various ways. Since an exhaustive list of hedges has not been compiled yet, linguists have suggested various taxonomies aiming to provide a clearer picture of hedges.

In point of pragmatic functions, Hyland (1998) classifies hedges into content-oriented hedges – revealing the propositional content and reader-oriented hedges displaying the writer's assertiveness, seeking the reader's approval.

The analysis provided in this paper focuses on the importance of reader-oriented hedges used by Romanian authors and it is based on the taxonomy of hedges suggested by Seleger-Meyer (1994:7) who distinguishes between: 1. *shields* – including here all modal verbs expressing possibility, (however the modal verbs expressing capability are not regarded as hedges by this author), probability adverbs and their derivative adjectives, epistemic verbs; 2. *approximators* – e.g. approximately, roughly, quite, often, etc.; 3. *expressions used to show the authors' personal doubt and direct involvement*, such as "it is our view that", etc.; 4. *emotionally-charged intensifiers* – e.g. extremely difficult/interesting; 5. *compound hedges* – double hedges e.g. it may suggest that, triple hedges e.g. it seems reasonable to assume.

As a result of the analysis conducted, 15 categories of hedges were identified. Hedging is as common in English as it is in Romanian and hedgers are used in both languages not only to communicate ideas, making statements as accurate as possible, but also to show the writer's attitude towards his/her audience. The inventory of hedging devices used by the Romanian authors reveals their wish to carefully tailor their papers in order to communicate efficiently the objectives, methods, results and conclusions of their research for future collaboration in the academic world and for gaining acceptance of the scientific community.

[1] **Modal auxiliary verbs** – is a category of hedges well-represented in the papers included in the present study. Among the epistemic modal verbs used as hedges by non-native English authors, *can*, *should*, *may* and *must* are overused whereas *might*, *could* and *would* are underused. Thus the highest frequency of occurrence is recorded by *can* – used 37 times in 20 academic papers (*can* occur, *can* calculate, *can* find, *can* say (7), *can* achieve (2), *can* predict, *can* see (2), *can* delimit, *can* learn (2), *can* return, *can* lead, *can* undermine, *can* reinforce (3), *can* help (7), *can* explore (3), *can* bear, *can* increase, *can* synthesize), followed by *may* – 9 times (*may* help, *may* be an investor, *may* participate, *may* occur, *may* note (2), *may* function, *may*

conclude, *may* initiate), *should* – used 7 times (*should* lead, *should* address, *should* have, *should* require, *should* not bar, *should* learn, *should* participate), and *must* – used 7 times (*must* face, *must* combine, *must* exercise, *must* include, *must* analyze, *must* calculate, *must* aim at) - the last two indicating a higher level of certainty. *Could* is used only 3 times - (*could* help, *could* explore, *could* establish) whereas *might* was used only twice (*might* not succeed, *might* show).

[2] **Introductory verbs:** *indicate, appear* (4), *estimate, think*; - sentences that contain hedges of such type are more tentative.

[3] **Certain lexical verbs:** *believe* (4), *assume* – denoting a considerable degree of caution on the part of the writer.

[4] **Modal adverbs:** *perhaps, probably, possible, unlikely, apparently, about* (3), *largely* (2), *likely, more or less, mostly, perhaps, possibly, mostly*. When such adverbs are used in academic writing, they diminish the force of claims or statements, showing doubt or uncertainty.

[5] **Adverbs of frequency:** *often* (2), *sometimes, seldom* - do not indicate a high level of certainty.

[6] **Modal adjectives:** *apparent, few* (4), *many, most, several, some, supposed* – are used to show the level of commitment when they are used epistemically.

[7] **Modal nouns:** *probabilities, assumption* (5), *uncertainty, possibility*.

[8] **if-clauses:** *if we explore...we can get, if we wish to be accurate...we shall, if we consider only the value of labour, we will also have to consider...; if we consider the current economic situation...the analysis must be oriented*. Only several examples were found in the form of type 1 conditional, mainly used due to the meaning it conveys, that of possibility (and a probable result).

[9] **Hedging by impersonal constructions and passive constructions:** *it was decided, it is known to be, it is discussed, it is proposed by; it will be analyzed, it has been noted, it can be identified, it may be perceived, it can be observed* (3), *it could be attended, it should be channeled, it should be enhanced, it should be given, conclusions can be drawn, it can be represented, it can be said, it could be suggested, it is obvious*.

The prevalent use of the passive voice in academic papers in general is explained by the objective tone it conveys. Passive sentences in scientific discourse encourage precision and it is a known fact that in a passive sentence the emphasis is placed on the action or process itself than on the performer (the agent). The extensive use of modal verbs in impersonal or passive constructions identified in the academic papers included in this study can be explained by the authors' wish to show maximum politeness and respect regarding the work of other researchers or to avoid commitment to absolute claims.

[10] **Hedging by concessive conjuncts:** *however* (4), *yet*.

[11] **Hedging by negation:** *the statement does not deny, can never be ignored, we cannot speak about a consensus (reached by specialists on the issue of labour) that can never be ignored (due to its new elements generated by the first, second and third wave of the market economy)*. Hedging by negation triggers a certain degree of ambiguity, expressing the writer's wish to avoid direct involvement.

[12] **Approximators:** *approximately* (3), *was somewhat* ensured.

[13] **Hedging expressions** (discourse epistemic phrases): *one possible practical answer, some specialists argue, one aspect of utmost importance, another important issue, the connections (...) are hard to establish*.

[14] **Compound hedges** – a combination of various categories of hedges within the same utterance: - *it is believed, these results might be analyzed, it should also be noted that, it can be used as a trade barrier*.

[15] **Punctuation marks as hedging devices** - parentheses and inverted commas: *an analysis of "competition", any other <public> circumstances, the necessity of "updating" their professional knowledge*. The punctuation marks as hedging devices in the above-mentioned examples were used to emphasize a word that either belongs to another context or is used metaphorically.

Based on the findings of the corpus analysis, several conclusions can be drawn. The corpus-based analysis was conducted in an attempt to provide a clearer picture of hedges used by Romanian authors. Thus hedging devices were found in all papers included in the present study. The Romanian researchers used them in their attempt to communicate effectively, to show respect for the other researchers in the field and to reduce criticism of their work. Shields outnumbered the other categories of hedges and were used by all non-native English speaking authors, whose papers were included in this study, yet inhomogeneously distributed. Most of them preferred to use long hedges and compound hedges by transferring hedging strategies from their native language.

Conclusions

Academic writing for non-native English speakers poses serious challenges. The Romanian writers of academic papers must have a high language proficiency level thus ensuring the necessary academic skills required by the conventions of the academic community, including the pragmatic competence.

Understanding and the correct use of these linguistic devices could be regarded as one of the requirements that may lead to a more professional and effective writing style and consequently guarantees

the success in the academic world. Scientific texts in general and economic texts in particular are better understood if hedging devices are properly interpreted and used in order to accomplish interactional goals. The present paper aimed at analyzing the hedging techniques used by Romanian authors and their frequency of occurrence. To master academic writing is a challenging task but it enables non-native English speaking researchers to produce academic papers comparable to the ones produced by native English speaking academic writers.

References:

- Crompton, P. (1997). *Hedging in Academic Writing: Some Theoretical Problems*, *English for Specific Purposes*, vol. 16. no. 4;
- Hyland, Ken, (1994). *Hedging in Academic Writing and EAP Textbooks*, *English for Specific Purposes*, vol. 13, no. 3, pp. 239-256
- Hyland, Ken, (1998). *Hedging in Scientific Research Articles, Pragmatics & Beyond New Series 54*, Amsterdam, John Benjamins Publishing
- Fraser, B., (2009) *Hedging in Political Discourse: The 2007 Bush Press Conference*. In *Papers from the 2nd International Conference on Political Discourse*, Warsaw, Poland, <http://www.bu.edu/sed/files/2010/10/2010-Hedging-in-Political-Discourse-The-2007-Bush-Press-Conferences.pdf>
- Lakoff, George, (1975). *Hedges: A Study in Meaning Criteria and the Logic of Fuzzy Concepts*, <https://georgelakoff.files.wordpress.com/2011/01/hedges-a-study-in-meaning-criteria-and-the-logic-of-fuzzy-concepts-journal-of-philosophical-logic-2-lakoff-19731.pdf>
- Myers, G., (1989). *The Pragmatics of Politeness in Scientific Articles*. *Applied Linguistics*, 10, pp. 1-35.
- Seleger-Meyer, F., (1994). *Hedges and Textual Communicative Function in Medical English Discourse*, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.566.2410&rep=rep1&type=pdf>
- Corpus:
<http://www.rce.faea.ugal.ro/index.php/2014-02-04-19-50-49/rec2015>

SECTION
CYBERNETICS, STATISTICS
AND ECONOMIC INFORMATICS

Analysis of Correlating Competencies Required on the Romanian and European Union IT Workforce Markets

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Considering the existence of the European Union's integrated workforce market, but also for obtaining a better interpretation of our results, in this paper we analyse correlating competencies required on the Romanian and European Union IT workforce markets. We are using data mining processes based on an association algorithm, similar to those used for shopping carts. This analysis leads us to a better allocation of our training efforts and generates a more accurate competency development plan.

Keywords: workforce market, IT competencies, data mining, association algorithm

JEL codes: M510, J240, R230

1. Introduction

In (Georgescu & Sbughea, 2012) we developed only a statistical analyse on the requirements of the IT labor market. In (Georgescu, 2014), a superior analysis has been made using data mining algorithms. The data for this analysis consists of approximately 1,200 job offers, from which over 130 competencies, which were required by employers, have been synthesized resulting in over 5,000 "job post – competency" combinations. Microsoft Association Algorithm (Microsoft, 2013), used in that paper is an implementation of the Apriori algorithm (Agrawal & Srikant, 1994), the most renowned algorithm for discovering association rules.

This algorithm was developed for shopping cart analysis aiming to discover certain patterns in customers' behavior. From the first version of this algorithm, there were hundreds of tryouts aiming to develop it and make it applicable for a wider array of situations these contributions being systemized in the paper (Han, Cheng, & Xin, 2007). An improvement of the algorithm's performances was realized by adding the item-set's weight parameter as a supplementary step in identifying them (Lei, 2012).

By carefully analyzing this algorithm we can draw a correspondence between the present issue of this paper and the standard applicability of this algorithm. Thus, competencies have been assimilated with products chosen by the buyer and the shopping carts with job posts. In this context $I = \{i_1, i_2, \dots, i_m\}$ is the set of i competencies required by the employer and $D = \{t_1, t_2, \dots, t_n\}$ represents the set of t job posts. Rephrasing our problem into shopping cart terms, employers have certain tendencies towards consumption needing specific sets of competencies that they materialize by creating a vacancy and posting it along with the competencies required for that job. It's like going to the market, picking a set of competencies and putting them into their basket.

In (Georgescu, 2015) we ran an exploratory clustering algorithm on job posts from Romania. We used the EM clustering algorithm (Dempster, Laird, & Rdin, 1977), where each job post is characterized by a number of competencies required by the employer.

Considering the existence of the European Union's integrated workforce market, but also for obtaining a better interpretation of our results, in this paper we analyse correlating competencies required on the Romanian and European Union IT workforce markets.

2. Analysis of correlating competencies required on the Romanian workforce market

In (Georgescu, 2014) we obtained, for romanian IT workforce market, 184 rules on which Figure 1 is built.

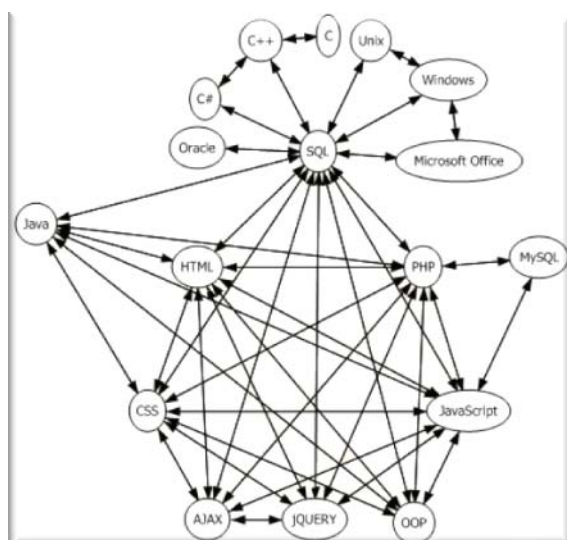


Figure 1: Dependency Network for romanian IT workforce market

A close analysis of Figure 1 and the set of associated rules helps identify three main groups of rules with common characteristics: the group of rules with negative importance, the group of rules with high importance which do not include main competencies (PHP, HTML, JavaScript, CSS and SQL) and those in close connection with them and, finally, the group of rules with the main competencies and those depending on them. These groups will be analyzed separately by filtering input data, obtained rules and by presenting output data in an appropriate manner so as to extract essential information.

The rules from the first analyzed group, the one with negative importance parameter, are presented in Figure 2. The negative value of importance represents an inverse correlation. For example, being given the SQL competency, with a probability of 14.4% jQUERY competency will not be required and the other way around, given the jQUERY competency, with a probability of 42.4% SQL will not be required.

Based on the data from Figure 2, of rules containing the SQL competency either as antecedent or as consequence, we highlight what competencies one may not have, with their respective probabilities, in case of having the SQL competency.

Analyzing, for example, the $\{C++ \rightarrow SQL\}$ rule we see that C++⁹⁹ does not help you find a job in which SQL is required, with a probability of 34%. The dependencies generated by the algorithm are not transitive. In this respect, considering the C¹⁰⁰ competency that has no direct link to SQL (Figure 1) but is strongly linked, in both ways, with C++, just as we stated that C++ competency is no help, neither will the C competency help you find a job in which SQL is required. Regardless, not the same thing can be stated about C#¹⁰¹ and Unix¹⁰² which, despite appearing next to competencies that are negatively correlated with SQL (Windows and C++), they do have a separate, positive correlation with SQL.

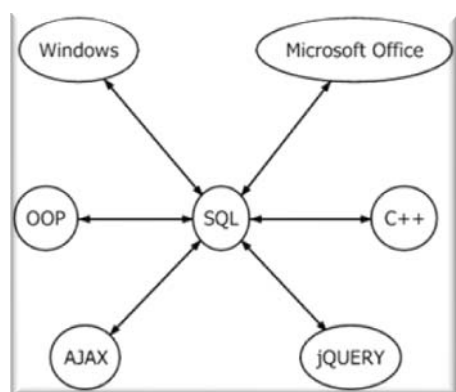


Figure 2: Competencies negatively correlated and rules with negative importance

Probability	Importance	Rules
12.40%	-0.18644316	SQL -> C++
16.50%	-0.137469741	SQL -> Windows
34.00%	-0.132310398	C++ -> SQL
36.60%	-0.100059643	Windows -> SQL
11.70%	-0.066888667	SQL -> Microsoft Office
12.40%	-0.05946068	SQL -> AJAX
19.60%	-0.059036634	SQL -> OOP
40.50%	-0.043895491	Microsoft Office -> SQL
41.00%	-0.042529222	OOP -> SQL
40.90%	-0.039168484	AJAX -> SQL
14.40%	-0.033346073	SQL -> jQUERY
42.40%	-0.022158728	jQUERY -> SQL

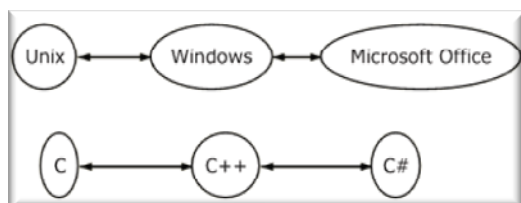
⁹⁹ C++ - object oriented programming language

¹⁰⁰ C - medium level programming language

¹⁰¹ C# - object oriented programming language, development instrument for the .NET platform

¹⁰² Unix - open-source operating system

Selecting the second group of rules, the one that does not contain the main competencies and those associated with them, we obtain Figure 3.



Probability	Importance	Rules
51.90%	1.309787835	C++ -> C
80.90%	0.957201938	C -> C++
39.70%	0.802896033	Windows -> Microsoft Office
61.90%	0.644842053	Microsoft Office -> Windows
27.50%	0.531867372	Windows -> Unix
31.10%	0.46105551	C++ -> C#
46.20%	0.445519068	Unix -> Windows
35.90%	0.441167792	C# -> C++

Figure 3: Competencies and rules not correlated with main competencies

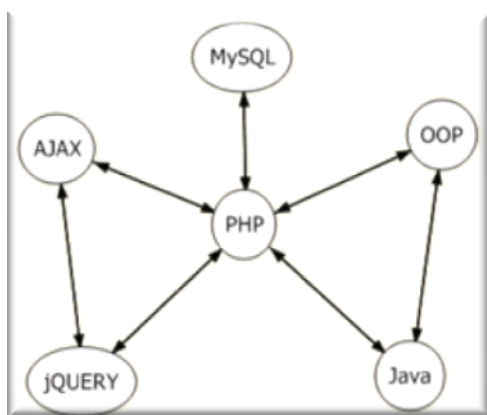
Because the following two competency groups Unix, Windows, Microsoft Office¹⁰³ and C, C++, C# are sustained by rules that, through their importance, put them in the first half of the table with rules associated to Figure 1, they will appear, within this correlation configuration, in all analyses made separately for each of the main competencies. The lack of dependencies between competencies from Figure 3 and the main competencies allow us to look at them as general knowledge requirement, which does not directly relate to the required profile for the main competencies analyzed. Therefore, by removing them from rule tables we will only get significant rules for each of the main competencies.

The last group of rules analyzed contains main competencies that will be subjected to a separate analysis in order to identify and highlight correlations and competencies associated to each of them. Using the same running parameters, in filtering conditions, when the competency is treated separately does not bring extra information, but only extracts information regarding the selected competency from the general context. Extra correlations can be obtained by modifying input parameters thus allowing for more dependencies to spur out, but this may hide other, truly interesting aspects, due to the big number of total dependencies.

Determining the cloud of competencies that are correlated with each of the main competencies only means highlighting certain correlations between competencies, obtained by filtering only, these being a subset of all correlations from Figure 1. The probability and importance of each of the 184 rules attached to Figure 1 will thus be presented separately for a better analysis.

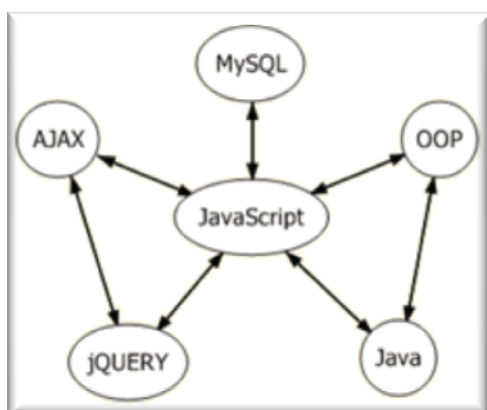
For each main competency analyzed, dependencies to the other main competencies have been removed because they were already analyzed and the purpose is to observe which other competencies contribute to forming the demand for the given competency. We have also eliminated negative correlations and rules pertaining to the group of isolated competencies analyzed before.

For each of the main competencies, there is a graphical representation of their dependencies and a table representation of the probability and importance of association rules.



Probability	Importance	Rules
15.90%	0.715377928	PHP -> MySQL
35.40%	0.566221566	jQUERY -> AJAX
39.80%	0.544258901	AJAX -> jQuery
28.40%	0.49539444	PHP -> jQuery
23.60%	0.426937059	PHP -> AJAX
71.70%	0.390766222	MySQL -> PHP
59.60%	0.344372816	jQuery -> PHP
32.20%	0.299213099	PHP -> OOP
55.70%	0.295719779	AJAX -> PHP
26.60%	0.293635895	OOP -> Java
34.60%	0.269882563	Java -> OOP
48.20%	0.245331215	OOP -> PHP
18.80%	0.093237947	PHP -> Java
36.40%	0.074547262	Java -> PHP

¹⁰³ Microsoft Office – office software package from Microsoft

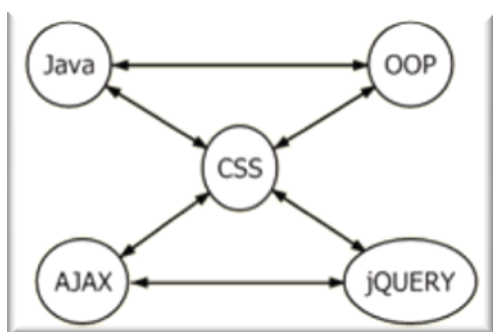


Probability	Importance	Rules
13.30%	0.621649359	JavaScript -> MySQL
35.40%	0.566221566	jQuery -> AJAX
27.30%	0.565661761	JavaScript -> jQuery
39.80%	0.544258901	AJAX -> jQuery
23.80%	0.536758325	JavaScript -> AJAX
70.70%	0.321729567	jQuery -> JavaScript
30.90%	0.309284819	JavaScript -> OOP
69.30%	0.301005375	AJAX -> JavaScript
73.90%	0.300563154	MySQL -> JavaScript
26.60%	0.293635895	OOP -> Java
34.60%	0.269882563	Java -> OOP
56.80%	0.217780632	OOP -> JavaScript
18.80%	0.103569496	JavaScript -> Java
44.90%	0.072985985	Java -> JavaScript

Figure 4: Dependencies graphs and attached tables of rules for similar competencies PHP and JavaScript

According to Figure 4, specific competencies required by PHP can be completed with rules having a complex antecedent that do not appear in the attached table due to the filtration of the other main competencies. Rules like {OOP, HTML -> PHP} with a probability of 69.1% and an importance of 0.34 or {Java, PHP -> HTML} with a probability of 84.6% and an importance of 0.37 show that PHP requires and is required by other competencies within its cloud not only directly, but also in conjunction with other main competencies.

JavaScript is no exception from the latter observation regarding the common competency group MySQL, Java, jQuery, OOP and AJAX that predict it and are predicted by it. Also it is not an exception from strengthening mutual dependencies with the main competencies marked by rules of pairs of competencies that predict it. The JavaScript competency is similar to PHP through the competencies that require it and those it requires. From Figure 4, we observe the position, in associated tables, of the rules is almost the same, having close values for importance and probability.



Probabi-lity	Importance	Rules
33.50%	0.679001104	CSS -> jQuery
35.40%	0.566221566	jQuery -> AJAX
27.10%	0.562011102	CSS -> AJAX
39.80%	0.544258901	AJAX -> jQuery
68.70%	0.447623008	jQuery -> CSS
62.50%	0.375871516	AJAX -> CSS
34.00%	0.339141683	CSS -> OOP
26.60%	0.293635895	OOP -> Java
49.60%	0.279874919	OOP -> CSS
34.60%	0.269882563	Java -> OOP
17.70%	0.056171219	CSS -> Java
33.60%	0.045828634	Java -> CSS

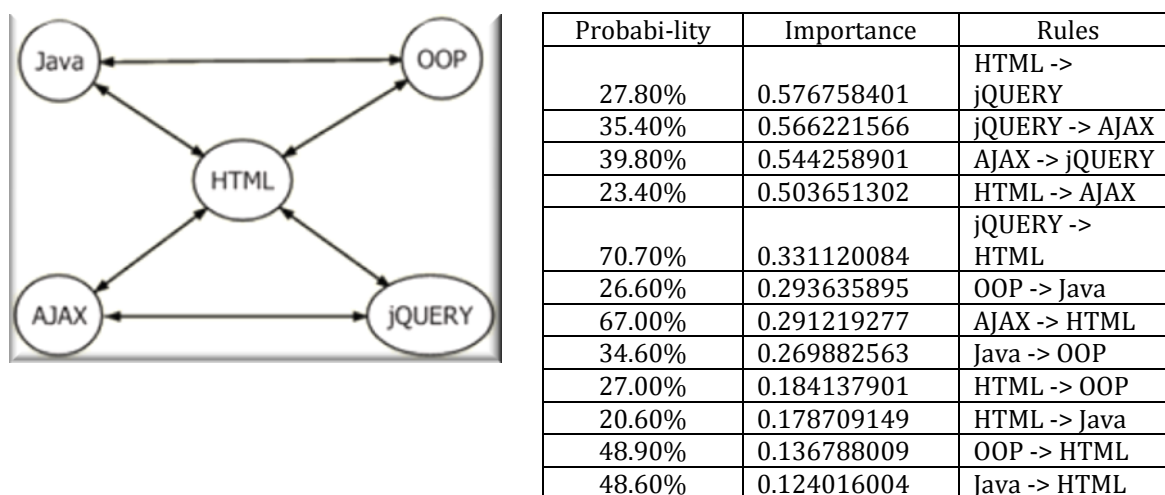


Figure 5: Dependencies graphs and tables of rules attached to similar competencies CSS and HTML

The competencies linked with CSS are the same as those for HTML, namely: jQuery, OOP, Java and AJAX. In Figure 5, we observe that rules with the same consequences of the two competencies have close values for importance and probability, being situated on similar positions in their respective tables. These explain interdependent links between main competencies HTML and CSS and links between them and other competencies, from the following level of detailed analysis, indicating value creation potential on the workforce market, when used in conjunction.

If we observe that also competencies PHP and JavaScript have just MySQL in addition to the same set of competencies, then we have a correct image for this competency group that responds to website development requirements on the workforce market.

We observe that all preceding analyses have been made in detail, taking each main competency both as input (as antecedent in a rule), positioning it on the left side of the rule, and as output (consequence in a rule), positioning it on the right side of the rule. This approach allowed the separate analysis of both the required dependencies of a certain competency and also of those that require the analyzed competency.

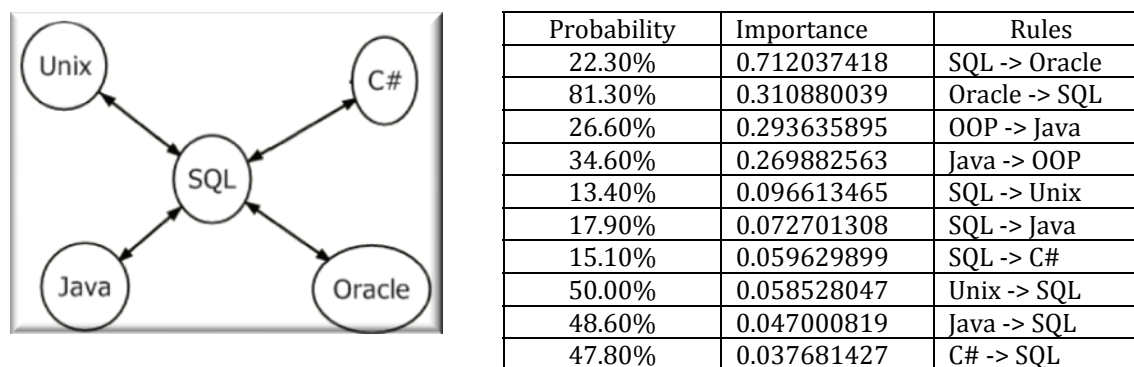


Figure 6: Dependencies graph and rules for SQL competency

The cloud of competencies that require and are required by SQL is divided into two categories: the ones negatively correlated and the ones positively correlated to SQL. Competencies with a negative correlation have already been analyzed in Figure 2. From all competencies with a positive correlation, only Java, from the second level competencies, is found linked to the main ones. Moreover, competencies like AJAX, jQuery and OOP, which are among the competencies being mutually dependent to the other main competencies (figures 4 and 5), are in the negative correlation category when it comes to SQL (Figure 2), meaning they do not require SQL with a probability of over 40%. This situation may lead us to creating a differentiated strategy when gaining competencies like SQL, on one hand, and PHP, CSS, HTML and JavaScript, on the other hand.

Regarding the isolated competency group formed by Unix, Windows, Microsoft Office and C, C++, C#, observed and commented upon beforehand (Figure 3), we now see they are dependent to SQL, by the positive correlations {SQL→C#} and {SQL→Unix}, but the other competencies: C, C++, Windows and Microsoft Office are in negative correlations with SQL. This latter find implies rethinking their position as a requirement for

general education. These competencies are a general knowledge requirement for all main competencies, but only partially for SQL: only through C# and Unix competencies.

Considering the sole existence of Oracle's¹⁰⁴ DBMS among the competencies that require and are required by SQL can be explained by an ambiguity in formulating employers' requirements or by an erroneous processing of initial data, where SQL Server's DBMS was assimilated to the simple knowledge of SQL language.

3. Analyzing requested competencies on the European Union workforce market

For this comparative analysis of competencies requested on the Romanian workforce market and those required in the European Union, we have selected a group of data that contains only job offers in IT from countries within the European Union, except Romania. The number of sets entering this analysis and the minimum probability as a rule to enter these calculations has been kept the same as in the previous analysis, of the Romanian market. Figure 7 was obtained, showing competencies required on the EU workforce market, excluding Romania, corresponding to Figure 1.

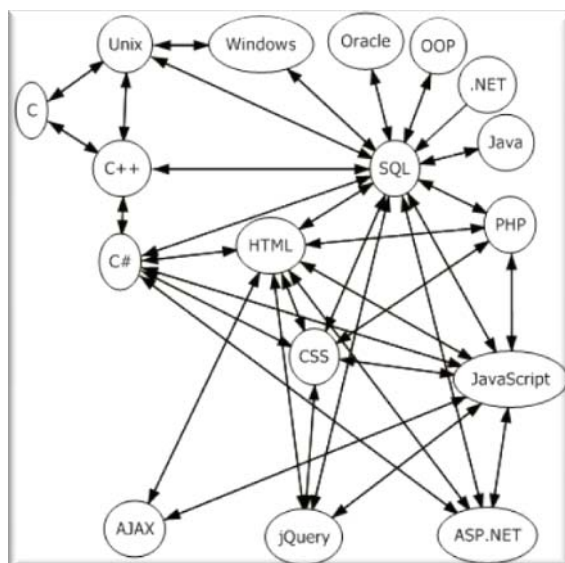


Figure 7: Dependency Network in the EU

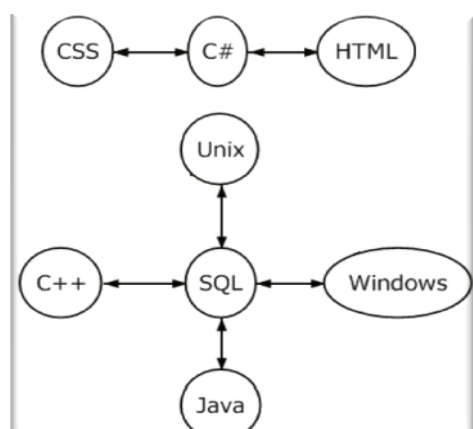
At a first look over the two diagrams, among other comments, we especially find that in Figure 7 all requirements for MySQL and Microsoft Office competencies have disappeared, being replaced with ASP.NET¹⁰⁵. Also, the OOP competency only appears positively correlated with competency SQL, without requiring or being required by the other competencies in the EU, while on the Romanian market it was negatively correlated with SQL. The position of Java language is taken over by C# which is in link, as is on the Romanian market, with C++ and C.

The same steps were followed as in the analysis of data from Romania: highlighting negative correlations between competencies, identifying groups of repeatable competencies, without being linked to the main competencies (C#, HTML, JavaScript, CSS and SQL) and the detailed analysis of the main competencies, together with those to which they are linked.

As regards the negative correlations, these change, offering another image on competencies that do not necessarily have to coexist.

¹⁰⁴ Oracle – database management system

¹⁰⁵ ASP.NET – Microsoft technology for creating web applications



Probability	Importance	Rules
29.00%	-0.014015444	CSS, JavaScript -> C#
28.60%	-0.029748704	HTML -> C#
27.20%	-0.030341139	C# -> HTML
27.90%	-0.036628895	HTML, JavaScript -> C#
26.30%	-0.038396391	C#, SQL -> HTML
27.20%	-0.049338789	CSS, HTML -> C#
47.80%	-0.058203558	Unix -> SQL
26.70%	-0.058594715	CSS -> C#
18.40%	-0.065879464	C# -> CSS
46.80%	-0.067857187	Java -> SQL
44.30%	-0.094210236	Windows -> SQL
14.90%	-0.099169095	SQL -> Unix
13.10%	-0.116803951	SQL -> Java
12.20%	-0.159356301	SQL -> Windows
38.60%	-0.170762426	C++ -> SQL
15.30%	-0.258740934	SQL -> C++

Figure 8: Negatively correlated competencies and rules with negative importance in the EU

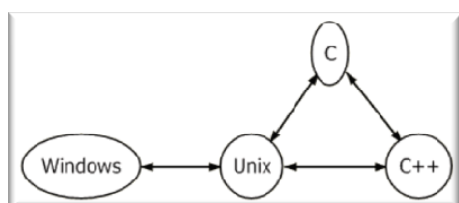
Note that in Figure 8, apart from direct dependencies represented by rules with one antecedent and one consequence, there is a combination of two competencies on the left side of the rule, which also represents a negative correlation and it links the two subgroups.

C#, SQL → HTML.

Another aspect that needs consideration is the negative correlation between main competencies C# and CSS, HTML, which goes to show that a requirement in C# needs specialization in this direction, without many other collateral competencies.

An observation that is equally true for the same analysis of negative correlations from Romania refers to the rules' low degree of importance and probabilities well below 50%. This shows that we shouldn't, in any case, talk about an interdiction to associate competencies from Figures 2 and 8, but rather a suggestion regarding the disassociation of certain competencies.

From Figure 7, but especially from the rules that base this graphical representation, we observe a group of competencies similar to that identified in the analysis of Romania, in Figure 3. Isolating this group, we obtain Figure 9 with competencies that can be considered fundamental competencies, mandatory for sustaining any of the main competencies. Comparing this group to the similar one obtained by analyzing data on the Romanian market, we observe that competencies Microsoft Office and C# have disappeared, the latter becoming a main competency. Competencies C/C++ and Windows/Unix maintain, strengthening the observation that on both markets, the demands regarding general education remain mostly the same.

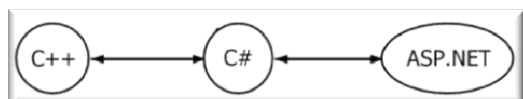


Probability	Importance	Rules
40.90%	0.953741799	C++ -> C
72.00%	0.691403596	C -> C++
30.40%	0.554372552	Unix -> C
36.20%	0.53584275	Unix -> Windows
41.00%	0.512648638	Windows -> Unix
42.00%	0.499704343	C -> Unix
29.50%	0.349542422	C++ -> Unix
37.70%	0.321094341	Unix -> C++

Figure 9: Competencies and rules uncorrelated with main competencies

The separate analysis for each of the main competencies, by hiding the others along with those associated, will be highlighted both graphically and through their associated rules. In all figures to follow, the pattern from Figure 9 along with its rules will exist, but will be removed. Thus we obtain an easier to analyze image for each competency analyzed.

For example, in Figure 10 competency C# (which replaced competency PHP from Romania) is in bidirectional dependence, with significant probabilities and importance, with C++ and ASP.NET which allows us to say that it is an extension of the fundamental education mentioned before, following the direction of Microsoft technology for creating web applications.



Probability	Importance	Rules
30.40%	0.720704954	C# -> ASP.NET
70.40%	0.457102478	ASP.NET -> C#
24.80%	0.101811253	C# -> C++
35.20%	0.089057707	C++ -> C#

Figure 10: Dependencies graph and associated rules for competency C# in the EU

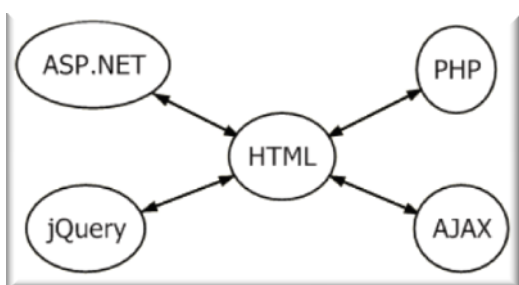
The separate analysis of competency CSS from Figure 11 shows a similar situation to that from Figure 10 in terms of precise, even restrictive phrasing of competency combination. If we also add the links with the main competencies HTML and JavaScript, through the PHP competency (Figure 12), we can conclude that CSS is a competency required for web applications development, following the Java development line.



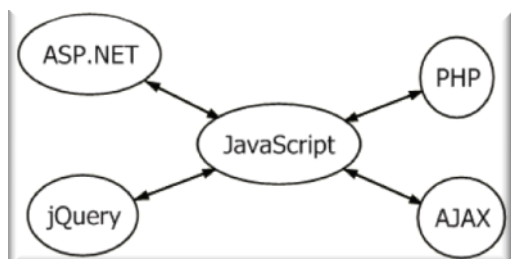
Probability	Importance	Rules
29.10%	0.989004616	CSS -> jQuery
73.50%	0.648342521	jQuery -> CSS
32.60%	0.517915326	CSS -> PHP
46.70%	0.450604295	PHP -> CSS

Figure 11: Dependencies graph and associated rules for competency CSS in the EU

Regarding competency in HTML, the situation is identical to competency JavaScript (Figure 12) and we observe main competencies HTML and JavaScript forming a subgroup due to mutual dependencies and because they require and are required by the same other competencies. CSS and C# can also be added to these competencies, the first one, as it is interdependent with the two main competencies through PHP and jQuery, while the second is interdependent with the two main competencies through ASP.NET.



22.70%	0.934039123	HTML -> jQuery
17.60%	0.88729572	HTML -> AJAX
31.90%	0.61930785	HTML -> PHP
79.40%	0.504435945	jQuery -> HTML
77.80%	0.47433909	AJAX -> HTML
63.30%	0.436309063	PHP -> HTML
20.20%	0.296549394	HTML -> ASP.NET
44.40%	0.226189319	ASP.NET -> HTML

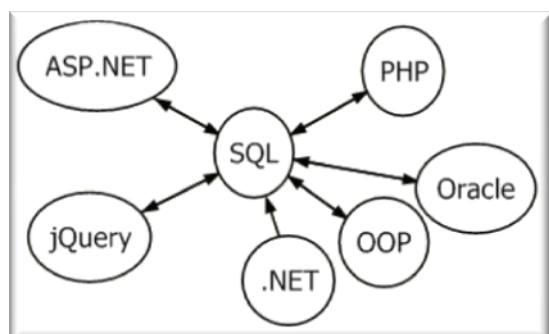


Probability	Importance	Rules
18.00%	1.026690373	JavaScript -> AJAX
21.10%	0.88951718	JavaScript -> jQuery
28.90%	0.54502149	JavaScript -> PHP
85.20%	0.48245698	AJAX -> JavaScript
79.40%	0.464318722	jQuery -> JavaScript
61.70%	0.375054078	PHP -> JavaScript
18.00%	0.220510399	JavaScript -> ASP.NET
42.60%	0.16542592	ASP.NET -> JavaScript

Figure 12: Dependencies graph and associated rules for competencies HTML and JavaScript in the EU

Competency in SQL, as was the case for the Romanian market, implies a series of negative correlations already present in Figure 8. Negative correlations are realized with the competency pattern of C++, Unix, Windows and C, as it is presented in Figure 9, to which we add the Java language but, due to the relatively low importance parameter, these rules should not be interpreted in the strict sense of exclusion.

More important though are the positive correlations. In this respect, we observe the link with competencies ASP.NET, jQuery and PHP that also exists for the other main competencies HTML, JavaScript and, indirectly, for CSS, which are dedicated to web applications. This aspect, corroborated with the disappearance of the requirement for competency MySQL, leads us to conclude that the database support for this category of applications, in EU requirements, is ensured by SQL and Oracle.



Probability	Importance	Rules
23.40%	0.43138066	SQL -> Oracle
17.10%	0.298169397	SQL -> ASP.NET
10.80%	0.294101035	SQL -> jQuery
18.00%	0.228118274	SQL -> PHP
76.50%	0.187760963	Oracle -> SQL
11.30%	0.176435801	SQL -> OOP
70.40%	0.134413422	ASP.NET -> SQL
70.60%	0.124847794	jQuery -> SQL
66.70%	0.109391075	PHP -> SQL
64.10%	0.081865651	OOP -> SQL
57.90%	0.033963587	.NET -> SQL

Figure 13: Dependencies graph and associated rules for competency SQL in the EU

On the other hand, SQL is also required by the other main competencies (HTML, JavaScript and C#) according to their respective utilization domain. We again observe a better orientation of employers, expressed through the required combination of competencies and a better indication of required competencies.

4. Conclusions

The comparative analysis under territorial aspect between Romania, considered starting point and the other countries within the EU, considered as ulterior analysis, has given us a number of conclusions.

The disappearance of Microsoft Office competency from requirements in the IT field within Europe (Figure 3), as compared to Romania (Figure 1) actually reflects a higher training level. Office knowledge is requested for organizational levels where it is actually used and not at the IT level where they are considered to be implicit.

Disappearance of MySQL competency along with the lack of PHP from the main competencies shows us that the PHP and MySQL websites era is about to set, leaving way for more complex instruments for web design.

Having replaced requirements for Java language with those for C# and positioning the latter among main competencies, in addition to the persistence of the C++, C, Unix, Windows competency pattern might tempt us to assume a tendency based on predominant software development on the C direction to the detriment of Java. Things are not as easy and clear because JavaScript is still part of the main competencies in analyses regarding both Romania and the other EU countries. We can state that closer to the truth would be eliminating the simple knowledge of Java language and orienting towards using web development technology based on JavaScript.

The reduced importance of generic competency OOP can be attributed to a specialization trend through which employers request the specific programming tool and not general knowledge of object programming. Actually OOP is the basis for the new programming paradigm considered a fundamental element in programming and, consequently, implicitly required and not explicitly, as a competence.

ASP.NET appears among the competencies required on the European market and this must be put in context with Microsoft's position and seen in the light of its competition with other companies that promote other development solutions.

A conclusion that must not be neglected is that of negative conditioning between competencies, in other words "what must not be mandatory correlated", analysis which leads us to a better allocation of training efforts and competency gaining.

Bibliography

1. Agrawal, R., & Srikant, R. (1994). *Fast Algorithms for Mining Association Rules. Proceedings of the 20th VLDB Conference*, (pp. 487-499). Santiago, Chile.
2. Dempstern, A. P., Laird, M., & Rdin, D. B. (1977). *Maximum Likelihood from Incomplete Data via the EM Algorithm. Journal of the Royal Statistical Society. Series B (Methodological)*, Vol. 39, No. 1., 1-36.
3. Georgescu, C. (2014). *Analyzing the Mix of Competencies Required for IT Labor Market, Using Data Mining Algorithms. Analyzing the Mix of Competencies Required for IT Labor Market, Using Data Mining Algorithms; Proceeding of the 13th International Conference on Informatics in Economy, 2014. Bucharest.*
4. Georgescu, C. (2015). *Identifying the competency mix required for the Romanian IT labor market. The risk in contemporary economy, FEAA Galati, 2015. Galati.*
5. Georgescu, C., & Sbughea, C. (2012). *Data warehouse for professional skills required on the IT labor market. The risk in contemporary economy. ISSN 2067-0532.*
6. Han, J., Cheng, H., & Xin, D. (2007). *Frequent pattern mining: current status and future. Data Mining and Knowledge Discovery*, 55-86.
7. Lei, C. (2012). *The Research of Data Mining Algorithm Based on Association Rules. The 2nd International Conference on Computer Application and System Modeling.*
8. Microsoft. (2013). *Microsoft Association Algorithm Technical Reference. Retrieved June 2013, from MSDN.*

Logical Aspects Regarding the Conception of Intelligent Systems

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The present paper presents some logical aspects of symbolic AI Systems, applied to the Intelligent Systems design. The basic feature of these systems is represented by the processing of the imprecise and dynamic knowledge involved in the synthesis of some decisions. We consider that the paper tackles an up-to-date and little debated aspect especially in the field of decision fuzzy systems. Knowledge-based systems with real-time functioning bear features that the majority of classic systems do not have: reasoning is evolutionary and non-monotonous due to the dynamic nature of the application, and events can change the status of the expert management system. The management architectures based on symbolic techniques acquire characteristics specific to the domain problem and to the type of intelligent system based on a management knowledge structure.

Keywords: Intelligent systems, Logical models, Fuzzy and Temporal logics

1. Introduction

The purpose of Artificial Intelligence (AI) as a field of science is to provide computers a series of possibilities of performing certain tasks that the human is able to do. The approaches with respect to AI are useful in creating systems which support the handling of complex problems, such as understanding natural language, recognising shapes, managing processes, classifying [18,22,27]. The study of reasoning and intelligent behaviour processes refers to understanding, describing and solving problems. A rigorous definition of symbolic AI is based on a series of concrete knowledge about this discipline and, particularly about its logical foundations [2,8,38]. Logics is a discipline that appeared long before AI, and it developed due to reasons and objectives that are very different from those corresponding to AI. Logic is now widely recognized to be one of the foundation disciplines for information technology. It has been said that logic may come to play a role in information technology similar to that played by calculus in physics. Like calculus, logic has found applications in virtually all aspects of the subject, from software engineering and hardware design to programming and AI. While progress in the past has been enhanced by theoretical development, it has to a significant degree proceeded independently of theory. In the future this is unlikely to be the case. Many of the current aspirations are seen to require major theoretical advances, and many lie in areas where logic is one of the basic disciplines. Mathematical Logics appeared at the beginning of the 20th century with the purpose to provide a set of answers to certain basic mathematical problems, while its initial goal was to research aspects of computability and demonstration [35,37]. As symbolic, or mathematical, logic has traditionally been part both of mathematics and philosophy, a glimpse at the contributions in mathematical logic at these two events will give us a representative selection of the state of mathematical logic at the beginning of the twentieth century. At the International Congress of Mathematicians Hilbert presented his famous list of problems, some of which became central to mathematical logic, such as the continuum problem, the consistency proof for the system of real numbers, and the decision problem for Diophantine equations (Hilbert's tenth problem). However, despite the attendance of remarkable logicians like Schroder, Peano, and Whitehead in the audience, the only other talk that could be classified as pertaining to mathematical logic were two talks given by Alessandro Padoa on the axiomatizations of the integers and of geometry, respectively.

The basic purpose of logics is to study reasoning in various formal theories, and that is precisely why symbolic AI is based on these formalisms [1,11,12,19,26,29]. Logic is used to analyze the foundations of mathematics. Some parts of logic such as set theory, model theory, recursion theory, constructive mathematics are now considered as mathematics subjects in their own right. In linguistics suitable logics and logical grammars are constructed to analyze our use of language; for example, how

we use pronouns, quantifiers, tenses and so on. The use of logic in linguistics is important for natural language processing in computer science.

Section 2 relates the general directions of logical models and the contribution of logics in terms of AI systems. Section 3 presents the basic objectives in the design of an AI System. There is a classification of the systems from the point of view of complexity and the basic techniques used for the synthesis of an inferential subsystem based on fuzzy logic. Section 4 presents the conclusions of some formal logic systems that will support the designing of the symbolic AI systems. From this point of view there is a distinction between real-time reasoning and reasoning over time, the latter being a characteristic specific to Knowledge-based Systems. That is why it was absolutely necessary to explain the significance of time at a designing and implementation level of our intelligent system, highlighting its implications in the concrete case of each concrete application.

2. General characteristics of logical models

Mathematical Logics are developed in three great directions: i) The Theory of Models. The model is considered the main concept of first order language semantics. The main objective of the theory of models is to describe the models from certain axiomatic theories, in order to highlight their mathematical structures (algebraic, topological); ii) The Demonstration Theory. The notion of demonstration is important here, and one can study complexity-related problems of various demonstrations on a single theorem, according to different deductive systems or languages (regularity, equivalences, similarities); iii) The Computability Theory. This is the case in which one studies the intrinsic notion of computable function, with its various models: the Turing machine, recursive functions, λ -calculus and combinatory logic with a set of properties. Starting from these notions we can study the decidability concept, together with a study of various models used to demonstrate the decidability or non-decidability of mathematical theories. The theory of abstract complexity that generally uses different variants of the Turing machine (as an elementary calculus model to evaluate the necessary calculus resources to solve certain given problems) allows us to establish the complexity classes for decidable problems [9,16,17,24,28,32,37].

We must also highlight the unity of these three great aspects. Calculus and decidability notions are strongly inter-related, and we can thus establish precise correspondences between them. The theory of models can contribute as regards decidability problems and can also provide the semantic justification of the rules of inference and of automated demonstration systems. This unit is an essential characteristic of logics which represents a fundamental theoretic aspect. From the symbolic AI perspective, we can find tendencies specific to the three characteristics that were presented above: semantics and the theory of models, demonstration and reasoning, computability and complexity, but often with different methods compared to theories applied only to mathematical logics. Regarding the contribution of logics in terms of AI Systems, we can mention:

i) On the theoretical level, logic contributes with a series of creation elements and methods such as the syntax/semantics/decision trilogy, coherence (verifying the coherence of the knowledge-base, maintaining the truth systems), decidability (for example, absence logic is not semi-decidable, contrary to first-degree logics, certain temporal logic are decidable, others are not), complexity of the decision methods. Logic is thus a reference model for the foundations of symbolic AI Systems [3,13,21,34].

ii) The formalisation of different types of reasoning. Logic has a normative role even in the absence of some certain knowledge. Automated demonstration, knowledge representation languages, logical programming languages they all represent means that support and integrate reasoning methods. The logic used to describe and create an AI system is precisely the one that applies directly from the point of view of classical mathematical foundations. Mathematical logic is characterised by a coarse classification, which does not distinguish between two representations of the same object, whereas AI systems are rigorously sensitive of different means of representing the object, especially in the presence of some uncertain and imprecise features. Intentional Semantics can be used to capture important aspects of this phenomenon (figure 1).

While practitioners and researchers are carrying on their efforts in terms of creating and building complex systems in the field of AI, it was generally concluded that the uncertainty is not present only in people's knowledge. Allowing a certain degree of uncertainty in describing complex systems may be the most significant means of simplifying them. Different types of uncertainty can be characterised and investigated in a rigorous way in the context of the fuzzy set theory. In this way, the ability to operate in an uncertain or partially-known environment represents one of the basic performances of any real-time AI system. These systems must be designed as multi-agent systems with

the possibility of combining various knowledge-based techniques (in order to acquire and process information), with approximate reasoning methods. This will allow the AI system to better emulate the human decision-making process, characterised itself by imprecise knowledge and time variables [5,15,27]. Real-time calculus represents an intense research field, since the functioning correctness of a system in a dynamic and distributed environment depends not only on the logic of creating it, but also on the implied temporal aspects. These kinds of systems also include AI systems, which undergo different complex time restrictions, and comprise various levels of time granularity. Temporal knowledge represents an essential aspect for a great number of AI applications: planning, managing technological and economic processes, handling dynamic situations [4,6,23,30,31]. An intelligent system must bear reasoning capacities to take into account a series of events that can appear within a process: interruptions, limits of processing time, the synchronous or asynchronous aspect regarding the emergence of new information. Considering time must highlight two complementary aspects: handling temporal information and formalising reasoning over time and in real time. Certain approaches are based on numerical models, and others are based on symbolic time representations (figure 1). The reasoning that undergoes real-time restrictions has specific characteristics: real-time functioning often involves a temporal reasoning, but this aspect is not necessarily true backward.

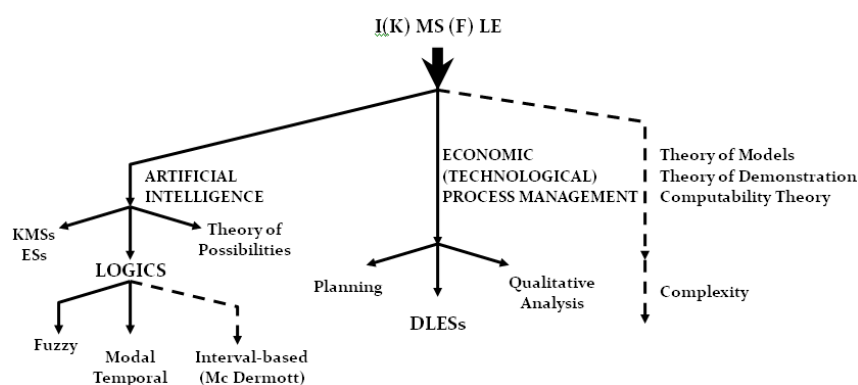


Figure 1. The main important theories and logics embedded in an I(K)MS(F)LE conception

3. The basic objectives in designing of a symbolic AI system

The symbolic AI Systems are guided by their purpose, and looking for the solution to a problem within its space represents their basic characteristic. We can highlight a quasi-continuity relation between the tasks specific to a problem domain characterised by sufficient information or knowledge in order to reach an objective (case 1) and those specific to a domain in which knowledge is insufficient, contradictory, uncertain or imprecise (case 2). In the first case there are explicit algorithms that transform the set of input data into a corresponding output quantity.

There is no search or backtracking notion. Any deviation in terms of execution time is uniquely associated to the dependencies between data, being the case of real-time conventional tasks. In the second case, neither the characteristics of the tasks, nor the interactions with the problem domain are known. There is a need of search heuristics within the space of the domain in order to determine a satisfying result, and there are great deviations regarding the execution timings. Due to these deviations associated to the problem-solving tasks, the traditional designing methods of real-time systems cannot be directly applied in the second case. The increase in the amount of involved knowledge can be applied in order to reduce deviations that occur as a result of the searching process. The searching process occurs on two levels in solving a problem: the level where knowledge is found again and the level of the knowledge specific to the application (the space of the problem). There is a series of methods for the implementation of these two levels [7,10,14,39].

The last three decades have been confronted with a dramatic change regarding the approaches of symbolic AI systems: until 1960 the uncertainty, inaccuracy and imprecision were rather negative attributes. A scientist that could not exactly define a statement was not regarded as a „true” scientist, and uncertainty was considered a disturbing element in the modelling process, being avoided as much as possible. The only accepted theory for the study of uncertainty was the probability theory, which was based on the occurrence frequency of an event and restricted to the situations in which the law of large numbers was valid, whereas uncertainty used to be associated to the stochastic nature. From 1960 on, there was accepted the fact that uncertainty and imprecision are part of the reality that we cannot change and obviously part of the man’s current language. Real world is complex: the complexity that emerged due to uncertainty takes the shape of ambiguity. Starting from these observations, the

following question was arisen: how can people succeed in rationalising over real systems? The answer is strictly related to the fact that people have the ability to approximately rationalise over the behaviour of complex systems, keeping only a generic significance over the problems. These generality and ambiguity are nevertheless enough in order to understand complex systems.

A classification of complex systems from the point of view of complexity and implicitly, of theoretical and practical means in their useful modelling, can be summarised as it follows: 1) for low-complexity systems, the wordings based on exact mathematical expressions are sufficient; 2) for more complex systems but for which there are enough significant data available, the neural models provide a powerful environment in order to reduce uncertainty, based on the learning of the configurations from the available data; 3) for highly-complex systems, for which there is a limited number of data, and the available information is ambiguous or imprecise, the reasoning based on the fuzzy logic is a modality to understand the behaviour of the system, through operations on certain symbolic structures associated to the observed inputs, the output situations, the intermediary variables that support the linking of certain inferential processes [25].

The present article is situated at point three of the above classification and is part of the approaches of symbolic AI systems. Its main purpose is to present the major aspects that characterise the creation of the inferential system based on the fuzzy logic for an expert system, with application in the management of discrete processes. The intelligent system elaborated by the author (SECOMBCF) with this purpose is an intelligent system with discrete logic events, and it includes compiled fuzzy knowledge. The basic time meta-equation proposed within this approach covers the term of complexity and (potential and reasoning over time) real time. The development of real-time systems must be subordinated to the causal specifications of these systems, since if we do not respect time restrictions we can make them become non-functional [31,33].

Real-time calculus is an open field of research not only in computers science but also in the conception of current technologies. It depends not only on the logic correctness of results, but also on the necessary time for their occurrence. Real-time systems play a major role in the present society and cover a large spectrum of applications that include experimental laboratories management, technological processes management, nuclear powers, air-force and robotics, military systems. Real-time systems are complicated and expensive, and time restrictions that these systems must accomplish are verified with ad-hoc techniques or with the help of some difficult simulation techniques. Integrating new components into the structure of a real-time system is really challenging and leads to a substantial growth of the costs of this system. The present generations of real-time systems are distributed systems that include intelligent and adaptive modules in order to satisfy some high dynamic performances. We can mention two characteristics for the current generation of real-time systems: their necessity for some AI abilities and the rapid evolution of a corresponding hardware. There is no science for the design of real-time systems. This means that a scientific approach of them is still not possible. Real-time calculus is the equivalent of a rapid calculus. The purpose of a rapid calculus is to minimise the average response time for a given set of tasks, and satisfying individual time exigencies of each task. The most important feature of real-time systems is their predictability, i.e. the behaviour of the system must be deterministic and must answer to the conception specifications. Rapid calculation represents a support for reaching the specifications, but it cannot guarantee on its own the predictability of the system. Other factors that contribute to create predictability are represented by a fast hardware and algorithms with good complexity. Many times the implementation language of a real-time application may not be sufficiently expressive to describe certain real-time descriptions [20,36,39].

An important aspect of the research in the field of real-time systems is constituted by the investigation of the effective strategies of allocating resources, an aspect that can be regarded as a performance element in the real-time systems engineering. An adequate designing of these systems implies finding some solutions also for other types of interesting problems regarding the specification and the verification of time behaviour of the system, as well as elaborating certain programming languages whose semantics to relatively correspond to time exigencies. An important problem in the study of real-time systems is the investigation of the role that the synchronisation mechanisms play. The problems related to the creation of real-time systems have been solved in fields of research, such as computers science and operational research. An important approach used on the large scale design of real-time systems is the hierarchical dissolution of systems in modules. Even though this methodology allows us to analyse the correctness of calculations on each level of abstraction, it does not support an analysis relatively to time and reliability characteristics of the overall system, which represents two vital aspects of real-time systems. It is necessary to develop certain designing

technologies for these systems in order to include characteristics such as correctness, response-time, and reliability on each level of abstraction and to combine the results of each level within the integrated performances of the overall system. The main problem in stating and verifying a real-time system is the incorporation method of a time metrics. The usual approaches for stating the behaviour of a system is based on highlighting the events and the actions specific to the system as well as the order in which they occur. Including a real-time metrics creates problems in the semantics of competitor models and can complicate the verification problem of the system. Verifying these systems means satisfying the restrictions due to the environment and to implementation, and it is necessary to make a quantitative analysis prior to a qualitative one.

Management implies a strong relation between the process and the management system, which must react to the events that occur. In the given context, the management system bears certain AI features, if in the presence of some information of minimum orientation from the human governor; it can carry out complex actions as a response to the events from the outward environment. Intelligence can include the ability to accept certain abstract specifications of tasks in a general form of purposes/restrictions and the production of some reasonable actions that agree with the specifications. In any real-time AI system there is a fundamental compromise between the action and the reasoning. Time is a precious resource that uses up if the system must create reasoning over the actions before their execution. This time consumption can limit the number of the desired alternative actions and in this way the reasoning task becomes much more difficult to realise. In certain cases, the lack of success of an action can be the most unfavourable solution, while in other cases any of the actions can be better than total lack of it. The necessary time for reasoning can warn us over certain delays or disasters. The efficiency of a real-time AI system depends on its ability to allocate reasoning efforts in concordance with the process situations. The process of allocation is most of the time a difficult process due to countless overloads of information. The visible state of the process is huge and can contain incomplete, contradictory or uncertain information, which entails the use of some modules in the structure of the management system as some problem-solving ones. Furthermore, this information is often changing. It is actually impossible for a real-time system based on symbolic AI techniques to completely process all the information at a given moment and to choose a convenient type of reasoning, and to also respect all real-time restrictions.

That is why these systems must focus on some important sub-problems and to give time in a corresponding way to the available resources. The present research in the field of real-time AI is guided by the design and the creation of knowledge-based systems that can be integrated in management applications. The fundamental problem in the case of AI management systems is the fact that we do not know the most unfavourable execution time. This leads either to hard-to-plan systems or to a low usage. Moreover, if the execution time misbehaviours of the reasoning tasks are not restricted, these cannot be integrated in real-time conventional systems, since these misbehaviours can alter the predictability properties of the initial system. The misbehaviour of the execution time for the problem-solving tasks develops itself on two levels: the methodological one and the one related to the architecture of the system. In order to ensure the predictability of a real-time AI system it is necessary to approach it on its both levels.

Knowledge-based Systems or I(K)MS(F)LE are characterised by the combination of some multiple models and some reasoning techniques (figure 1). Furthermore, these systems have certain common features. For applications there are necessary different models and problem-solving methods, their choice having a great impact on the efficiency and analysis of the knowledge-based system. Another common characteristic is the separation of the knowledge used in the way they are implemented, i.e. there is a distinction between the „knowledge level” and the „symbols level”. These systems often combine multiple representations of knowledge, problem-solving strategies, as well as learning methods within the same system. The distinction between knowledge and representation is important, not only in the design but also in the analysis of the knowledge-based systems. When it comes to designing, the distinction corresponds to the two stages in the development process of such a system: the acquisition of a quantity of knowledge sufficient to solve the advanced problem and the creation of a system of programmes able to process this knowledge. Problem-solving often involves different types of knowledge, relative to the tasks of the problem (that define the problem), methods (referring to the way in which the problem is solved) and models (relatively to different possible behaviours of the system). This last type of knowledge is often referred to as domain knowledge, while the first two are called control knowledge. Knowledge-based systems invariantly include all these types of knowledge, even though they are not explicitly represented. Knowledge can be also be divided on multiple abstraction levels, each level offering details relatively to the problem that is to be solved.

If computers achieve consciousness and some type of advanced evolutionary level on their own, humans could end up using the computer as a medium for human perpetuation and development. If they develop a nervous system that is functionally similar to the human brain, humans may be able to input (download) into the computer their memories, thoughts, feelings, and sense of personal identity. During the last decade, there was a transfer from data-based information systems to information systems based on processes. Business Process Management includes methods, techniques and tools to support design, use, management and analysis of operational business processes involving people, organizations, applications, documents and other sources of information. Business Process Management can be considered an extension of classical systems based on workflow management. A business process is a set of activities that follows a logical flow, resulting an output. A business process is to specify the tasks to be fulfilled to achieve a business objective. Inputs and outputs may be facts and / or information, and the transformation can be performed by human actors, machines, or both. Although an organization's business processes can be tracked separately, by integrating them is obtain value-added which, long term, leads to positive results, a good control over the resources involved and over the environment in which it operates. Petri networks are tools of business process modeling.

One of the advantages of using Petri networks for modeling workflows is access to many analysis techniques based on Petri networks. Accuracy, applicability and efficiency of business processes supported by systems based on workflow management are vital to any organization. It is important to review the definition of a process through network flows before applying it in practice. In theory, there are three types of analysis: (1) validation, testing whether a workflow behaves as expected; (2) verification, determining the accuracy of the network flow; (3) performance analysis, evaluating the ability to meet the requirements, taking into account the time, levels of work and resources. Validation can be done through interactive simulation: are analyzed a number of cases to see if the system behaves properly. For verification and performance analysis, are used advanced analysis techniques specific to Petri networks, such as invariants, reachability trees, coverage graphs analysis, etc. The multitude of available analysis techniques shows that Petri networks can be seen as an independent environment (solution) between the design of a process' definition through workflows and the analysis of the resulted workflow.

Another important direction in the synthesis of intelligent KMSs in economy is the development of heterogeneous computing environments, in which one can develop adaptive algorithms for planning and resource allocation using genetic algorithms and evolutionary computation technology [18]. Heterogeneous computing environment is a suite of processing units, high-speed interconnections, interfaces, operating systems, communication protocols, and programming environments. It provides a variety of architectural options and skills that can be adapted to perform an application in accordance with different execution requirements. Different parts of an application task often require different types of calculation. It is generally impossible for a single architecture along with the compiler, operating system and associated programming tools to equally meet the computational requirements in such an application. In the heterogeneous computing environment considered, an application task can be decomposed into subtasks, each subtask being computationally homogeneous (appropriate, indicated for a single processing unit) and different subtasks may have different architectural requirements. These subtasks may have data dependencies between them. If the application task is decomposed into subtasks, the following decisions must be taken: subtasks' distribution on different processing units and scheduling, ordering subtasks' execution for each processing unit, as well as planning data transfer between processing units. In this context, the aim of heterogeneous compilation is to obtain a minimum duration of execution, i.e. the minimum total execution time of the application task in the suite of processing units.

It is well known that such an allocation and planning problem is generally NP-complete. It was proposed a large number of approaches to different aspects of this problem. This chapter proposes an approach based on genetic algorithms to solve the problem of concurrent allocation and planning in heterogeneous systems from the computational point of view. It decides the subtasks' allocation to processing units, orders the execution of the subtasks allocated to a processing unit and coordinate the data transfer between subtasks. The characteristics of this approach include: separation of allocation and planning representation, the independence of chromosomes' structure from communication subsystem's details and an assessment of the coverage degree and overlap between all communications and calculations that meet the precedence constraints of subtasks.

4. Conclusions

The importance of the paper resides in the demonstration of the possibility to use symbolic intelligent systems in management and process planning problems (technological, economic) using imprecise knowledge. On the other hand, it has been constantly tried to use some formalisms and concepts specific to either traditional or modern AI, with a series of models and techniques specific to Automatics, especially for the process management application. From this point of view, it was constantly necessary to adapt some known models (for example, the possibility theory, discrete events systems) in order to synthesise a management structure based on fuzzy knowledge. We also tried to create a conceptual opening towards a real management structure of multi-agent type, which is a solution to respond to a series of exigencies regarding the complexity of the management act. This type of systems, especially those based on a memory sharing communication between the agents, has well adapted features for real-time applications, such as:

i) Integrating heterogeneous agents; ii) The interaction between the acquisition, reasoning and action activities over the outward environment; iii) The fusion of data that come from nature translators and with different functioning; iv) The suppleness and efficiency in the integration of new data necessary for the reasoning process by simple writing in the common memory; v) The access facility of an agent to a piece of information which he needs; vi) The efficacy of control structures of reasoning; vii) The focus of the agent's functioning over a precise action due to some events, that takes into account the major amendments that interfered in the problem-solving process. Over the last years the interest regarding formal logic systems with applications in symbolic AI systems has considerably grown. It is the case of fuzzy and temporal logics that allow a more deepened understanding of the mathematical means that support the design of AI systems used in the decision-making process, in situations in which the information about the undergone process are partially known, incomplete and time variable. Real-time applications based on AI techniques need the cooperation of some reasoning elaborated processes. The essential point in the integration of cognitive/ reactive aspects is represented by the modelling of the relations between the evolutions of a process with certain inferential methods, which allows the closed-loop system to bear a series of entailed performances. The closed-loop system starts from an initial state and allows the planning process of a number of states, in order to reach the desired final state. At the end of its functioning, the expert management system provides the human governor with the possible actions (in specific conditions of the problem). Temporal aspects represent an important dimension of an expert management system. From this point of view there is a distinction between real-time reasoning and reasoning over time, the latter being a characteristic specific to knowledge-based systems. That is why it was absolutely necessary to explain the significance of time at a designing and implementation level of our intelligent system (agent), highlighting its implications in the concrete case of each concrete application.

References

1. S. Asaoka, H. Maeda, S. Murakami, (1993), *Dynamical Fuzzy Reasoning and Its Application to System Modeling*, The Fifth IFSA World Congress, p. 104-107
2. J.F. Baldwin, (1886), *Inference for information systems containing probabilistic and fuzzy uncertainties*, *Fuzzy Logic for the Management of Uncertainty*, Edited by Lotfi Zadeh and Janusz Kacprzyk, Wiley Professional Computing
3. L. Bolc, J. Cykowski, (1992), *Search methods for AI*, Academic Press Inc., ISBN 0-12-111240-03
4. B. Bouchon-Meunier, (1992), *Fuzzy logic and knowledge representation using linguistic modifiers*, *Fuzzy Logic for the Management of Uncertainty*, Edit. Lotfi Zadeh and Janusz Kacprzyk, Wiley Professional Computing, p. 399-414
5. T. Bylander, (1994), *The computational complexity of propositional STRIPS planning*, AI, n° 69, p. 165-204
6. M. Cadoli, F.M. Donini, P. Liberatore, M. Schaerf, (1996), *Feasability and unfeasability of off-line processing*, *Proceedings of the 4th Israeli Symposium on Theory of Computing and Systems*, p. 100-109
7. J. Cano, M. Delgado, S. Moral, (1993), *An Axiomatic Framework for Propagating Uncertainty in Directed Acyclic Networks*, *International Journal of Approximate Reasoning*, Vol. 8, n° 4, p. 253-280
8. C.L. Chang, C. Lee, (1973), *Symbolic Logic and Mechanical Theorem Proving*, Academic Press, ISBN 0-12-170350-9
9. V. Cutello, J. Montero, (1993), *A Characterization of Rational Amalgamation Operations*, *International Journal of Approximate Reasoning*, Vol. 8, n° 4, p. 325-344
10. H.P. Chen, T.M. Parng, (1996), *A new approach of multi-stage fuzzy logic inference*, *Fuzzy Sets and Systems*, Vol. 78, n° 1, feb. 26, p. 51-72
11. N. Cat Ho, H. Rasiowa, (1987), *Semi-Post algebras*, *Studia Logica*, 46, p. 147-158
12. N. Cat Ho, H. Rasiowa, (1987), *Plain semi-Post algebras as a poset-based generalization of Post algebras and their representability*, *Studia Logica*, 48, p. 509-530
13. D. Dubois, J. Lang, H. Prade, (1991), *Fuzzy sets in approximate reasoning - Part 2: Logical approaches*, *Fuzzy Sets and Systems*, n° 40, p. 203-244

14. D. Dubois, J. Lang, H. Prade, (1992), *Inconsistency in possibilistic knowledge bases: To live with it or not live with it*, Fuzzy Logic for the Management of Uncertainty, Edited by Lotfi Zadeh and Janusz Kacprzyk, Wiley Professional Computing, p. 335-351
15. D. Dubois, H. Prade, (1989), *A typology of fuzzy "if...then..." rules*. Proc. 3rd International Fuzzy Systems Associations (IFSA) Congress, Seattle, WA 6-11 August, p. 782-785
16. J.A. Drakopoulos, (1995), *Probabilities, possibilities, and fuzzy sets*, Fuzzy Sets and Systems, Vol. 75, n° 1, 13, p. 1-17
17. B.R. Gaines, (1977), *Foundations of fuzzy reasoning*, in Fuzzy Automata and Decision Processes, Amsterdam: North-Holland, p. 19-75
18. S. Gottwald, (1993), *Fuzzy Sets and Fuzzy Logic/Foundations of Application - from a Mathematical Point of View*, Braunschweig; Wiesbaden: Vieweg, ISBN 3-528-05311-9
19. J. P. Haton, et. col., (1991), *Le raisonnement en intelligence artificielle*, InterEditions, Paris
20. T. Hrycej, (1993), *A temporal extension of PROLOG*, The Journal of Logic Programming, Vol. 15, n° 12, p. 113-142
21. E.E. Kerre, (1992), *A comparative study of the behavior of some popular fuzzy implication operators on the generalized modus ponens*, Fuzzy Logic for the Management of Uncertainty, Edited by Lotfi Zadeh and Janusz Kacprzyk, Wiley Professional Computing, p. 281-296
22. R. Kruse, J. Gebhardt, F. Klawonn, (1994), *Foundations of Fuzzy Systems*, John Wiley&Sons, ISBN 0-471-94243-X
23. S. F. Klawonn, V. Novák, (1996), *The relation between inference and interpolation in the framework of fuzzy systems*, Fuzzy Sets and Systems 81, p. 331-354
24. J.F. Knight, K.M. Passino, (1987), *Decidability for temporal logic in control theory*, Proceedings of the Twenty-Fifth Allerton Conference on Communication, Control, and Computing, University of Illinois at Urbana-Champaign
25. R. Kruse, E. Schwecke, J. Heinsohn, (1991), *Uncertainty and Vagueness in Knowledge Based Systems*, Springer-Verlag, ISBN 0-387-54165-9
26. R. Lassaigne, M. Rougemont, (1996), *Logique et complexité*, Hermes, Paris
27. G. F. Luger, W. A. Stubblefield, (1993), *AI, Structures and Strategies for Complex Problem Solving*, Second Edition, The Benjamin/Cummings Publishing Company, Inc., ISBN 0-8053-4780-1
28. J. McDermott, (1988), *Preliminary Steps Towards a Taxonomy of Problem-Solving Methods*, in Automating Knowledge Acquisition for Expert Systems, S. Marcus, ed., Kluwer, Boston, p. 225-255
29. F. M. McNeill, E. Thro, (1994), *Fuzzy Logic / A Practical Approach*, Academic Press, ISBN 0-12-485965-8, Foreward by Ronald R. Yager
30. J.P. Müller, (1996), *The design of intelligent agents: a layered approach*, Lecture Notes in AI (Subseries of Lecture Notes in Computer Science), n° 1177, ISBN 3-540-62003-6
31. B. Nebel, C. Bäckström, (1994), *On the computational complexity of temporal projection, planning and plan validation*, AI 66, p. 125-160
32. V. Novák, (1992), *Fuzzy logic as a basis of approximate reasoning*, Fuzzy logic for the management of uncertainty, Edited by Lotfi A. Zadeh, Janusz Kacprzyk, John Wiley&Sons Ltd., p.247-264
33. Da-qun Qian, (1992), *Representation and use of imprecise temporal knowledge in dynamic systems*, Fuzzy Sets and Systems, Vol. 50, n° 1, Aug. 25, p. 59-77
34. J. Paul, A. Acharya, B. Black, J. K. Strosnider, (1993), *Reducing Problem-Solving Variance to Improve Predictability*, Advances in Real-Time Systems, IEEE Computer Society Press, p. 739-752, ISBN 0-8186-3792-7
35. E.I. Post, (1905-1970), *Introduction to a general theory of elementary propositions*, American Journal of Mathematics, 43, p. 165-185
36. H. Rasiowa, (1992), *Toward fuzzy logic*, Fuzzy Logic for the Management of Uncertainty, Edited by Lotfi Zadeh and Janusz Kacprzyk, Wiley Professional Computing, p. 5-25
37. H. Rasiowa, R. Sikorski, (1962), *A proof of the completeness theorem of Gödel*, Fundamenta Mathematicae, 37
38. R. Turner, (1984), *Logics for AI*, John Wiley & Sons
39. R.R. Yager, (1992), *Expert systems using fuzzy logic*, An introduction to fuzzy logic applications in intelligent systems (edited by R. Yager, L. A. Zadeh), Kluwer Academic Publishers, p. 27-44

Web-Based Tools in Education

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Technology is advancing at a rapid pace, and what we knew a year ago is likely to no longer apply today. With it, the technology brings new ways of transmitting information, machining and processing, storage and socializing. The continuous development of information technologies contributes more than ever to the increase of access to information for any field of activity, including education. For this reason, education must help young people (pupils and students) to collect and select from the sheer volume of information available, to access them and learn how to use them. Therefore, education must constantly adapt to social change; it must pass on the achievements and richness of human experience. At the same time, technology supports didactic activity because it leads learning beyond the classroom, involving all actors in the school community and prepares young people for their profession. Moreover, web tools available for education can yield added benefits, which is why, especially at higher levels of the education system, their integration starts being more obvious and the results are soon to be seen. Moreover, information technologies produce changes in the classic way of learning, thus suffering rapid and profound transformations. In addition, current information technologies offer many types of applications, representing the argument for a new system of providing education and for building knowledge. In this regard, the paper aims to highlight the impact and benefits of current information technologies, particularly web-based, on the educational process.

Keywords: Education, Educational technology, Internet, Web sites, Web 2.0, Social networking, Web-based tools.

JelClassification: C99, I29, J15, L63, L86

1. The current context of education in the age of digital information

Today, in the education system, the role of the Internet in teaching, learning and assessment is a fundamental one. Moreover, in many contexts, the Web has become an indispensable tool for all educational actors involved, both in the classroom and beyond.

Current educational policies recognize the importance of adopting information technologies in education. The ability to use information technologies present significant influence over many aspects of daily life. However, despite the obvious potential, information technologies in training young people, but also the many possibilities of applying the interactive methodologies that can transform education into a more attractive form of learning, many educational institutions do not exploit enough this learning environment.

Accelerated dynamics of social change, especially their depth, requires ways of restructuring educational realities. This issue concerns the alignment of the educational objectives to the requirements of a super technologized society. The web today is a collective working platform and collaboration represents a joint action of participants and mutual understanding of the task at hand, each participant having their own objectives.

Information technologies are essential in boosting teachers to supply innovative teaching and learning opportunities. At the same time, they also play an important role in ensuring effective school management. The European Commission has even recently said that the integration of information technologies in educational systems determines additional changes in the technological, organizational, teaching, learning settings of classrooms and informal configurations for education.

Also, studies carried out in the past five years in various countries and global OECD analyzes have shown that use of information technologies in education contributes heavily to the improvement of the educational results of young people. However, many teachers, whether they prefer traditional methods of teaching or from a general reluctance to new information technologies, reject dynamic classes and stimulating young people through them.

Thus, we can say that web resources contribute to changing the way of teaching, from a static model, where the pupil or the student is a simple receiver for what the teacher is instructing, into a

dynamic one, in which the teaching-learning process is guided by this, and the young man is drawn to seek new sources of knowledge on his own.

2. Web 2.0: opportunity and implications of adoption in education

There are many definitions associated with the term Web 2.0; one of them is presented in the electronic encyclopedia Wikipedia: „Web 2.0 designate new ways to consider and exploit organizational possibilities of the web”. According to them, the content and information from the Web is no longer only for visitors from the media and private companies, but also for individuals linked through Internet-based informal networks and which actively contribute and participate in the provision and dissemination of information across the globe via the web.

Web 2.0 is a term designating a variety of interactive and collaborative aspects of the Internet, and here in particular of the www. Web 2.0 refers to new opportunities to exploit the potential and benefits of the web. It is increasingly obvious to all of us today, to education, that collaborative environments make the difference between a classic learning process and one in which both youth and their teachers participate in an active way. For this reason, more and more integrated collaborative tools are used in traditional education, but also online.

Through specific technologies, tools and services education may benefit from specific basics of Web 2.0:

- ✓ Interaction and communication between users;
- ✓ Sharing and collaboration that can be established between multiple users;
- ✓ Information and training process.

Thus, to completely use these benefits in the educational process, the teacher should know and be familiar with, but also to be able to exploit applications, services and specific technologies of Web 2.0. Whether it is about wikis, blogs, podcasts, social networks, bookmarking tools, social tagging or annotating websites, specialized search engines, etc., they can be extremely useful for teachers in the training of young people.

Harnessing this opportunity is based on the fact that young people today were born and grew up surrounded by technology. As a natural consequence, most statistics in this area reflect both their digital skills and their inclination to test all applications, services, or technology recently launched. These aspects weren't overlooked by the educational actors, which demonstrates the opportunity of including web-based tools in the school curriculum in order to improve operating skills and to develop critical and objective thinking of the informational content accessed.

Web 2.0 applications are, for many young people, a more natural learning environment than the school setting, an environment where they feel comfortable and are motivated to explore, create and accomplish tasks. Web 2.0 tools are also used for online assessment of learning outcomes, which can be achieved through current methods such as project-based evaluation or e-Portfolio. Web-based training and learning provide the young with interactivity, a multimedia and open environment, a synchronous and asynchronous communication environment, independent of equipment, distance and time. So it can be said that modern technologies are the most complex form of informal education integration into formal education.

3. Technologies and web instruments in education

In the current modern society context, because the whole world tends to transform into an information society, the need arises for young people to be prepared, from an early age, for a beneficial contact with the world in which they live. Today's young people are encouraged to engage more in the learning process, which can have a significant impact on their school performance, interactive visual materials and additional sources of information will enhance the commitment of young people. Using Web 2.0 tools also allow adapting the subjects to the competences of youths, thus supporting personalized learning.

Internet communication tools greatly extend the community in which youth can communicate. By e-mail, chat, instant messaging, online surveys, and *Voice Over Internet Protocol* (VoIP), teachers and students can discuss and exchange ideas among themselves and with colleagues and experts around the world. Thus, there are numerous tools that can be used to support communication, to encourage collaboration between youth and for organizing electronic resources:

- ✓ Wiki – is a web application that allows users to add their own content and keep successive versions. Wiki pages have a more rigid structure and do not lead to stimulation of individual creativity, but are collaboration tools that facilitate logical thinking and analytical skills of young people, forcing them to structure their knowledge. The result is that motivation and participation

levels increase substantially, learning skills improve and students are allowed to take control of the learning process. Most applications of this type allow for portfolios, providing a graphic organizer for research, providing a space for understanding collaborative written work, experimentation, organization and collecting links of blogs, presentation of fragments of ideas, organization and presentation of information for different projects or similar activities.

For example, Wikispaces Classroom is a social writing platform for education. It is easy to create a classroom workspace where students can communicate and work on writing projects alone or in teams. Rich assessment tools give us the power to measure student contribution and engagement in real-time. Wikispaces Classroom works great on modern browsers, tablets, and phones. Wikispaces Classroom is free for teachers and students and has over 10 million registered teachers and students on the platform.

Wikispaces Classroom gives teachers immediate, relevant, and direct insight into student engagement and contribution. That means that teachers can help those who need it most and challenge those who don't. Often referred to as "formative assessment," this type of assessment is not about test scores used for ranking, admissions, or school evaluation, but information that actually helps teachers in their day to day efforts to help students. And the more and better help each student gets from their teacher, the more they will achieve¹⁰⁶.

- ✓ Blog – the blog is a web publication that contains regular articles that usually have a personal character. As a rule, updating blogs doesn't mean direct modification of the existing text, but adding new ones, all contributions being displayed in reverse chronological order. This kind of web publications are available to the public. Entries are descriptions of events, including text and other material, such as pictures and video sequences and comments are allowed from those who are following the blog. Teachers can use blogs to give homework, to create classroom discussions, to engage more timid students, to come up with new challenges. Two of the most popular platforms where they can create blogs are Blogger and Wordpress.
- ✓ Social networking – a social network type of service is a software for online building a social network for communities that have joint activities on the web or are interested in exploiting the interests and activities of others. Social network type of services used in our country: Facebook, MySpace, LinkedIn, etc.
- ✓ News Feeds (RSS or Atom format) – provides users with updated web content; distributing web content via a news channel (RSS or Atom) allows users to subscribe to it through feeds aggregators (Feedly, Feedreader, etc.).
- ✓ Graphic content sharing services (photo sharing), audio / video (video sharing) – An image hosting service, also called image sharing service, allows users to upload images to a Web site. Examples of websites which provide graphic content sharing services (photo sharing) are: Flickr, Picasa Web Albums.
- ✓ Web collaboration services – through the use of collaborative websites, youth and teachers can work together on documents, worksheets and presentations they create online. They can also upload files previously created on their personal computers.

Although the benefits are obvious, the major problem that prevents generalization of the use of these tools by teachers in the educational process is the lack of adequate training time required. With few exceptions which are not characteristic of education in Romania, teachers do not benefit from the help of qualified and competent persons in preparing and using these tools.

4. Implications in education: benefits, risks and constraints

Current information technologies are used and integrated into mainstream education, but also in continuous or online education. The probability of a teacher to adopt them and also to determine a change in his teaching strategy is closely related to the benefits they can bring:

- ✓ cost reduction;
- ✓ flexibility, in the sense of choosing the technology;
- ✓ easier and faster access to information exactly when and where it is needed;
- ✓ integration in teaching activities of a variety of web technologies;
- ✓ controlling the access to resources through user authentication;
- ✓ compatibility with the elements of the teaching environment and existent contextual dynamic;
- ✓ low level of complexity in use;
- ✓ redistribution of effort, so that less and less time is allocated to information management;

¹⁰⁶ <https://www.wikispaces.com/content/classroom/about>

- ✓ multitude of ways of using and teaching practices heterogeneity and diversity of the types of training due to new technologies;
- ✓ major focus on introducing teaching innovation, but not technology itself;
- ✓ creating digital content and increasing attractiveness of the subjects by combining image and sound.

Despite increasingly wider spread, these technologies also generate drawbacks for education domain:

- ✓ to address anyone bears the risk of addressing no one;
- ✓ low degree of flexibility on behalf of the teaching institutions;
- ✓ issues related to impartiality and independence, manipulation and control, ethics and privacy may arise, in other words, issues regarding objectivity, actuality and relevance of presented information;
- ✓ sometimes it may not produce real educational improvements and changes;
- ✓ overloading teachers: time allocated to self-teaching is increased.

Consequently, adopting the new Web 2.0 technologies in education is susceptible of:

- ✓ allowing access to extended and varied sources of information and knowledge;
- ✓ causing considerable increase in documentary research;
- ✓ providing opportunities for introducing new learning situations;
- ✓ shifting the focus from teaching to learning;
- ✓ adopting active, participatory methods;
- ✓ promoting independent work, ingenuity and creativity;
- ✓ foster cooperation and dialogue by integrating collaborative environments specific to web technologies;
- ✓ developing youth autonomy and flexibility;
- ✓ harmoniously combining individual with social learning.

The analysis undertaken shows that use of web tools in education can bring many benefits, but also some disadvantages. These issues are well highlighted through the SWOT analysis presented in the *table 1*.

Table 1. SWOT Analysis regarding web instruments in education

Strengths	Weaknesses
- Diversifying web applications and tools specific to education - Youths become familiar with computer applications (including web-based) from the younger ages - Most of the young people have a good to very good level of digital literacy, especially in urban areas - Young people gain basic skills and improving access to technology through a variety of channels - Youth analysis, synthesis, implementation, transfer and reasoning capacity development - Encouraging communication skills - Development of cooperation and competition spirit in a virtual environment - Active learning promotion	- Decrease in school population in secondary education - The growing gap between urban and rural areas on the degree of computerization in schools - Outdated infrastructure in many schools (especially in rural areas) - The use of web-based tools is reduced in many schools due to lack of knowledge and their cumbersome use from a lack of flexibility and teacher training - There are still few training projects for teachers, most of them being financed from European funds
Opportunities	Threats
- National and international funding for education and the use of Web 2.0 technologies, research, development, culture - Improve access infrastructure for web tools specific to education - Use of Web 2.0 technologies in education, offering flexibility to the educational process - Enhancement of transnational collaboration between schools - (Virtual) Mobility of youths and teachers	- Lack of cooperation between business environment and educational institutions - Lack of clarity on procedures for initial and continuous training of teachers - The increased risk of subjectivity in assessment, in the absence of clear assessment criteria

Opportunities	Threats
- Use of web tools contribute to global picture of the issue addressed - Youths are motivated to actively participate in a task (homework, projects) - Self-assessment capacity development	

5. Conclusions

Many well-known authors in the field say that Web 2.0 is the future of education. In fact, it would be more correct if we would consider that Web 2.0 should represent the present time in education. Even if the emergence and global spread of specific technologies generated major changes in education, there are many steps to be taken in the everyday reality of schools. Even though today's youth are ready for widespread use of services, applications and Web 2.0 technologies in education, other relevant actors (teachers and universities as a whole), still show reluctance.

Modern education must be closely linked with technological advances. We also need to be aware of the need to change a paradigm of learning which had the teacher as a central element to one in which the student is the key factor, and teachers become mentors and facilitators of the learning process. Due to the novelty element represented by the technological factor, the Web 2.0 type innovative resources, young people are encouraged to be more involved in the learning process, which has, in time, a positive impact on their school performance, with the potential to reduce the rate of school dropouts. Using web-based tools also enables adapting the subjects to the competences of the young, supporting personalized and individualized learning.

Given the obvious impossibility to define it solely by means of known cognitive methods, education will be able to refocus by using a set of skills that help young people to acquire the necessary knowledge in the profession and society, becoming able to critically analyze and, if necessary, to get rid of the unnecessary.

In this respect, the integration of information technology in the teaching-learning-assessment process, it must remain a priority of educational policies because it opens new horizons for the practice of education: facilitation of the process of presenting information, processing it by each pupil or student, building up knowledge. For this reason, preparing and promoting the use of web tools for lifelong learning among all interested parties is essential.

References

1. Addison, Y.S. Su, Stephen, J.H. Yang, Zhang, J., Hwang, W.Y. (2010), *A Web 2.0-Based Collaborative Annotation System for Enhancing Knowledge Sharing in Collaborative Learning Environments*, *Computers&Education* 55, ELSEVIER, pp.752-766.
2. Álvaro Fernández-López, María José Rodríguez-Fórtiz, María Luisa Rodríguez-Almendra, María José Martínez-Segura (2013). *Mobile learning technology based on IOS devices to support students with special education needs*. *Computers & Education* Volume 61, ELSEVIER, pp.77-90.
3. Daniel Churchill (2011), *Web 2.0 in education: a study of the explorative use of blogs with a postgraduate class*, *Innovations in Education and Teaching International*, Volume 48, Issue 2, May 2011, pages 149-158.
4. G. Grosbeck (2009), *To use or not to use web 2.0 in higher education?*, *Procedia Social and Behavioral Sciences*, Vol. 1, No. 1, 2009, pp. 478-482.
5. Gavin J Baxter, Thomas M Connolly, Mark H Stansfield, Nina Tsvetkova, Bistra Stoimenova (2011), *Introducing Web 2.0 in education: A structured approach adopting a Web 2.0 implementation framework*, 7th International Conference Next Generation Web Services Practices (NWeSP).
6. <http://cdn.nmc.org/media/2015-nmc-horizon-report-HE-EN.pdf>
7. Leneway, R.J. (2014). *Transforming K-12 Classrooms with Digital Technology: A Look at What Works!* in Z. Yang, H. Yang, D. Wu, & S. Liu (Eds.) *Transforming K-12 Classrooms with Digital Technology*, pp.1-24.
8. Martinovic, D., Zhang, Z. (2012). *Situating ICT in the teacher education program: Overcoming challenges, fulfilling expectations*. *Teaching and Teacher Education*, Volume 28, Issue 3, pp.461-469.
9. Matt Bower (2015), *A Typology of Web 2.0 Learning Technologies*, available at: https://www.researchgate.net/profile/Matt_Bower/publication/272092566_A_Typology_of_Web_2.0_Learning_Technologies/links/54dab3cd0cf2ba88a68da630.pdf
10. Noor-Ul-Amin, S. (2013). *An Effective use of ICT for Education and Learning by Drawing on Worldwide Knowledge, Research, and Experience: ICT as a Change Agent for Education*. Department Of Education, University Of Kashmir, available at: (<http://www.nyu.edu/classes/keefe/waoe/amins.pdf>)
11. Peterson, S. (2010). *Assessing problem solving strategy differences within online and face-to-face courses and their relationship to pre-service teachers' competence and confidence for integrating technology into teaching*. (Doctoral thesis). Retrieved from ProQuest Dissertations and Theses database.

12. Sayuri Kojima (2014). *Investigation of the Development of Educational ICT Courses on Pre-Service Teachers' Education Curricula. Master's Theses, Western Michigan University.*
13. Sue Bennett, Andrea Bishop, Barney Dalgarno, Jenny Waycott, Gregor Kennedy (2012), *Implementing Web 2.0 technologies in higher education: A collective case study*, *Computers & Education*, Volume 59, Issue 2, September 2012, Pages 524–534.
14. Vivek Venkatesh, Anne-Marie Croteau, Jihan Rabah (2014), *Perceptions of Effectiveness of Instructional Uses of Technology in Higher Education in an Era of Web 2.0*, 47th Hawaii International Conference on System Science, Waikoloa, HI, pp. 110-119.
15. Zhang, Z., Martinovic, D. (2008). *ICT in teacher education: Examining needs, expectations and attitudes*. *Canadian Journal of Learning and Technology*, Vol. 34(2), available at: <http://www.cjlt.ca/index.php/cjlt/article/view/498/229>.
16. <https://www.wikispaces.com/content/classroom/about>

SaaS Model, Virtualization and Information Safety - Challenge for Online Business

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The advantages of new information technologies are present in all fields, while disadvantages, weaknesses represent a relatively recent topic of study. Security issues currently facing online business is new concerns for European legislative environment and new challenges of finding methods of securing technology solution providers offered information. As for Schengen terrorist threats represent a threat to the proper functioning of the European Economic Area also the online business cyber threats have the effect of impeding and even huge losses.

Keywords: information technologies, cloud computing, Business Intelligence tools, data mining.

JEL Codes: O31, O33, C89, D89

1. Introduction

In the current economical situation a company needs to reduce costs and to improve the economical and financial results. To reduce the costs of the enterprise it is important to understand the opportunities offered by the new technologies and the IT & C services: Cloud Computing and Software as a Service.

Security issues currently facing online commerce, online payment systems require finding solutions to improve the security solutions offered by the providers of business information solutions. The competitiveness of the services provided under the terms of increased demands on the IT services market and the innovative character of the products offered due changing technologies is a priority aim of the IT companies.

Both the explosive growth of information within companies and the rapid evolution of IT equipment, cause more companies to adapt their strategies. As a result of diversifying the type of data to be stored, companies need a new way to manage unified applications, data files, documents etc. to better adapt to market dynamics.

IT companies have identified business area emerging for a solution all-inclusive, they invested more in the area of Software as a Service (SaaS), cloud computing, and prepared solutions cloud-computing ready, they brought market of alternative products, creating new types of solutions for business customers. IT companies are prepared to provide specialized services to customers who want to expand their solution and migrate to online.

The challenge of generating online secure environment can be addressed by combining intelligent hardware and applications. An increasingly approach in this case is the use of Artificial Intelligence instruments and behavioral analysis.

2. Technology transfer and innovation promotion

„The importer of technology isn't a simple receiver, he disposes of knowledge in his activity domain, knowledge that, associated with the ones of the technology supplier, are producing a synergist effect, success being conditioned by the size of the supplier enterprise of technology comparative with the size of the beneficiary and the grade of mutual engagement of partners.” [Nicolescu, O.; Plumb, I.; Pricop, M.; Vasilescu, I.; Verboncu, I.; 2003]

Analyzing the problems faced by the business community, is seen as a constant general, that information security risks are not taken into account:

"- As a result of cutting costs, our budget can not provide advanced security and redundancy measures necessary."

In its analysis, the company took into account the IT requirements vs. the Business standpoint for the implementation of a cloud solution. These objectives were common across customers of all sizes and industry verticals and became challenges for stating alternative solutions:

- Managing, preservation and easy access to the knowledge base and information
- Maintain compliance and prevent information leakage
- Support many users with various needs
- Manage communications and collaboration overload
- Interoperate with globally distributed customers and partners

In the implementation of the classic solution, the costs to be incurred in the first year are quite high and must be paid from the beginning to acquire licenses and infrastructure. In addition, there is the need to arrange a personal datacenter for servers and network equipment and to provide it with fire extinguishing system, air conditioning, UPS and generator, which increase the costs by about 70%. Although the hardware and software investments will pay off in time, they constitute an important financial effort, to which are added the recurrent costs of energy and the own IT staff. In the next few years are added the maintenance costs both of the hardware infrastructure and of the software maintenance services.

If we compare the 3-year cumulative costs in implementing cloud with rental costs for a shared hardware resources required for 40 users, they are about half of those of the classical solution based on the purchase of licenses and servers. Given that the research shows that on-premise implementations usually tend to cost 30 - to 40 percent more than the original budgeted projections, it follows that the requirement that 'Implementation costs to be lower and more predictable' is achieved in the Cloud solution. [Gheorghe, G.; Lupasc, I., 2012]

The greatest benefit of selecting a hosting provider is more efficient use of capital, while having access to facilities (redundancy, cooling and scalability/expansion) to higher standards of quality for critical applications.

On the other hand, with Cloud solutions portfolio, even a medium-sized IT firm can compete with big companies in the field. Such rental services are one of the solutions that software vendors have managed to grow their businesses, even in a recession.

What is clear is that the new SaaS / Cloud solutions are less expensive than traditional systems when companies do not have the infrastructure and resources necessary technology and also reduce the time and cost of start-up.

The solution brings added value to the business, responding to real business needs, while helping to increase individual and business productivity.

SaaS stands for 'Software as a Service' and is essentially the 'rental' of software. SaaS applications are almost always web-based since all software installation and maintenance is outsourced. Therefore all SaaS applications can be accessed from anywhere through a simple browser and also with a smartphone cell making possible to use application and services of information system. Cloud technology allows running applications more efficiently.

The main advantages of embedded technology:

1. Security - security design envisages solving the following aspects: reliability, maintainability and protection against failure in normal, predictable and also, less predictable, unexpected conditions
2. Maintenance – as a result of increasing complexity and cost of systems maintenance and warranty of the operational system, design maintainability gives increased attention that malfunctions can be remedied in the shortest time
3. Ergonomics - consisting in ensuring a friendly interface that facilitates routine work, predicted errors, validates operating intermediate steps allowing corrections

The "Business Intelligence" term is being used in the modern business world to fulfil the emerging need of analyzing data from large and variable data sources and this need brought an evolution and a new line of competition between vendors of different enterprise systems. The exponential trendy evolution in IT field from the last decade and the increased demand of data driven knowledge, large companies have enabled themselves to store an enormous amount of data. However, the request to derive information quickly and to facilitate the decision making process of business organizations, a new set of tools was required, which led to Business Intelligence.

3. Data analyses vs. data hacking

Most companies and organizations collect data on a large scale. This huge amount of data can be used to extract knowledge that can represent a real advantage to business managers. But at the same time presents a potential risk of being the target of cyber attacks (Trojans, etc.)

This requirement for Business Intelligence applications and technologies has led to the development of BI software. Most major software vendors have launched their own Business Intelligence modules that can be packaged with their software products. Nowadays organizations using enterprise systems are also using the services of available BI software on the market. The functionality of this software is independent of the rest of the modules, but also provides means to seamlessly integrate it with enterprise systems.

The data themselves are of two types:

- Operational data from the transactional processes activities;
- Operational management data consisting of historical data from the activities carried out in a longer period of time, dedicated to strategic management of an organization.

Master data is key business information that may include data about customers, products, employees, materials, suppliers etc. Analysis and reporting is greatly dependent on an organization's master data.

Currently organizations begin to realize the important role they have large volumes of data (Big Data) in achieving business objectives. Concepts that were considered difficult to understand, and the factors that influence a customer to make a purchase, inefficient that slowing business processes, patterns of behaviour that indicate fraud or abuse, can now be easily understood and addressed by collecting and analyzing large deposits data. The result of these analyzes help organizations improve their operations and identify new product and service opportunities that would not otherwise be noticed.

Companies need tools that help them more easily understand and analyze organizational data resources efficiently.

Organizational large databases provide information of interest such as:

- A summary that reflects the number of records, totals columns, number of records that meet a set of conditions;
- Cases that are exceptions to the rule;
- Elaboration of predictions for new cases identified from the rules;
- For audit purposes: records that deviation higher than the general characteristics of the data may be erroneous entries or, in some cases, fraud.

The combination of analytics and data visualization should be an integrated component of any BI solution to enable users to explore data, interact with it and apply analytics to understand it. The analysis and presentation tools, the components visible to the end-user, link the production information, the mid-level decision support information and those needed by the enterprise management.

BI means the idea of collecting, storing, analyzing and providing access to data and it consists of a set of applications and technologies that support decision making, querying and reporting, online analytical processing, statistical analysis, forecasting and data mining.

The search for these valuable information, yet hidden, patterns and relationships within the data is known as data mining.

Business Intelligence provides to organization support to optimally manage information on their so as organization to able to adopt the best decisions for new competitive advantages. In the same time, BI provides users vital information about techniques used in business and thinking of the competitors, their culture, their intentions and ability to implement them.

4. Decision oriented tools diversification

Analysis and presentation tools, end user visible component, are linking the production information, the decision support medium level (heads of departments, projects) and the necessary management company, allowing configuring critical thresholds and alert signals, performing trend analysis for the decider.

The BI tools perform the metadata analysis (data about data) to ensure that meaningful data is collected in order to assure a single version of the truth by consistently performing calculations and reporting against the same data.

There are other tools that manage the aggregated and normalized data in a specific decision-oriented database, enabling a multidimensional visualization of information, allowing for decision

making at all hierarchical levels of the organization: operational control, management control at department or project level and also strategic planning in the organization. [Russu, C., 1999]

The reporting tool meets the requirements of operational, planning and regulatory reporting, allowing electronic exchange of data between process and business systems to support effective operations management and business process integration.

The data warehouse contains data organizational massive across business activity, integrated enterprise-wide image represents complete organizational information and understanding needed to conduct business. This unprecedented development of IT has led to various changes in the business environment: the emergence and development organizations based on knowledge and knowledge management in organizations. In the knowledge-based organization resources, information resources registered a spectacular dynamics. [Burke, W.W.; Litwin, G.H., 1992]

IT resources are starting to become the engine of successful businesses, representing not only operational base, and tools for marketing and promotional strategies. At the same time, organizations need to review the relevance of knowledge management for managerial decision.

Knowledge-based organizations are able to collect, retrieve, tag, organize, process and promote knowledge in order to obtain business solutions and better decisions, improve collaboration and access to information. In order to meet new challenges, companies need to improve their digital knowledge and technological capabilities, even during financial constraints.

New software applications accelerate decision making was large data bases. Major IT companies announce the release of new software that provides customers a complex method to ease the process and reduce the volume of data and speed up business processes, making it easier to obtain useful information.

Companies that have deployed data visualization solutions to help derive value from Big Data are finding that there are behind-the-scenes benefits to using these tools. Not only does the combination of strong analytics and data visualization give users the power to make the right business decisions, it also facilitates the joining of different disciplines within an enterprise to help solve business problems.

A similar phenomenon is emerging in the educational process, in high schools who have formed a reputation and attract students who excel, with a performance background, raised a challenge for teachers to find a balance between authority and dialogue that brings a knowledge win and at the same time a challenge for students to put their ability to work.

In education to keep pace with the information explosion and to ensure the differentiated study needs is necessary to modernize teaching methods so that students to be open interest for knowledge, for innovation. A trained workforce should be a strategic objective nationwide.

"A standardized method is to choose from several methods the best, and use it. Currently, standardization, instead of being a barrier to progress is the necessary foundation on which tomorrow's improvement will be based. If we think of "standardization" as the best thing that we know today, but to be improved tomorrow – that change something. But if we think the standard as a limitation, the progress stops." [Ford, H.; 1926]

Currently, the new model is emerging enterprise version 2.0, focused on the use of collaborative platforms and tools that are based on web 2.0 social technologies emerging within companies, or between companies and their partners or customers. The key feature is a changed attitude to knowledge and to power. [McAfee, A., 2006]

5. Global trends in technology

Starting with the quotation "We can analyze the past, but the future must be designed" belonging to Edward de Bono, the father of the "Six Hats" model's decision [de Bono, E., 1999], corresponding to each of a way of thinking, we can not ask "How will evolve mankind in coming years?"

Companies in technology research elaborate forecasts on the evolution of cloud technologies, such homes will look in the coming years and what will be the future social communication in institutions and companies.

On top of predicting technological, conducted by International Data Corporation [IDC, 2015], showed the following trends:

1. Increasing the role of social business applications

If you currently 30-40% of the largest 500 companies of the world maintain a relationship with customers through social media, in three years this percentage is expected to rise to over 80%.

2. The cloud services market will boost IT

Spending on cloud computing services and technologies that enable access to these services will increase by 25% in 2015. While connected to cloud datacenter continue to expand, the market of servers, storage units and networking components will grow due to the expansion in the number of cloud service providers.

3. Increasing expenses for Big Data

IDC expects the number of datacenters to meet a surge in the next year. "Digital Universe" will grow exponentially, surpassing 8ZB.

4. Emerging markets will continue to growth

Emerging markets will represent 35% of total sales in the IT globally. IDC expects that in coming years to conclude new partnerships between IT equipment manufacturers and service developers. Once again, China will play a key role in this sector: a house will have by 2030 at least 40 interconnected devices.

5. Sales of smartphones will continue to grow

A pace slowed in the market of smartphones compared to that recorded in the last three years, while sales of tablets will grow by 18% in the coming year, the two segments will represent over 60% of the market evolution for IT globally, according to estimates by research company IDC.

6. Evolution of IT equipment sales

Marketing of servers, software and networking equipment recorded a slight annual increase, while sales of PCs will continue their decline. In 2016 the number of smart devices sold in emerging markets will double compared to that of developed markets, IDC analysts predicted.

7. Internet electronics - Internet of Things

By 2020, the Internet of things will interconnect over 30 billion devices generating revenues of 8.9 trillion.

8. Strengthen online market for IT equipment

Amazon global expansion is forcing distributors of IT to reconfigure their business strategy on the market.

9. iOS vs. Android

Android mobile equipment market dominance change Microsoft's strategy to determine a single operating system for all devices.

10. Industries digitization

2018 is expected to be created a community of inventors who will be responsible for reinventing industries and their digitization. This will also change the profile clients.

6. In conclusion

Decision-making is strongly influenced by socio-economic characteristics and the economic organization operates, such as:

1. Existence of market competition, increasingly stiffer and more evolved; market products and services are assessed according to a set of criteria (price, quality, and the technology embedded, delivery time, life or existence in the market);

2. The pace of technological change (as stated already famous law of Moore, that in the information technology and communications, IT & C, each generation technology typically associated with microprocessor structure calculation, change every 18 months) and other (political, legal, social) that increase the number of alternatives that constitute inputs to decision-making;

3. Changing the management and functioning of economic organization (as, for example, the emergence and development of virtual organization) that determines the increasing of multi-participants decision makers associates in virtual teams; by reengineering business processes, BPR (Business Process Reengineering) managed all these organizational changes;

4. Continuous growth and diversification of external sources of data, information and knowledge;

5. Continue increasing performance requirements of shareholders against economic organization, but also the personal aspirations of its employees and job applicants.

In the current economic context characterized by competition and continuous changing requirements, optimize decision-making process depends on the speed of adapting systems to follow this evolution to be able to provide real-time information, enabling timely decision making. On the other hand, equally important are development strategies, decision-making processes underlying businesses, companies or organizations.

References

- Burke, W.W.; Litwin, G.H. *A Causal Model of Organisation Performance and Change*, *Journal of Management*, Vol.18, No 3, pp. 523-545, 1992 [[Online](#)]
- de Bono, E. *Six Thinking Hats*, 1999
- Ford, H., 1926, Online: <http://www.referenceforbusiness.com/history2/69/Ford-Motor-Company.html>
- Gheorghe, G.; Lupasc, I., 2012 *Crises solutions for SMES, Case study: ERP Cloud vs Classic solution* ISSN 2067-0532
- International Data Corporation, 2015, *Market Analysis Perspective: Worldwide Mobile Enterprise Device Solutions, Business Agility through BYOD in 2015 and Beyond*,
Online: <http://www.idc.com/getdoc.jsp?containerId=253082>
- McAfee, A., 2006, Online: http://andrewmcafee.org/2006/05/enterprise_20_version_20/
- Nicolescu, O.; Plumb, I.; Pricop, M.; Vasilescu, I.; Verboncu, I. *Abordari moderne in managementul si economia organizatiei*, Vol.4, pag.190, 2003
- Russu, C. *Management strategic*, Editura All, 1999 ISBN: 973-9435-23-8

Mobile Commerce

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Mobile commerce, or m-commerce, refers to the use of wireless digital devices to enable transactions on the Web. Described more fully in Chapter 3, m-commerce involves the use of wireless networks to connect cell phones, handheld devices such as Blackberries, and personal computers to the Web. Once connected, mobile consumers can conduct transactions, including stock trades, in-store price comparisons, banking, travel reservations, and more.

Keywords: Social Business, IT, marketing, social media, models

I. Introduction

Our focus in this paper is m-commerce—the use of the Internet and the Web to transact business using a mobile technologies. More formally, we focus on digitally enabled commercial transactions between and among organizations and individuals. Each of these components of our working definition of m-commerce is important. Digitally enabled transactions include all transactions mediated by digital technology.

For the most part, this means transactions that occur over the Internet and the Web. Commercial transactions involve the exchange of value (e.g., money) across organizational or individual boundaries in return for products and services. Exchange of value is important for understanding the limits of e-commerce. Without an exchange of value, no commerce occurs.

M-commerce have been considered as being either one of these concepts – a technology, product or service – or as combination of the three. Defining m-commerce or M-commerce is sometimes referred to as “mobile e-commerce”, because its transactions are basically electronic transactions, conducted using a mobile terminal and a wireless network. Mobile terminals include all portable devices such as mobile telephones and PDAs, as well as devices “mounted in the vehicles that are capable of accessing wireless networks” and perform m-commerce transactions. One definition of m-commerce describes it as “any transaction with a monetary value that is conducted via a mobile telecommunications network”. [4]

Some definitions tend to ignore telematics, an important feature of m-commerce. These definitions concentrate on the appliance. For instance, “m-commerce is the buying and selling of goods and services, using wireless hand-held devices such as mobile telephones or personal data assistants (PDAs)”.

2. The role of mobile operators

To ensure long term focus, mobile operators need to begin by drawing up strategic plans supplemented by tactical plans for near term engagement with vertical industries. The GSMA believes the primary opportunities for mobile operators in the retail sector are[8]:

- Create an end-to-end secure business-to-business proposition for tier 1 retailers, either individually or as a framework developed with other mobile operators.
- Work with other mobile operators to develop a framework infrastructure that tier 1, 2 and 3 retailers can use to provide mobile commerce services.
- Provide a toolkit to enable retailers and service providers in other industry sectors to easily integrate payment, coupons and loyalty services into their applications.
- Provide a flexible wallet application that consumers can use to access a wide range of services, encompassing retail, transport, entertainment and community and government services, supported by a mechanism that will enable consumers to download information and vouchers into the wallet.
- Use the SIM card to authenticate consumers and increase the security and privacy of mobile commerce services.
- Provide a web/mobile browser plug-in that will enable consumers to download information and vouchers into their wallet.

Mobile commerce is growing like a weed [8].

- Mobile is 29% of e-commerce transactions in the US and 34% globally. By the end of 2016, mobile share is forecast to reach 33% in the US, and 40% globally.
- Women devote more time to their mobile devices than man. Smartphone owners are dominated by Women with 62.5% (figure 1)
- Mobile transactions grew 10% in the last 3 months: Growth continues across all retail categories, especially with top quartile retailers.
- It's all about smartphones: In most countries, including the US, smartphones are now the majority of mobile transactions.
- There is no limit: For the first time Japan and South Korea had over 50% of their e-commerce transactions on mobile.
- Consumers view the same number of products on smartphone and desktop sites: Lower mobile conversion rates in the US are due to weaknesses in turning this browsing into completed purchases.

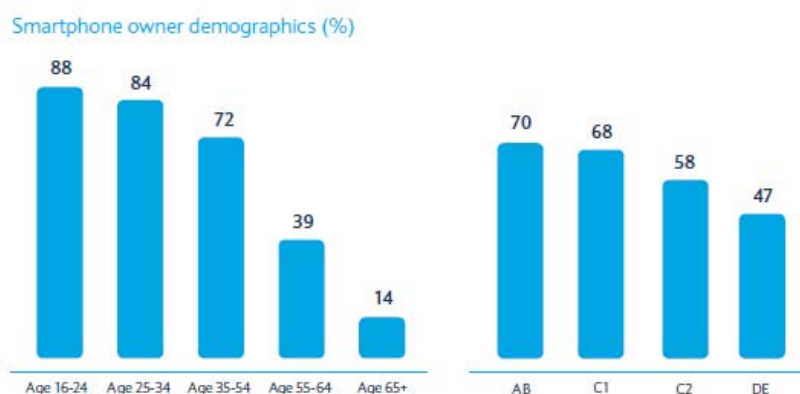


Figure 1 – Smartphone owners by age [8]

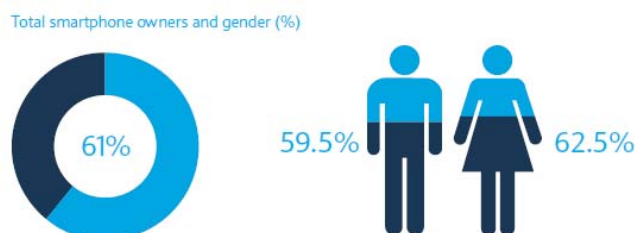


Figure 2 – Smartphone owners in 2015 [8]

Young people between 16-24 years have in proportion of 88 % a mobile phone.

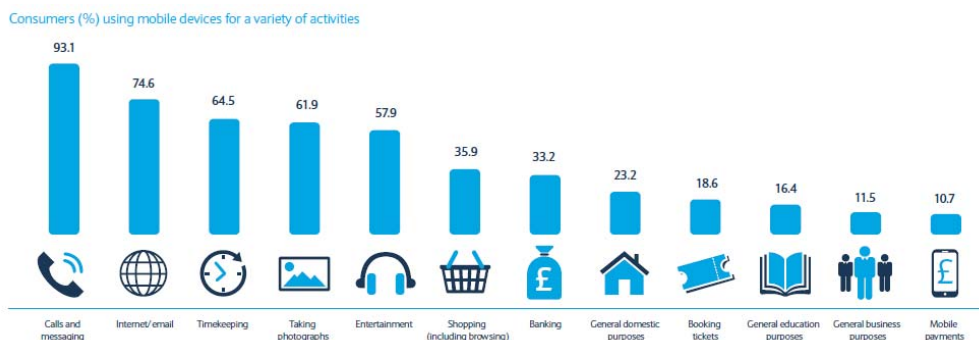


Figure 3 – Smartphone owners activities [8]

Shopping via a mobile device peaks 35%. Despite being the least popular activity, 1 mobile in 10 users are making mobile payments. (figure 3)

3. Characteristics of m-commerce

The primary criterion of mobility is the method of access. Not all mobile devices provide a mobile access to telecommunication networks. For instance, a laptop, even though a mobile device, generally uses stationary access to networks. Even when a laptop connects to a wireless network, its usage, while on the move, is limited by factors such as size and weight. On the other hand, telematics devices mounted in vehicles are capable of providing mobile access to telecommunication networks. The computer-mediated networks may be partially or even fully wired, as long as they are able to receive and handle requests sent by mobile electronic devices.

Some parts of a transaction may be processed in a stationary sector. For example, ordering clothes using a mobile phone is an m-commerce transaction, even when the transaction is processed by stationary computers, the ordered goods are sent by snail mail and paid against an invoice. What is important is that at least the initiation or the completion is carried out using mobile access via an electronic device. The completed transaction need not have a monetary character if the transaction is carried out as a marketing measure or as an after-sales service.

M-commerce is characterized by some unique features that equip it with certain advantages against conventional forms of commercial transactions, including e-commerce.

- users can avail services and carry out transactions largely independent of his current geographic location (the “anywhere” feature). This feature can be useful in many situations, e.g. to cross-check prices while standing in a supermarket or while on the move.
- Closely related to ubiquity is the “anytime” feature. This feature is particularly attractive for services that are time-critical and demand a fast reaction, e.g. stock market information for a broker. Additionally, the consumer can buy goods and services as and when he feels the need. The immediacy of transaction helps to capture consumers at the moment of intention so that sales are not lost in the hiatus between the point of intention and that of actual purchase.
- Localization. Positioning technologies, such as the Global Positioning System (GPS), allow companies to offer goods and services to the user specific to his current location. Location-based services can thus be offered to meet consumer needs and wishes for localized content and services.
- Instant connectivity. Ever since the introduction of the General Packet Radio Service (GPRS) mobile devices are constantly “online”, i.e. in touch with the network. This feature brings convenience to the user, as time consuming dial-up or boot processes are not necessary.
- M-commerce opens new avenues for push-marketing, such as content and product offers. Services like “Opt-in advertising” can be offered, so that a user may choose those products, services and companies that he wants to be kept informed about. The Short Message Service (SMS) can be used to send brief text messages to consumers, informing them of relevant local offerings that best suit their needs. This feature ensures that the “right” (relevant) information can be provided to the user at the “right” place, at the “right” time. The user too does not have to fear missing some potentially crucial information or getting it too late.
- Authentication procedure. Mobile telecommunication devices function with an electronic chip called Subscriber Identity Module (SIM). The SIM is registered with the network operator and the owner is thus unambiguously identifiable. The clear identification of the user in combination with an individual Personal Identification Number (PIN) makes any further time-consuming, complicated and potentially inefficient authentication process redundant.

M-commerce is not just a transaction, but it extends to provide services and information. • For example m-commerce is seen to possess some mobile applications which are used to provide a number of services. These services include mobile banking, payment, information and marketing services.

M-business is the use of mobiles or wireless devices in the conduct of all business activities of a firm both internally or externally in relation with its customers, suppliers, partners and other stakeholders. M-business covers the application of mobiles to finance and accounting, marketing, human resources, procurement, manufacturing, transport & logistics et cetera.

4. M-commerce Adopters

Technology users tend to be drawn to the technological features of the technologies they adopt. M-commerce adopters as technology users tend to be influenced by technology characteristics of m-commerce services or products.

- Perceived usefulness/Functional performance refers to the degree to which an m-commerce adopter believes the m-commerce would provides expected benefits or expected functional performance.
- Perceived ease-of-use is refers to the adopter’s perception of the minimum effort required for the use of the m-commerce service.
- Acquisition cost is the cost of an m-commerce service or product that adopters have to pay in order to possess or own the service or product. For example, cost of mobile phone or cost of a mobile banking application.
- Operating cost is the cost that occurs when a user utilize the m-commerce service. For example, cost of airtime to make use of mobile voice services.
- Reliability relates to how free an m-commerce service or product is from mal functionality, including the useful lifetime of it.
- Compatibility is the way that the new technology fits with other existing devices or business requirements.
- Serviceability refers to how long it takes and how expensive it is to repair or reinstate an m-commerce product or service if it goes wrong.
- Security refers to the state in which an m-commerce service or product is free from unauthorized use, misuse and disturbance during usage by an m-commerce adopter.

5. M-commerce architecture

Industry is faced with challenges of providing the necessary capacity for both backbone transmission infrastructure and the access network. Support is needed for Mobile Apps which depends on how extensively the applications use the underlying network.

To be successful, M-Commerce systems typically need to run on a variety of mobile device platforms. Over the years we have work endlessly towards integrating various protocols, application compatibility to yield a robust application architecture.[3]

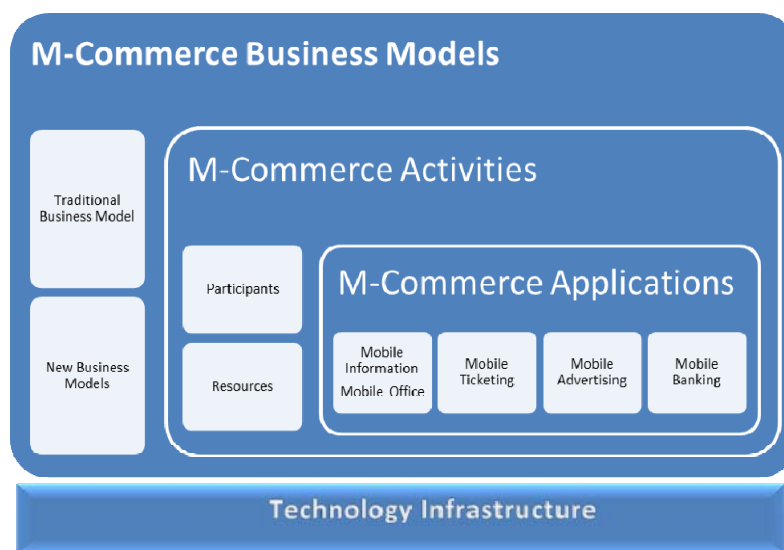


Figure 4 - Mobile architecture

Figure 4 shows an architecture framework for m-commerce relating to business models.

The core elements of the m-commerce include mobile commerce participants, mobile commerce resources and mobile commerce activities.

A classic platform that will bring an online store to mobile devices like the website was built for that specific device is presented in figure 5.

The benefits of having an mobile platform are

- Provide the ultimate shopping experience. With specific tailoring for each device, customers enjoy a devoted design and service. Right from the landing page to the checkout, customers find shopping, payment and notifications handy.

- Harness the power of the social media. With the best-in-the-market SEO, Analytics, Social Media marketing and deep-linking to certain items, customers will be able to browse the online store using different platforms and experience adapted views.
- Increase ROI. Customers love to feel special, and by making every page a device-specific catalogue, customers enjoy shopping on their desktops, and even more on their smartphones and tablets. Each device is unique, and so is our customization.
- Gain brand equity. Because people are using their mobile devices all the more, the mobile becomes an essential part of brands – a platform where customers show up every day (or even all the time).
- Study customer behavior. How customers move about a store, their favorite items, colors, item views and time per item, touch gesture tracking and visitor flow – every little detail is important.

On level of framework a m-commerce may be the mobile commerce applications. Because an organization uses mobile applications to support and deliver its business models through the supply chain, mobile applications are seen as the tangible end-user vehicles that mechanize and enable the m-commerce transaction. M-commerce applications can be broadly categorized as communication applications, information applications, entertainment applications and commerce applications. Five main application types were identified:

- mobile ticketing,
- mobile advertising,
- mobile information,
- mobile banking
- mobile office applications.

These were found to support the key business models and imperatives (revenue generation or cost reduction) and were constructed using the supply chain to deliver an aggregated service. The constantly developing landscape of mobile technologies, and more specifically application capability, raises a proposition of re-aligning business models and supply chains to fully leverage the potential of that change - thus suggesting a commercially synergistic relationship.



Figure 5 – Mobile commerce platform

6. Responsive Web Design

Responsive Web Design means that a site is implemented in such a way that it adjusts automatically to provide an optimized web experience to the viewer on any device and any screen size. This is especially important in e-Commerce and m-Commerce, as customers nowadays are expecting ease of use and a compelling web experience across all devices. Responsive design adjusts automatically, making it almost a must for all those who regularly provide changing content, like e-Commerce retailers. It uses CSS3 media queries to ensure that the layout adapts to the screen size using fluid proportion-based grids and flexible images. The page uses different CSS style rules

automatically based on characteristics of the device the site is being displayed on. Flexible images are also sized automatically to make sure they fit the screen size.

Before Responsive Design, marketers had to create several sets of content, if they wanted to cater to multiple screens, which meant more costs and a lot more work, with a mobile experience that was still not necessarily the best. Not to mention that it was almost impossible to make your layout fit all screen sizes, from tiny smartphone screens to 27" desktop flat screens. Responsive Design, however, really takes the content only once and makes it adapt to every screen, to every platform, to every operating system, every browser and is fully compatible with all devices on the market today. This is the best thing that could have happened to marketers in e-Commerce, who have to update their offerings very frequently.

Responsive design might cost more work in setting up and implementing, but administration will be much less in the long run. When designing responsive layouts, the first important rule is „mobile first“. You should start with the smallest screen. You will pick out the most important crucial information, which needs to be displayed. It is much easier to add details for larger screens, than to remove them. Also avoid specifying the font size, this too needs to be able to adapt according to the device it is displayed on. You can either define percentages or use JavaScript plug-ins which will scale headlines and text according to screen size.

When taking care of all these technical aspects of implementing responsive design, there are some things of special importance for e-Commerce and m-Commerce:

- Pay special attention to the placement of the search box, as people often access mobile sites in search of something specific, so make sure they can easily get there.
- The shopping cart icon should be clearly visible and touch friendly on all product pages.
- Navigation throughout the buying cycle should also be designed to be touch-friendly.
- The consumer should be invited to opt-in to receive your newsletter across all channels, be it via QR code, on the mobile landing page or when placing a product in the shopping cart. You might also want to consider offering incentives for opting in, for example by offering 10% rebate on the next order.
- Also don't forget to include a CTC (click to call) button for those m-Commerce users who want a question answered, or need further information to your products. Many customers will be surfing your site via mobile, so making it easy to call you shouldn't be forgotten.

The goal of marketers has to be creating web content which adjusts to multiple screens while still delivering compelling shopping experiences. A good mobile experience will always combine minimalism, e.g. single column layout and great navigation, social media integration, and will load fast.

According to eMarketing's survey, 59% of US retailers have declared that implementing a mobile-responsive design for their websites is a high priority this year. Further down the list of retailer priorities is creating apps for iOS devices at 28% and for Android at 22%.

Mobile devices generally do a pretty decent job of displaying websites these days. Sometimes they could use a little assistance though, particularly around identifying the viewport size, scale, and resolution of a website. To remedy this, Apple invented the viewport meta tag.

Using the viewport meta tag with either the height or width values will define the height or width of the viewport respectively. Each value accepts either a positive integer or keyword. For the height property the keyword device-height value is accepted, and for the width property the keyword device-width is accepted. Using these keywords will inherit the device's default height and width value.

For the best results, and the best looking website, it is recommend that you use the device defaults by applying the device-height and device-width values.

```
<meta name="viewport" content="width=device-width">
```

To control how a website is scaled on a mobile device, and how users can continue to scale a website, use the minimum-scale, maximum-scale, initial-scale, and user-scalable properties.

The initial-scale of a website should be set to 1 as this defines the ratio between the device height, while in a portrait orientation, and the viewport size. Should a device be in landscape mode this would be the ratio between the device width and the viewport size. Values for initial-scale should always be a positive integer between 0 and 10.

```
<meta name="viewport" content="initial-scale=2">
```

The minimum-scale and maximum-scale values determine how small and how large a viewport may be scaled. When using minimum-scale the value should be a positive integer lower than or equal

to the initial-scale. Using the same reasoning, the maximum-scale value should be a positive integer greater than or equal to the initial-scale. Values for both of these must also be between 0 and 10.

```
<meta name="viewport" content="minimum-scale=0">
```

Generally speaking, these values should not be set to the same value as the initial-scale. This would disable any zooming, which can be accomplished instead by using the user-scalable value. Setting the user-scalable value to no will disable any zooming. Alternatively, setting the user-scalable value to yes will turn on zooming.

Turning off the ability to scale a website is a bad idea. It harms accessibility and usability, preventing those with disabilities from viewing a website as desired.

```
<meta name="viewport" content="user-scalable=yes">
```

Viewport Resolution - Letting the browser decide how to scale a website based off any viewport scale values usually does the trick. When more control is needed, specifically over the resolution of a device, the target-density dpi value may be used. The target-density dpi viewport accepts a handful of values including device-dpi, high-dpi, medium-dpi, low-dpi, or an actual DPI number. Using the target-density dpi viewport value is rare, but extremely helpful when pixel by pixel control is needed.

```
<meta name="viewport" content="target-density dpi=device-dpi">
```

Combining Viewport Values - The viewport meta tag will accept individual values as well as multiple values, allowing multiple viewport properties to be set at once. Setting multiple values requires comma separating them within the content attribute value. One of the recommended viewport values is outlined below, using both the width and initial-scale properties.

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

Since the viewport meta tag revolves so heavily around setting the styles of how a website should be rendered it has been recommend to move the viewport from a meta tag with HTML to an @ rule within CSS. This helps keep the style separated from content, providing a more semantic approach.

Currently some browsers have already implemented the @viewport rule, however support isn't great across the board. The previously recommended viewport meta tag would look like the following @viewport rule in CSS.

```
@viewport {
  width: device-width;
  zoom: 1;
}
```

An important aspect to responsive web design involves flexible media. As viewports begin to change size media doesn't always follow suit. Images, videos, and other media types need to be scalable, changing their size as the size of the viewport changes.

One quick way to make media scalable is by using the max-width property with a value of 100%. Doing so ensures that as the viewport gets smaller any media will scale down according to its containers width.

```
img, video, canvas {
  max-width: 100%;
}
```

5. Conclusions

Applications specially designed for shopping on the smartphone or the parcel shelf are not yet very popular. Research has shown that the main purpose of the more consumers is to find the most advantageous commercial offer using the search engines. No thought of wanting in particular to become loyal to a brand or an online stores through the use of dedicated applications only for them.

In conclusion, mobile e-commerce can be one of the most intelligent strategic move which can be made in online to increase conversions and of business!

Technology infrastructure for m-commerce includes wireless communication technology, wireless middleware technology, information exchange technology, wireless network & application protocols and mobile security technology. Essentially, these are the core technological components and infrastructures that enable mobile users in their environments.

Most mobile commerce services to date have focused just on an individual retailer or the actual shopping/ transactional experience. Such an approach is too narrow; consumers are much more likely to adopt holistic mobile commerce propositions that help them travel to and from the retailer and undertake many other activities during an outing to a town or destination retailer. Mobile commerce services should support the preparations, the outward journey, in store interactions, transactions, post transactions and return travel and set the stage for the next journey. That implies that a mobile commerce proposition needs to support a wide array of different services, potentially using a range of capabilities and technologies. Furthermore, mobile operators, retailers, banks, commercial organizations and industry associations need to work together to define a consistent transactional journey, so that consumers and retail staff don't have to adapt to multiple processes to make payments, redeem vouchers and accumulate loyalty points in merchant outlets. That implies they should use standards wherever possible and work with appropriate organizations to identify where new standards are required. The provision of a core set of capabilities will stimulate innovation.

References

1. Deepu Saini and Dr. Vijay Singh Rathore "Study & Analysis of Secured E-Commerce Transactions Information Protocols Purchasing Order". *IJCSMS- Vol. 12, Issue 03, September 2012 ISSN (Online): 2231 –5268*
2. Niranjana Murthy M, Kavyashree N, Mr S.Jagannath "MCOMMERCE: SECURITY CHALLENGES ISSUES AND RECOMMENDED SECURE PAYMENT"
3. <http://www.cs.ccsu.edu/~stan/research/mcommerce/mcommercetechnologies-web.pdf>
4. Okazaki, S., "Mobile advertising adoption by multinationals: Senior executives' initial responses," *Internet Research: Electronic Networking and Applications*, Vol. 15, No 2: 160-180, 2005.
5. Petty, R. D., "Wireless Advertising Messaging: Legal. Analysis and Public Policy Issues," *Journal of Public. Policy and Marketing*, Vol. 22, No. 1: 71–82, 2003.
6. <https://www.barclayscorporate.com/content/dam/corppublic/corporate/Documents/research/Future-of-m-commerce.pdf>
7. Brynjolfsson, Erik, Yu Jeffrey Hu, and Mohammad S. Rahman. 2013. "Competing in the Age of Omnichannel Retailing." *MIT Sloan Management Review* 54 (4).
8. *International Journal of Electronic Commerce*, Vol. 8, No. 3: 65-78, Spring 2004.

Informatics Solutions for Data Processing of Electricity Consumption Optimization in Smart Grids

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Considering the scarcity of primary resources of electricity environmental issues of global warming and the need to optimize electricity consumption at household level, in this paper we will present solutions for developing the data model of an informatics prototype for optimizing the electricity consumption in smart grids.

Keywords: energy consumption, smart meters, data model, data warehouse

JEL classification: C81, C88, C61

1. Current problems in energy consumption management

For practical reasons, optimization of electricity consumption has become especially challenging for business management that focuses on reducing costs of production. Therefore, electricity generation during the night when electricity prices are lower can be an option as long as labour costs during the night and other factors permit. However, optimizing electricity consumption can be possible due to intelligent metering systems and sensors. Nowadays, given the advanced tariff systems (pricing based on the time of consumption, pricing based on peak load critical, real-time pricing, etc.) optimizing electricity consumption becomes attractive also for electricity consumers. Also, grid operators are interested in electricity optimization due to reduced peak consumption which will lead to avoidance of considerable investment in grid infrastructure for electricity transmission and distribution.

The volume of investments in electricity networks can be reduced by reducing peak consumption and integrating a larger amount of renewable energy in the electricity consumer. If the peak consumption is reduced by optimizing consumption and distributed sources, the need for grid infrastructure investments will be reduced drastically.

From this perspective, electricity consumers can be considered the key of the energy system. They become more active players in the electricity market. The "new generation" of residential and industrial consumers are increasingly aware of the limitation of primary conventional energy resources and they become more active and more involved in managing their consumption. Some of them have their own sources of electricity, thus becoming *prosumers*. They may be motivated to have sustainable behaviour leading to reduced energy consumption in electricity grids. In this respect, advanced pricing schemes motivate consumers to plan their usage of electrical devices that can save up to 50% of expenses related to electricity consumption due to the fact that off-peak electricity price can only be a third of the peak price [1].

Management of electricity consumption at household level requires a number of components, such as programmable or non-programmable electrical devices, sensors, smart metering and informatics applications for management of electricity consumption at control centre (Figure 1).

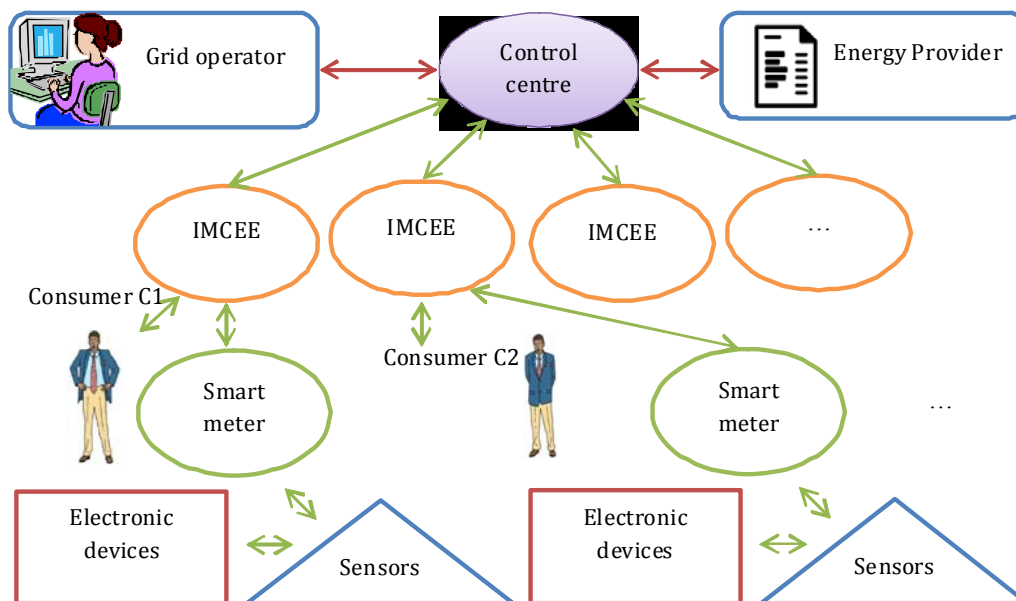


Figure 1. Components of electricity consumption management system

In the proposed informatics solution for electricity consumption management [2], we consider two major components: the control centre for grid operators/energy providers and the instance for management of electricity consumption (IMCEE) at consumer/*prosumer's* level.

Each consumer will have an IMCEE accessible through a web interface, which will be developed in *Oracle Application Development Framework* (ADF). Through the interface they will enter the consumption preferences, electrical devices and features, display information related to the optimized schedule, bills, payments, etc. IMCEEs take and transmit data to/from smart meters. They are connected by a network of sensors, which also act to control electrical devices, storage sources (car batteries, UPS and other devices for energy storage), own sources of generation to control their operating status (stopped/on, step of operation) and to determine the specific patterns of consumption [3].

Through the IMCEE's interface, consumers carry out the following activities:

- describing and modelling their electrical devices;
- optimizing the consumption and scheduling electrical devices;
- monitoring the consumption;
- interacting with statistical analysis;
- monitoring the costs of electricity consumption.

By identifying electrical devices involved in the consumption optimization, we develop the consumer scenario that may be characteristic for weekday or weekend days. Modelling the electrical devices starts by defining the number of devices in the home. Each device will be modelled by specifying the type of device (non-programmable/programmable with/without interruption) and operating characteristics: consumption per hour, total daily consumption, duration and steps of operation. To achieve the modelling of electrical devices, consumers will consider specific requirements of their habitat and other factors such as ambient temperature, nebulosity, etc.

Optimizing electricity consumption will be done individually for each consumer. In this way, the optimization process is transparent; consumers are actively involved in modelling and analysis of results. It will have performance and high flexibility due to the relatively small number of restrictions on operating the devices a consumer of electricity that must be taken into account.

Based on the results after the optimization, consumers will schedule the operation of those electrical devices that require this (e.g. refrigerator will operate continuously, without the intervention of the consumer, but the bread oven or dishwasher can be programmed to operate as optimization results). It is obvious that differences between programming and the actual operation may appear; therefore they should be reflected over peak consumption and costs of electricity consumption.

Through the interface, the consumer has permanently access to information such as: consumption per hour, electricity quality, price at a certain time, the price development for the following time, statistics, etc.

Through the control centre (CC), the grid operator and electricity provider collect consumption data recorded by smart meters. These data are the basis for achieving the forecasts of consumption analysis, sizing grid capacity, consumer profiling, decision support for plan advanced pricing scheme. At the CC level, an advanced business intelligence solution will be implemented for monitoring, forecasting, profiling and planning the grid operator/electricity providers' activities.

2. Data model's architecture

Both components IMCEE and CC will have a data model representation that gathers, collects data from smart meters and electrical devices, loads it into databases and makes it available for optimization and advanced analytical processes.

From [4], [5], [6] it results that smart meters record data in raw files or .csv. They contain data based on national meter identifier (NMI), type of reading (A = Current record consumer's estimation - Estimated reading, S substitution - read substitution etc.), smart meters' series, date/time of the start of reading, date/time of end of the reading, consumed energy between the two points, the unit of measurement (kWh). Smart meter data recorded in flat files depends on the demands of electricity provider, which can be recorded more frequently than hourly or time (15, 30 minutes, etc.). Transmitting them to the central level is done at least once a day. In Figure 2, we present the data flow in which the source files from smart meters will be imported into the local database concentrators located at the local level of electrical distribution stations. They import and store data from smart meters of individual consumers of electricity in a given area or location.

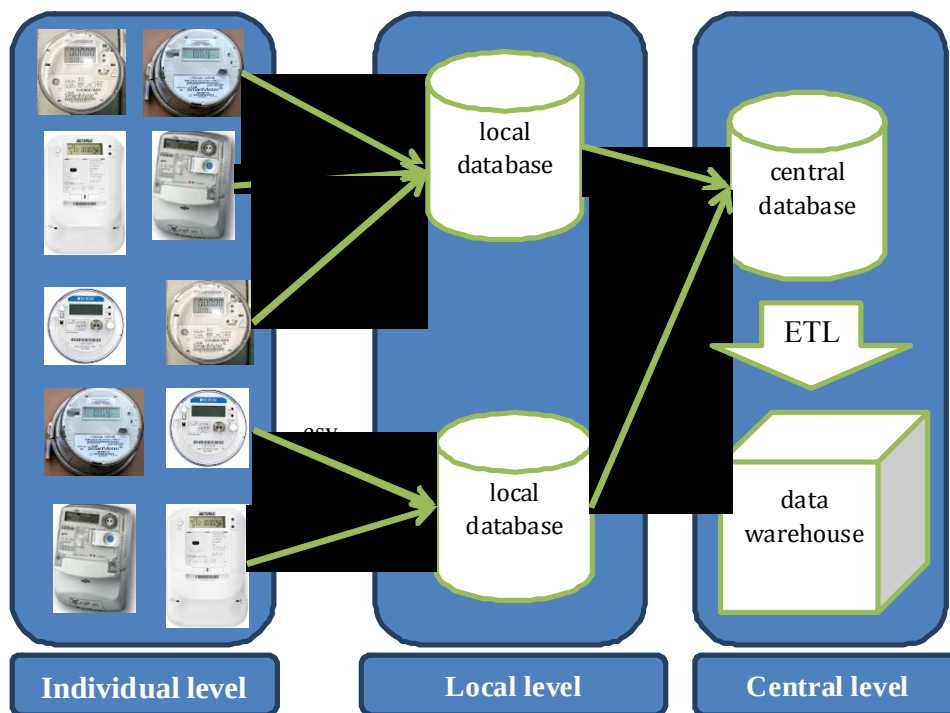


Figure 2. Data model's architecture for the electricity consumption's informatics prototype

Data from smart meters from local databases are then transmitted to a centralized database managed by the provider /grid operator. From this central database data will be extracted, transformed and loaded (ETL process) into a data warehouse in order to achieve advanced analysis and representation of key indicators related to electricity consumption.

Electrical devices transmit via sensors in smart meter .raw or .csv files the following information: devices' series, model, description, MAC address, manufacturer, power consumption, the power generated. In addition to these data, files recorded in the smart meter transmit: smart meters' series, the total power consumed and the total power generated at a specific consumer. The total power consumed may be greater than the power consumed by electrical devices equipped with sensors, due to the fact that there are electrical devices from older generation who do not submit their own consumption, which is recorded by aggregating the consumption into the smart meters. Data from smart meters are transmitted locally in concentrator's equipment being imported by a routine in the

following tables: *dispozitive_electrice* (electrical devices characteristics), *citiri_contor* (smar meter's data), *citiri_dispozitiv* (electrical devices' data), *contor_inteligent* (smart meter's characteristics).

Data for the management of electricity consumers is organized in the following tables: *consumator* (consumer), *loc_consum* (consumption place), *locatii* (locations), *caracteristici_loc_consum* (consumption place characteristics), *profiluri_consum* (consumers' profiles) and *tipare_consum* (consumers' patters).

For every consumer will store the following data: customer code, name, customer type (residential or industrial), address, phone and email. The consumption place has an associated supply agreement governing trade issues, specifying the date of conclusion of the contract and its validity in months. Depending on the evolution time of electricity consumption on a certain location, the electricity provider can group consumers into profiles and consumption patterns that contribute to better management of consumption.

Optimization and scheduling electrical devices involve organizing data in the following tables: *restrictii_functiune* (operating constraints), *programare_functiune* (operating schedule), *schema_tarifare_consumator* (tariff schema for consumer) and *scheme_tarifare_avansate* (advanced tariff systems).

Restrictions regarding the operating electrical devices may be different from day to day and includes both consumer needs and the characteristics of electrical devices. Each device is characterized by daily operation time, daily maximum consumption and may have a fixed timetable for consumer unscheduled devices or variable devices.

After optimization, the resulting electrical devices operating schedule where each device corresponds to an hourly consumption or generation. Applying the total hourly consumption charging scheme related to a consumer result the amount of payment for electricity consumption. Summarizing the difference between power consumption and hourly generation we get the net hourly consumption from the grid. Peak demand is the maximum value of the net hourly consumption.

Consumption is stored in the table *programare_functiune*, and real consumption will be stored in tables and *citiri_dispozitiv* and *citiri_contor*, which means there may be differences between the consumption established as a result of programmed electrical devices and optimizing the functioning of actual consumption. Because of these differences, the amount of payment resulting from electricity consumption and peak demand optimization will change.

The tariff systems are part of a collection of scheme (pricing based on the time of consumption, pricing based on the time critical consumer, real-time pricing, etc.) developed by the electricity provider. The tariff scheme applied to specific consumers is characterized by: start date, end date and hourly rates (for 24 slots) for energy consumed or generated into the grid.

The database schema (Figure 3) contains all tables and relationships between the discussed entities:

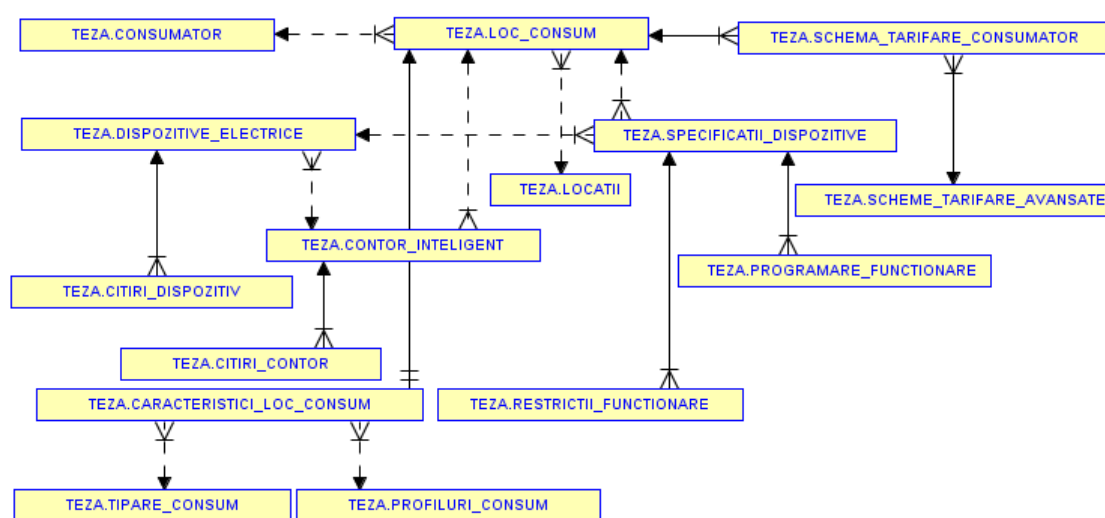


Figure 3 – Database schema for electricity consumption management system

For multidimensional data analysis required at energy provider and grid operator we designed and implemented a data warehouse with Oracle Business Intelligence Administrator. This

development environment allows us to define the following levels of the data warehouse: the physical data sources mappings (Physical Level), the multidimensional objects (Business Model Level) and the users' interface view (Presentation Level) of the analytical reports.

In order to achieve the physical layer of the data warehouse, we have built a process of extraction, the transformation and load (ETL) based on three sources of data: files transmitted by sensors, associated readings files from smart meters and user input data from a relational database.

Files related to smart meters/electrical devices readings are imported into a relational database in concentrators, from where data is synchronized with the central relational database.

For transforming data from relational database we have built centralized virtual materialized tables: *DIM_CONSUMATOR* (consumer's dimension), *DIM_SCHEME_TARIFARE* (advanced tariff systems' dimension), *DIM_TIMP* (time dimension), *DIM_ZONA* (regional or locations dimension), *DIM_DISPOZITIVE* (electrical devices dimension), *F_PROGRAMARE_DISPOZITIVE* (fact table for operating schedule), *F_CONSUM_TOTAL* (fact table for total consumption for an individual consumer), *F_CONSUM_DISPOZITIV* (fact table for an electrical device of a consumer). The data in these virtual materialized tables are loaded into the data warehouse into the same named multidimensional objects.

To complete the physical layer of the data warehouse (Figure 4), we imported the virtual materialized tables in the Oracle BI Administrator Level Physical configuring connection to the relational database server.

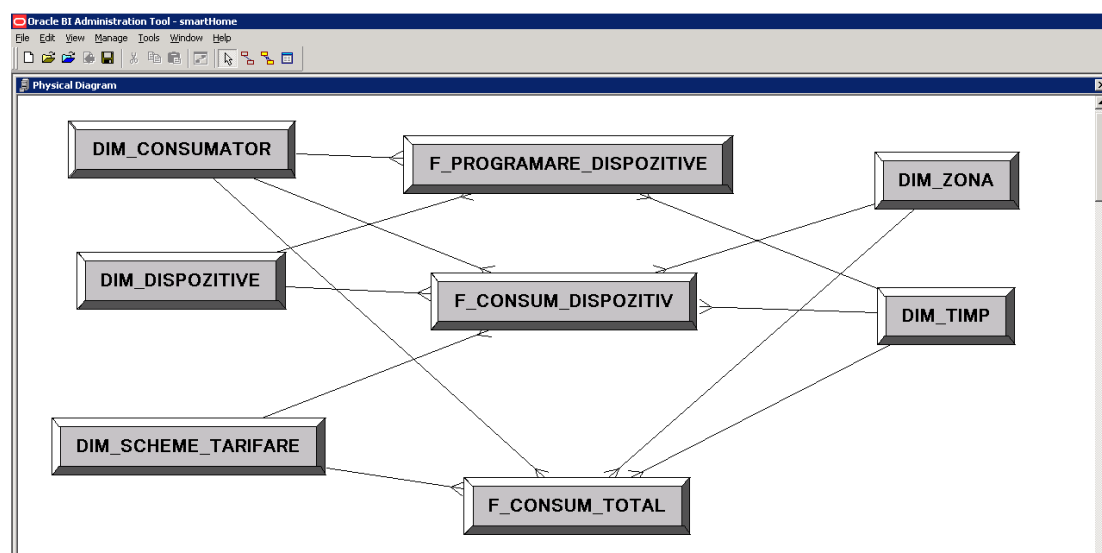


Figure 4 –The data warehouse' schema in Oracle BI Administrator

The data warehouse is continuously synchronized with relational database, so advanced analyses will be based on data collected in real time.

4. Conclusions

The informatics solutions for electricity consumption management will improve performance in the optimization process, with effects in supporting the active role of *prosumers*. Through its components (ICMEE and control centre) the solutions will have a positive impact on decision support process of the grid operators and electricity providers.

Through the data model, the system will collect, gather and organize data recorded by electrical devices and smart meters first at concentrators level in local relational databases and then synchronize it with a central relational database at grid operators/electricity providers level. From these databases, data will be loaded into a centralized data warehouse that enables advanced analytics and forecasting models.

Acknowledgment

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References

- [1] T. Liu, S. Chen, Y. Liu, Z. Xu, Y. Che, Y. Duan, *SHE: Smart Home Energy Management System for Appliance Identification and Personalized Scheduling*, UBICOMP '14 ADJUNCT, SEPTEMBER 13 - 17, 2014, SEATTLE, WA, USA
- [2] S.V. Oprea - *Electricity tariff systems for informatics system design regarding consumption optimization in smart grids*, Database Systems Journal, vol. VI, no. 3/2015, ISSN 2069 - 3230
- [3] M. Berges, A. Rowe, *Appliance Classification and Energy Management Using Multi-Modal Sensing*, BuildSys-3rd ACM Workshop on Embedded Sensing System for Energy-Efficiency in Buildings, 2011
- [4] **** - <http://switchon.vic.gov.au/get-the-best-deal/compare-offers-with-victorian-energy-compare/how-to-download-an-electricity-usage-file-from-your-provider>, available in April 2016
- [5] **** - <http://www.aemo.com.au/Electricity/Retail-and-Metering/Metering-Services/Meter-Data-File-Format>, , available in March 2016
- [6] **** - <https://data.gov.au/dataset/sample-household-electricity-time-of-use-data>, available in March 2016

Increasing the Decision Making Capacities Based on an Inference-Event Algorithm for Artificial Agents

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The aim of this paper is to present an inference-event algorithm for a Knowledge Management System based on Fuzzy Logical Events (KMSFLE), a real-time intelligent agent to meet the challenges of the dynamic environment. The main feature of our integrated shell KMSFLE is that it models and integrates the temporal relationships between the dynamic of the evolution of an external process with some fuzzy inferential methods, using a knowledge model for control, embedded within the intelligent agent operational knowledge base.

Keywords: inference-event algorithm, fuzzy control, artificial agents

1. Introduction

The objective of an artificial Knowledge Management System (KMS) is to support knowledge capturing, categorizing, storing, searching, distributing and application within organizations [2,5,10,15,17,29]. An agent-based model is a computerized simulation of a number of decision-makers (agents) and institutions, which interact through prescribed (logical inference) rules. Technical advances in processing and storage capacity, together with linking these computers into networks of distributed nodes, have greatly increased the capability of organizations to deliver goods and services [30]. Along with these capabilities we need quality, accuracy, responsiveness and capacity. Particular topics of interest on KMSs include among others: organizational knowledge management approaches, online learning environments, service oriented architecture (SOA), financial markets, cognitive reasoning systems, analysis of information, hypothesis refinement, semantic web, fuzzy evaluation, abductive models, information modeling and ontologies, intelligent software tools and services, automation and robotics, games theory [8,9,12,16,20,22,34]. There are some successful agent based models of small portions of the economy. The models of the financial market built by Blake LeBaron of Brandeis University in Waltham, Massachusetts, for example, provide a plausible explanation for bubbles and crashes, reproducing liquidity crises and crashes that never appear in equilibrium models. Rob Axtell of George Mason University in Fairfax, Virginia, has devised firm dynamics models that simulate how companies grow and decline as workers move between them. These replicate the power-law distribution of company size that one sees in real life: a very few large firms, and a vast number of very small ones with only one or two employees. The economies need agent-based modelling [33]. At any given time, each agent acts according the state of the world around it. Exploiting the growing capabilities of computers, Agent-Based Models analyze economic processes as dynamical systems of heterogeneous interacting agents. Repeated interactions among agents over time induce continuously changing microeconomic patterns, the aggregation of which generates a dynamics for the macroeconomic variable of interest. This special issue gathers contributions of leading scholars in Agent-Based and computational economics and shows the applicability of this methodology to several issues both in micro- and in macroeconomics. Agent-based Computational Economics (ACE) investigates how aggregate outcomes arise from the micro-processes of interactions among many agents.

As important contributions of this work, we have integrated some elements of control theory, fuzzy and temporal logics and discrete event systems to increase the decision making capabilities [21]. We also focused particularly on time, in its many facets (real-time, algorithmic complexity and reasoning over time), by using a time meta-equation [21]. The closed-loop of our KMSFLE starts from an initial state and allows planning a number of states to achieve a desired final state. At the end of its operation, the control expert system provides the human decider the possible actions, under specific conditions of the problem [23,26]. All references are important, because each of the mentioned authors has used a series of concepts that we have integrated in KMSFLE conception. Section 2 refers a model

of a generic architecture of a KMSFLE in a distributed control structure, section 3 presents exactly the decision making capabilities based on a fuzzy-event inference algorithm. We used logical discrete events. Section 4 undertakes the conclusions of our research.

2. KMSFLE in a distributed control structure

KMSFLE, as a control agent, is an expert system that integrates imprecise knowledge. The reasoning specific to this agent is performed by the inference engine based on fuzzy logic. This agent's architecture follows the general characteristics of any agent like in [11,31,32]. However, there are several new elements emphasized in figure 1. It is noted that planning and coordination module (PC_{io}) comprises three levels: the level of evaluation of the global situation, the meta-planning level and the level of coordination of cooperation. Its main functions are dedicated to monitoring the activity of other agents, choosing the communication protocol, analyzing whether to respond to other agents and detecting global conflicts. The major difference between the monitoring function of PC_{io} and the monitor is that the monitor supervises the activity of its own system based on fuzzy knowledge.

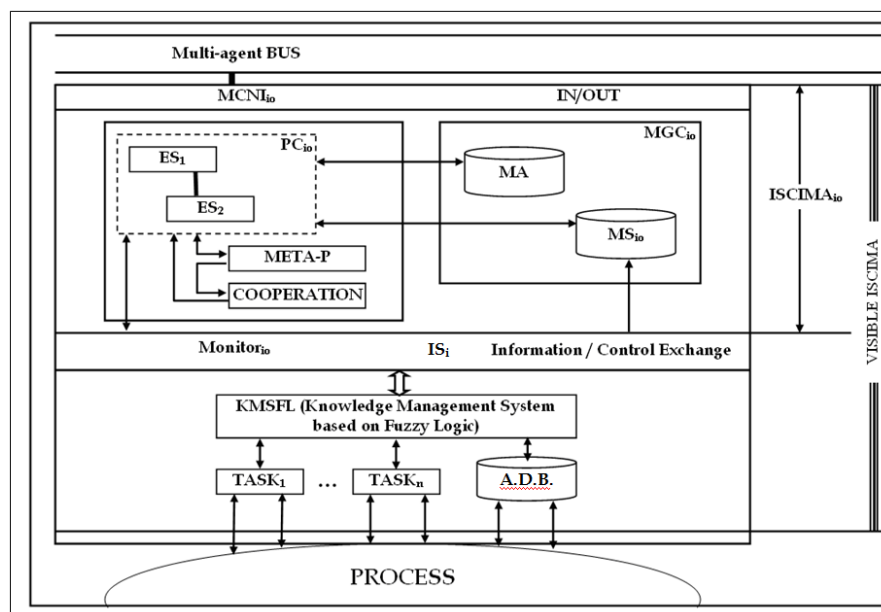


Figure 1. KMSFLE in a multi-agent structure

The monitor is the only link between the system based on imprecise knowledge and the $ISCIMA_{io}$ interface, and implicitly between the system based on imprecise knowledge and the whole multi-agent control system. Its basic role is of remote control of its own system based on fuzzy logic, meaning that the monitor will communicate through messages, because it is not a part of the Artificial Intelligent (AI) system based on imprecise knowledge. Decisions concerning the control of the intelligent control system based on fuzzy knowledge are made at the level of $Monitor_{io}$, whose main functions are: retrieving information from various sources, granting access to MS_{io} , evaluating the local situation, updating the local information, describing high-level goals, planning the decisions and actions. In order to eliminate the possible conflicts between these functions and the ones of the AI system based on imprecise knowledge, $Monitor_{io}$ invokes the low-level behaviors stored in MS_{io} .

Fuzzy logic is a generalization of bivalent logic, replacing the discreet nature of the latter with one of continuous nature. While in bivalent logic, in order to demonstrate the validity of formulas, are used methods that use up all the possibilities of evaluation according to the interpretation function, in fuzzy logic this is no longer possible. A special feature of human reasoning is the effective use of natural language, even in the logical reasoning. According to this observation, we may conclude that the mathematical model of how a man thinks during a control process and at a certain level of decision synthesis may be based on fuzzy logic combined with modal temporal attributes [1,7,14,18].

Approximate reasoning theory, as a methodology for exploiting imprecise knowledge relative to the control expert system's state (denoted $x^{CES} \in X^{CES}$ and represented in the form of possibility distributions), allows, by means of logical inferences, to obtain rigorous characterizations of the values of linguistic variables within the structure of state x^{CES} , according to the control goal [3,4,6,24]. The set

X^{CES} can be defined as a Cartesian product $X^b \times X^{int} \times X$, where $\mathbf{x}^b = [x_1^b, x_2^b, \dots, x_{k_1}^b]^t \in X^b$. For example, the component x_1^b indicates, through its values, the potential command events for the process, $x_i^b \in U^{(i)}$, $i=2, \dots, k_1$, where $U^{(i)}$ are the universes of discourse attached to linguistic variables $x^{(i)}$ (chosen to characterize the state $\mathbf{x}^{ES} \in X^b \times X^{int}$), X^{int} is the set of internal states of the inference engine and X is the set of states of the process. Thus, we can model KMSFL and the corresponding reasoning as a possibilistic expert system, that allows us to characterize a state $\mathbf{x}^{CES} \in X^{CES}$ based on imprecise information relative to the state $\mathbf{x}^{CES}$, i.e. with a subset $E \subseteq X^{CES}$, for which $\mathbf{x}^{CES} \in E$. We assume that there may be components of state $\mathbf{x}^{CES}$, defined as predicates that have firm truth values. Moreover, in this case is met the condition of membership of truth values to the interval $[0,1]$ and thus we can work only with interval $[0,1]$.

The control expert system manages knowledge specific to a state of the closed-loop system $\mathbf{x}^{CES} \in X^{CES}$, characterized at time k by $\mathbf{x}_k^{CES} = (x_k, x_k^{ES})$. The class of possibilistic expert systems [7] can encompass also temporal reasoning [6,13]. In this case, the rules base consists no longer of relationships, but of multi-dimensional possibility distributions to which are attached temporal descriptors, modeled in turn by means of possibility distributions, in order to attach the fuzzy statements to temporal features. Attaching the fuzzy temporal descriptors is specific to AI techniques, while in terms of control, this corresponds to fuzzifying the moments of time in the theory of discrete event systems.

3. Case study

For the synthesis of fuzzy knowledge control model for the flexible production system, we considered the loads as fuzzy T-numbers, expressed linguistically as "around" or "approximately", and we introduced intermediate variables in the knowledge model's structure, such as: global balance degree bd (for the whole flexible manufacturing system) with the fuzzy values *satisfactory* and *unsatisfactory*, partial balance degrees pbd_i , $i = 1, \dots, 5$ (per groups of subsystems), corresponding to certain situations unresolved in the crisp model, and fuzzy variables $d_{56}, d_{42}, d_{13}, d_{21}, d_{43}$ and d_{35} , whose values can be the fuzzy T-numbers *small*, *large* or *zero*. The currently used partial balance degrees have as imprecise characteristics the linguistic values *good* and *unsatisfactory* (*unsatisfactory* value, in this case, is similar, in fuzzy number, to the one associated with the linguistic value *unsatisfactory* of the global balance degree). It was also useful to introduce knowledge in the form of imprecise facts of type $(X1 \ X2 \ X3 \ X4 \ ?v_q)$, $(X1 \ X2 \ X4 \ ?v_q)$, $(X3 \ X4 \ X5 \ X6 \ ?v_q)$, $(X1 \ X3 \ X4 \ X5 \ X6 \ ?v_q)$, $(X2 \ X4 \ X5 \ X6 \ ?v_q)$, ensuring that the balancing is continuously accomplished, partially and gradually, and a number of *meta-rules* in which these facts are present. They will be activated chained, as (R13, R14) (R13, R15) (R16, R17) (R16, R24) (R18, R19) (R18, R25) (R20, R21) (R22, R23)) and support the synthesis of fuzzy decision. We may notice that, for this control model, we followed the stages for the synthesis of a linguistic model, in terms of knowledge acquisition process [27], and the knowledge and meta-knowledge are represented according to KMSFLE formalism.

Exploiting this model requires calculating the fuzzy unification and the partial conclusion inferred through the GMP scheme, the call of procedures in rules' consequent and of a control module, dynamically updating the priorities of the rules according to the current imprecision of all knowledge involved at some point in the decision synthesis, chaining the fuzzy meta-rules and demonstrating the global asymptotically stable behavior of the closed-loop system [19,25]. Intermediate fuzzy variables $pbd_1, pbd_2, pbd_3, pbd_4$ and pbd_5 are degrees of partial balance between groups of subsystems (1, 2, 3, 4), (1, 2, 4), (3, 4, 5, 6), (1, 3, 4, 5, 6) and (2, 4, 5, 6). These variables were used to eliminate the unbalance situations obtained in the crisp case, these being the control meta-knowledge of the expert in the field. They depend essentially on the structure of flexible manufacturing system and are actually imprecise knowledge used in decision synthesis. For each inference cycle it must calculate all the corresponding fuzzy values and generate the updated facts, thus, the current state of the control system.

The fuzzy control model has the following properties: *i*) variable pbd_1 appears in rules 14 and 15, and its value is recalculated after the pattern-matching between its current fuzzy value and the motive $(pbd_1 * b)$ by applying the GMP inference scheme. The same calculation method is applied to other partial balance degrees; *ii*) for meta-rules 14, 16, 18, 20 and 22 fuzzy unification is applied differently, requiring the calculation of the resulting fuzzy value for the variable $?v_q$ from the consequent; *iii*) variable $?v_q$, together with variables $pbd_1, pbd_2, pbd_3, pbd_4$ and pbd_5 , allow chaining the fuzzy rules while the control model is used by the KMSFL inference engine; *iv*) within the structure

of meta-rules 13-25 are present fuzzy variables $d_{56}, d_{35}, d_{13}, d_{21}, d_{43}, d_{42}$, representing the fuzzy instant differences between machine loads, referenced by the corresponding indexes, in the appropriate order. The values of these variables are fuzzy numbers $tp * ma(2 \text{ pbd}_j \ 1 \ 1), j=1 \dots 5$ and $tp * mi(0 \ 1 \ 0 \ 1)$. Fuzzy value $*b$ is generated similarly. To clarify how the fuzzy model for flexible production system is initialized and exploited, follow the *KMSFLE algorithm*, in which are also presented some functional aspects of the control intelligent system.

This algorithm associated with the inference subsystem within the KMSFL was developed in close relation with fuzzy knowledge representation formalism. In addition, we tested the knowledge model using the generator G2 (only for the crisp case) to highlight some of the advantages and limitations of the knowledge management model and of the inference engine. However, fuzzy processing is specific to the intelligent developed system, this being our major objective.

KMSFLE Algorithm

- 1) Enter the initial fuzzy loads $\mu_{x_{i_0}}$;
- 2) Calculate the expected average value $\mu_{c_0} = \frac{\sum_{i=1}^6 x_{i_0}}{6}$, the fuzzy distances $\mu_{d_{i_0}} = \mu_{x_{i_0}} - \mu_{c_0}$ and the initial balance degree $bd_0 = \max_{i=1, \dots, 6} \{\mu_{d_{i_0}}\}$;
- 3) Generate sets $*s$ (the characteristics of fuzzy sets $*s$ are checked in tests, in relation to the initial loads), $*n = tp(3 \text{ bd}_0 \ 2 \ 2)$ (d and δ are checked in tests in relation to the initial loads) and the facts $(bd *n)$ and $(bd *s)$;
- 4) Initialize $x^b = (x^{b1}, x^{b2})$ where $x^{b1} = \mathbf{0}$ and $\dim(x^{b1}) = 12$, x^{b2} contains the initial facts attached to all linguistic variables involved in the control model, such as: $((X1 ?x), (X2 ?y), (X3 ?z), (X4 ?v), (X5 ?w), (X6 ?\xi), (X1 \ X2 \ X3 \ X4 ?v_q), (X1 \ X2 \ X4 ?v_q), (X3 \ X4 \ X5 \ X6 ?v_q), (X1 \ X3 \ X4 \ X5 \ X6 ?v_q), (X2 \ X4 \ X5 \ X6 ?v_q), (X1 \ X2 \ X4 ?v_q), (X12b \ 1), (bd *n), (CFS *zero), (pbd_1 *b), (d_{56} *ma), (d_{35} *ma), (pbd_2 *b), (d_{13} *ma), (pbd_3 *b), (d_{21} *ma), (pbd_4 *b), (d_{42} *ma), (pbd_5 *b), (d_{43} *ma)$, to evaluate the effect of all fuzzy variables that appear in structure of this state component of KMSFLE. As initial fact attached to the reason $(bd *n)$, is launched the fact $(bd *v_0)$, where $*v_0$ is generated as a fuzzy set around the value of bd_0 , of the form $(constfaz *v_0(tp \ bd_0 - 1 \ bd_0 + 1 \ 2 \ 2))$. Is also initialized $x^{int} = \mathbf{0}$.
- 5) In the consequent of rules R1-R10, along with the deduction of fact $(xib \ i)$, corresponding to a procedure call, is attached the calculation of the balance degree bd with its new fuzzy value, i.e. is generated the new fact $(bd *v_k), k \geq 1$. Value $*v_k$ can filter or not $*n$ or $*s$, and properly the fuzzy values of partial balance degrees and the fuzzy distances between the physically interconnected subsystems;
- 6) If the inference engine stops on a different event than on the one corresponding to the activation and execution of rule 11, then are recalculated the fuzzy differences $\mu_{d_{i_k}} = \mu_{x_{i_k}} - \mu_{c_0}$, along with determining the subsystem ($i = 1, \dots, 6$) and the corresponding rule j ($j = 1, \dots, 25$) to be activated, to satisfy the balancing goal at the current time, by using meta-rules (R13-R25) or by launching the *control module*.

For each inference cycle must calculate all the corresponding fuzzy values, and generate the updated facts and thus the current state of the control system.

Implementation results for KMSFLE

Test A. This test aims to prove the functioning of the KMSFLE prototype for a first set of knowledge. Fuzzy values involved in testing the control model by using the corresponding inference engine are: $(constfaz *s(tp \ 0 \ 1 \ 0 \ 1))$, $(constfaz *n(tp \ 2 \ \infty \ 1 \ 1))$, $(constfaz *ma(tp \ 2 \ \infty \ 1 \ 1))$, $(constfaz *mi(tp \ 0 \ 1 \ 0 \ 1))$, $(constfaz *b(tp \ 0 \ 1 \ 0 \ 1))$, $\epsilon=1, \eta=0, \mu_{x_1} = \mu_{x_2} = \mu_{x_3} = (199.5 \ 200.5 \ 1 \ 1), \mu_{x_4} = \mu_{x_5} = \mu_{x_6} = (-0.5 \ 0.5 \ 1 \ 1)$, "around x_0 " $= (x_0 - 0.5 \ x_0 + 0.5 \ x_0 - 1.5 \ x_0 + 1.5) = "x_0"$, $x^{b1} = \mathbf{0}$.

We get the following results: the first complete execution of the inference engine implies a number of 118 inferences and the values of subsystems' loads and of the global balance degree are: $\mu_{x_1} = "101.33" = (100.83 \ 101.83 \ 0.5 \ 0.5)$, $\mu_{x_2} = "102.60" = (101.56 \ 102.56 \ 0.5 \ 0.5)$, $\mu_{x_3} = "101.33" = (100.83 \ 101.83 \ 0.5 \ 0.5)$, $\mu_{x_4} = "102.04" = (101.54 \ 102.54 \ 0.5 \ 0.5)$, $\mu_{x_5} = "100.61" = (100.11 \ 101.11 \ 0.5 \ 0.5)$, $\mu_{x_6} = "92.627" = (92.127 \ 93.127 \ 0.5 \ 0.5)$, $bd = (6.87 \ 7.87 \ 0.5 \ 0.5)$. In this case, the balance degree $bd = "7.3731"$ is an unsatisfactory value, which means that the balancing problem is not completely solved. For inferences 42, 43, 54, 55, 58, 59, 70, 71, 82, 83, 86, 87, 95, 96, 100, 101, 103, 104, 105, 106

are activated meta-rules 16, 17, 13, 14, 13, 15, 16, 17, 13, 14.13, 15, 16, 17, 16, 17, 13, 14, 13, 15 respectively, the rest of the inferences activating the basic rules R1-R10.

After resetting the inference engine with the values previously obtained, we get a total of 18 inferences, whose result is presented in Table 1 (SC=Set of Conflicts, ER=Executed rule):

No.	μ_{x1}	μ_{x2}	μ_{x3}	μ_{x4}	μ_{x5}	μ_{x6}	x_{b1}	x^{b1}	SC _k	ER	Event	bd
0	101.33	102.01	101.33	102.00	100.61	92.627	0	000000000000	7	7	e ₄₃	7.3575
1	101.33	102.01	101.67	101.67	100.61	92.627	7	000000100000	4	4	e ₃₅	7.3575
2	101.33	102.01	101.14	101.67	101.14	92.627	4	000100100000	8	8	e ₅₆	7.3575
3	101.33	102.01	101.14	101.67	96.883	96.883	8	000000110000	4	4	e ₃₅	3.1018
4	101.33	102.01	99.011	101.67	99.011	96.883	4	000100100000	2	2	e ₁₃	3.1018
5	100.17	102.01	100.17	101.67	99.011	96.883	2	010100100000	3	3	e ₂₁	3.1018
6	101.09	101.09	100.17	101.67	99.011	96.883	3	001000100000	13	13		3.1018
7	101.09	101.09	100.17	101.67	99.011	96.883	3	001000100000	13,14	14	[e ₅₆]	3.1018
8	101.09	101.09	100.17	101.67	97.947	97.947	8	000000110000	13	13		2.0378
9	101.09	101.09	100.17	101.67	97.947	97.947	8	000000110000	13,15	15	[e ₃₅]	2.0378
10	101.09	101.09	99.058	101.67	99.058	97.947	4	000100100000	2	2	e ₁₃	2.0378
11	100.07	101.09	100.07	101.67	99.058	97.947	2	010100100000	3	3	e ₂₁	2.0378
12	100.58	100.58	100.07	101.67	99.058	97.947	3	001000100000	6	6	e ₄₂	2.0378
13	100.58	101.12	100.07	101.12	99.058	97.947	6	000001000000	7	7	e ₄₃	2.0378
14	100.58	101.12	100.60	100.60	99.058	97.947	7	000000100000	4	4	e ₃₅	2.0378
15	100.58	101.12	99.829	100.60	99.829	97.947	4	000100100000	13	13		2.0378
16	100.58	101.12	99.829	100.60	99.829	97.947	4	000100100000	13,14	14	[e ₅₆]	2.0378
17	100.58	101.12	99.829	100.60	98.888	98.888	8	000000110000		0	e _{≠e₀₀}	1.1394

Table 1. Inference process results for test A

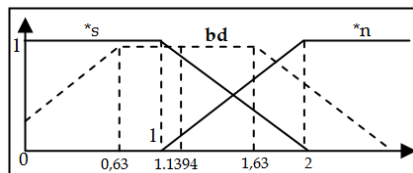


Figure 2. The fuzzy final balance degree

We notice that, at the end of inference engine execution, in accordance with the reset, the balance degree is $bd="1.1394"$, which corresponds to linguistic value *satisfactory* (figure 2) because $\Pi(*s, "bd")=1$ and $N(*s, "bd")=0.246>0$. The balance degree is satisfactory but the fuzzy differences between the final values of subsystems' loads and the expected average value are not similar (i.e. they are not all around zero). This is proved by the inference engine stop after the execution of meta-rule 14 (after which it cannot infer anything) and not of rule 11, as is conceived the control model. This is due to improper choice of the fuzzy set for the linguistic value *unsatisfactory*.

Test B. The purpose of this test is to highlight that, for other initial subsystems' loads, the control model achieves its intended objective, in terms of balance degree (which must be satisfactory at the end of the execution), and that the final loads are similar to the expected average value, given by $\mu_{\bar{x}}=(constf_{az} * \mu_{\bar{x}} (tp \ 32.83 \ 33.83 \ 1 \ 1))$, according to the similarity criteria adopted within the KMSFL. In this case $\mu_{x_1}="200"$, $\mu_{x_2}=...=\mu_{x_6}="0"$, $x^{b1}=0$, and the other fuzzy values of the knowledge model are initialized and are similar to those in the test A. After the first execution, the inference engine performs 67 inferences and the values of fuzzy loads are: $\mu_{x_1}="33.419"$, $\mu_{x_2}="34.289"$, $\mu_{x_3}="33.419"$, $\mu_{x_4}="34.961"$, $\mu_{x_5}="32.55"$, $\mu_{x_6}="31.361"$. The last rule activated is meta-rule 13, and the balance degree at this stage is $bd="1.9725"$. It is noted that the balance degree is satisfactory ($\Pi(*s, "0.967") = 1$ and $N(*s, "0.967")=0.266>0$), the fuzzy differences between the final loads and the expected average value are approximately zero, but the loads of the subsystems analyzed in pairs, according to the reasons within antecedent of rule 11, are not all similar to each other, because the execution does not end with rule

11. The observation above is based on the following calculations: for $\mu_{\bar{x}} = (32.83 \ 33.83 \ 1 \ 1)$, $\mu_{x_1} = (32.919 \ 33.919 \ 1 \ 1)$, $\mu_{x_2} = (33.789 \ 34.789 \ 1 \ 1)$, $\mu_{x_3} = (32.87 \ 33.87 \ 1 \ 1)$, $\mu_{x_4} = (33.69 \ 34.69 \ 1 \ 1)$, $\mu_{x_5} = \mu_{x_6} = (31.865 \ 32.865 \ 1 \ 1)$ we get respectively the following pairs: $\Pi(\mu_{x_1}, \mu_{\bar{x}}) = 1$, $N(\mu_{x_1}, \mu_{\bar{x}}) = 0.455$, $\Pi(\mu_{x_2}, \mu_{\bar{x}}) = 1$, $N(\mu_{x_2}, \mu_{\bar{x}}) = 0.02$, $\Pi(\mu_{x_3}, \mu_{\bar{x}}) = 1$, $N(\mu_{x_3}, \mu_{\bar{x}}) = 0.48$, $\Pi(\mu_{x_4}, \mu_{\bar{x}}) = 1$, $N(\mu_{x_4}, \mu_{\bar{x}}) = 0.07$, $\Pi(\mu_{x_5}, \mu_{\bar{x}}) = 1$, $N(\mu_{x_5}, \mu_{\bar{x}}) = 0.01$ that satisfy the condition of similarity between any of the final states of the loads and the expected average value.

Test C. This test emphasizes the *dynamic circularity* [28]. All subsystems are loaded with fuzzy values different from "0", and the characteristics of the associated fuzzy numbers are closer to the case of natural perception, i.e. have been increased the cores and the imprecision areas of fuzzy values, as follows: $*s = *b = *mi = (-1 \ 1 \ 2 \ 2)$, $*n = *ma = (3 \ \infty \ 3 \ 3)$, "around x_0 " = $(x_0 - 1 \ x_0 + 1 \ x_0 - 3 \ x_0 + 3)$, $\epsilon = 1$, $\eta = 0$, $\mu_{x_1} = (1222 \ 1224 \ 2 \ 2) = "1223"$, $\mu_{x_2} = (309 \ 311 \ 2 \ 2) = "310"$, $\mu_{x_3} = (444 \ 446 \ 2 \ 2) = "445"$, $\mu_{x_5} = (37 \ 39 \ 2 \ 2) = "38"$, $\mu_{x_6} = (741 \ 743 \ 2 \ 2) = "742"$, $x^{b1} = 0$. We may notice the intensive use of meta-rules in the second part of the execution and the correct ending of the balancing problem, in terms of final state. The expected average fuzzy value is $\mu_{\bar{x}} = "610.8(3)"$. After the first execution of the inference engine of KMSFLE, starting from inference 39, the system goes in a cyclical operation (dynamic circularity), since all inferences starting from inference 40 do not change the KMSFLE state so that to achieve the intended objective correctly. This is justified by the value of $bd = "3.7213"$, with $\Pi(*n, "3.7213") = 1$ and $N(*n, "3.7213") = 0.54426$. In this example is not activated the control module from rule 12 consequent, whose purpose is to eliminate the cycles from inference engine operation. To solve this problem, which is not allowed in the operation of an expert system, in the next we will highlight the behavior of inference engine when activating the control module. Solving the above listed deficiencies is founded on resetting the inference engine operation, based on user inputs UI, in order to achieve the goal. Reset is done by positioning the vector $x^{b1} = 0$, the subsystems' loads and the other fuzzy values being equal to the last values previously used. After the reset, are used the meta-rules from the structure of knowledge management model to achieve the goal state. We get the following final fuzzy values of subsystems' loads: $\mu_{x_1} = (609.87 \ 611.87 \ 2 \ 2)$, $\mu_{x_2} = (611.76 \ 613.76 \ 2 \ 2)$, $\mu_{x_3} = (609.34 \ 611.34 \ 2 \ 2)$, $\mu_{x_4} = (611.71 \ 613.71 \ 2 \ 2)$, $\mu_{x_5} = \mu_{x_6} = (608.16 \ 610.16 \ 2 \ 2)$. The final balance degree is satisfactory because $\Pi((-1 \ 1 \ 2 \ 2), (0.9311 \ 2.9311 \ 2 \ 2)) = 1$ and $N((-1 \ 1 \ 2 \ 2), (0.9311 \ 2.9311 \ 2 \ 2)) = 0.017225 > 0$. Final loads above are similar to each other because: $\Pi(\mu_{x_1}, \mu_{x_2}) = 1$, $N(\mu_{x_1}, \mu_{x_2}) = 0.275 > 0$, $\theta(\mu_{x_1}, \mu_{x_2}) = 0.945$, $K(\mu_{x_1}, \mu_{x_2}) = 0.055$, $\Pi(\mu_{x_1}, \mu_{x_3}) = 1$, $N(\mu_{x_1}, \mu_{x_3}) = 0.367 > 0$, $\theta(\mu_{x_1}, \mu_{x_3}) = 0.265$, $K(\mu_{x_1}, \mu_{x_3}) = 0.75$, $\Pi(\mu_{x_1}, \mu_{x_4}) = 1$, $N(\mu_{x_1}, \mu_{x_4}) = 0.04 > 0$, $\theta(\mu_{x_1}, \mu_{x_4}) = 0.92$, $K(\mu_{x_1}, \mu_{x_4}) = 0.145$, $\Pi(\mu_{x_1}, \mu_{x_5}) = \Pi(\mu_{x_1}, \mu_{x_6}) = 1$, $N(\mu_{x_1}, \mu_{x_5}) = N(\mu_{x_1}, \mu_{x_6}) = 0.725 > 0$, $\theta(\mu_{x_1}, \mu_{x_5}) = \theta(\mu_{x_1}, \mu_{x_6}) = 0.855$, $K(\mu_{x_1}, \mu_{x_5}) = K(\mu_{x_1}, \mu_{x_6}) = 0.145$.

It is noted that all criteria regarding the correct stop off the inference engine are met, thus obtaining the solution, whose value must be calculated through unification according to rule 11 antecedent. Thus, is revealed the inference engine behavior in order to avoid dynamic circularity presented in this example. The KMSFLE can effectively predict a number of states that characterize the process, for a finite time horizon, as a result of its own inferences and of its knowledge management model.

4. Conclusions and future work

The importance of this paper consists of demonstrating the possibility of employing an expert KMS in problems of process control and planning, using imprecise knowledge. It was necessary to continuously adapt known models (e.g. theory of possibilities, discrete event systems) to synthesize a control structure based on fuzzy knowledge. We also tried to conceptually develop a multi-agent real control structure, which is a solution to meet a series of demands on the complexity of the control process. Such systems, especially those based on communication between agents by sharing memory, bring up features well suited for real-time applications, such as: integration of heterogeneous agents, interaction between activities of acquisition, reasoning and action on the external environment, fusion of data coming from sensors of different nature and operation, flexibility and efficiency in the integration of new data needed for reasoning, by simply writing them in the common memory. Real-time applications require the cooperation of elaborate reasoning processes. The essential point in integrating the cognitive/reactive aspects is the modeling of the relations between the process evolution and certain inferential methods, to allow the closed-loop system to achieve a range of required performances. Temporal aspects are an important dimension of any KMS embedded in the new semantic technologies. There is a distinction between real-time reasoning and reasoning over

time, the latter being a feature of the knowledge-based systems. For this reason, it was absolutely necessary to explain the significance of time in the design and implementation of KMSFLE, emphasizing its implications in the specific case of the developed application. Following the tests presented and the knowledge representation and exploitation structures within KMSFLE, we may outline the following conclusions:

i) the formalism chosen for knowledge representation is strong enough to support the representation of some types of knowledge underlying the synthesis of control decisions. It has the advantage of factorizing the knowledge, which substantially reduced the size of fuzzy rules base [9]. Also, this knowledge representation method is more appropriate to express some types of knowledge similar to those commonly used in the decision synthesis through natural language;

ii) the knowledge fuzzy model for the problem presented was developed incrementally, as was embedded in the model sufficient domain knowledge, resulting from the limitations observed in the crisp case. Is it possible to constantly adapt the fuzzy model through hard simulations;

iii) an inferential subsystem based on fuzzy logic solves the control situations correctly, both from the computational point of view and in terms of the semantics of the conclusions inferred through the chosen inference scheme;

iv) modelling the process and the expert system as systems with logical events allowed the qualitative analysis of KMSFLE;

v) the control module integrated into the inferential subsystem automatically adapts the problem-solving process, being equivalent to closed-loop system input, denoted UI (user input). In this way, through the control meta-rule 12, we can simulate practically the activation of the relation between output Hypotheses/Conclusions and user inputs. This component is not activated in every case (initial loads). This justifies a major feature of the designed control expert system: its ability to correctly solve the problem, under the conditions specified for each case;

vi) The case when $c_k \in \mathbf{N}^+$ is not a particular case for $\mu_{ck} \in \mathbf{R}^+$ due to certain restrictions on the events trajectories and to system's lack of flexibility in achieving the balance, thus leading to partial balance. For the discrete case, there is a tolerated unbalance value, denoted ψ and for which $|x_i - x_j| \leq \psi$, which defines the invariant set. For the fuzzy case, is achieved a good balancing solution, regardless of the initial subsystems' loads. In this case the system is broadly asymptotically stable relative to event trajectories.

We also summarize possible further development, which inherently can be obtained starting from KMSFLE: identifying stronger planning characteristics, the logical specification of the real-time systems so that to describe how the statements change their truth values, depending on time or in order to meet some strong real-time restrictions, knowledge acquisition, as well as the correct choice of the inference operators that lead to consistent results with regard to the well-defined knowledge semantics, integrating a control expert system like the one developed (agent) into a multi-agent system structure, identifying real problems in different application areas that can be solved using the expert system developed.

References

1. Barachini, F. (1990), *Match-Time Predictability in Real-Time Production Systems*, *Lecture Notes in Artificial Intelligence*, n° 462, *Expert Systems in Engineering, Principles and Applications*, International Workshop, Viena, Austria, September, 1990, *Proceedings*, Springer-Verlag, p. 190-203, ISBN 3-540-53104-1
2. Binney, D. (2001), *The knowledge management spectrum – understanding the KM landscape*, *Journal of Knowledge Management*, 5, 1, 33-42
3. Bobrowitz, O. (1993), *La représentation et l'utilisation des connaissances imprécises pour l'aide à la conduite des procédés*, *Thèse en Automatique et Informatique*, Franche-Comté, 1991
4. Chen, H.P.; Parng, T.M. (1996), *A new approach of multi-stage fuzzy logic inference*, *Fuzzy Sets and Systems*, Vol. 78, n° 1, feb. 26, 1996, p. 51-72
5. Davis, M. (2006), *Semantic Wave 2006, Part-1: Executive Guide to Billion Dollar Markets*, *A Project10X Special Report*
6. Dubois, D.; Lang, J.; Prade, H. (1991), *Fuzzy sets in aproximate reasoning - Part 2: Logical approaches*, *Fuzzy Sets and Systems*, n° 40, 1991, p. 203-244
7. Dubois, D.; Prade, H. (1992), *Fuzzy rules in knowledge-based systems*, *An introduction to fuzzy logic applications in intelligent systems* (edited by R. Yager, L. A. Zadeh), Kluwer Academic Publishers, p. 45-68
8. Durán, O.; Aguilo, J. (2008), *Computer-aided machine-tool selection based on a Fuzzy-AHP approach*, *Expert Systems with Applications*, Volume 34, Issue 3, p. 1787-1794, 2008, www.elsevier.com
9. Ghallab, M. (1988), *Compilation de bases de connaissances*, *PRC GRECO IA, Actes des Journées Nationales*, p. 231-253

10. Iqbal, A.; He, N.; Ullah Dar, N.; Li, L. (2007), Comparison of fuzzy expert system based strategies of offline and online estimation of flank wear in hard milling process, *Expert Systems with Applications*, Volume 33, Issue 1, p. 61-66, www.elsevier.com
11. Jennings, N. R. and Wittig, T. (1992) ARCHON: Theory and Practice. In: *Distributed Artificial Intelligence: Theory and Praxis*. Kluwer Academic Press, pp.179 - 195
12. Kim, YG.; Yu, SH.; Lee, J.H. (2003), Knowledge strategy planning: methodology and case, *Expert Systems with Applications*, Volume 24, Issue 3, 1 April 2003, p. 295-307, 2003, www.elsevier.com
13. Kingston, J. (2001), High Performance Knowledge Bases: four approaches to knowledge acquisition, representation and reasoning for workaround planning, *Expert Systems with Applications*, Volume 21, Issue 4, p. 181-190, 2001, www.elsevier.com
14. Knight, J.F.; Passino, K.M. (1987), Decidability for temporal logic in control theory, *Proceedings of the 25th Allerton Conference on Communication, Control and Computing*, University of Illinois at Urbana-Champaign, p. 335-344
15. Lassaigne, R.; Rougemont, M. (1996), *Logique et complexité*, Hermes, Paris, 1996
16. Lau, H.C.W.; Cheng, E.N.M.; Lee, C.K.M.; Ho, G.T.S. (2008), A fuzzy logic approach to forecast energy consumption change in a manufacturing system, *Expert Systems with Applications*, Volume 34, Issue 3, April 2008, p. 1813-1824, 2008, www.elsevier.com
17. Lin, C.J.; Wu, W.W. (2008), A causal analytical method for group decision-making under fuzzy environment, *Expert Systems with Applications*, Volume 34, Issue 1, p. 205-213, 2008, www.elsevier.com
18. Luger, G.F.; Stubblefield, W.A. (1993), *Artificial Intelligence, Structures and Strategies for Complex Problem Solving*, Second Edition, The Benjamin/Cummings Publishing Company, Inc., ISBN 0-8053-4780-1
19. Lunardhi, A.D.; Passino, K.M. (1995), Verification of qualitative properties of rule-based expert systems, in *Applied Artificial Intelligence*, p. 587-621
20. Marco A.C. Pacheco, Marley M.B.R. Vellasco (2009), *Intelligent Systems in Oil Field Development under Uncertainty*, *Studies in Computational Intelligence* 183, Springer
21. Mazilescu, V. (2011), *An Intelligent System for a Resource Allocation Problem based on Fuzzy Reasoning*, *Computer Technology and Application*, David Publishing Company, *From Knowledge to Wisdom*, ISSN 1934-7332, p. 247-255
22. Müller, J.P. (1996), *The design of intelligent agents: a layered approach*, *Lecture Notes in Artificial Intelligence* (Subseries of Lecture Notes in Computer Science), n° 1177, ISBN 3-540-62003-6
23. Nebel, B.; Bäckström, C. (1994), On the computational complexity of temporal projection, planning and plan validation, *Artificial Intelligence* 66, p. 125-160
24. Omar, L.O. (2008), Java Fuzzy Kit (JFK): A shell to build fuzzy inference systems according to the generalized principle of extension, *Expert Systems with Applications*, Volume 34, Issue 1, p. 796-804, 2008, www.elsevier.com
25. Ponnurangam, D.; Uma, G.V. (2005), Fuzzy complexity assessment model for resource negotiation and allocation in agent-based software testing framework, *Expert Systems with Applications*, Volume 29, Issue 1, p. 105-119, 2005, www.elsevier.com
26. Qian, D. (1992), Representation and use of imprecise temporal knowledge in dynamic systems, *Fuzzy Sets and Systems*, Vol. 50, n° 1, Aug. 25, p. 59-77
27. Schwartz, D.G. (2006), *Encyclopedia of Knowledge Management*, Idea Group Inc., ISBN 1-59140-573-4 (hc)
28. Stankovic, J.A.; Ramamritham, K. (1995), What is Predictability for Real-Time Systems?, *Advances in Real-Time Systems*, IEEE Computer Society Press, p.26-33, ISBN 0-8186-3792-7
29. Tsui, E. (2002), The role of Artificial Intelligence in Knowledge Management, *Knowledge-Based Systems*, 13, 5, October, 235-239, URL= <http://www.aifb.uni-karlsruhe.de/~sst/Research/Publications/kbs-editorial-note2000.pdf>
30. Wenger, E. (2001), *Supporting communities of practice: a survey of community-oriented technologies*, 2001, URL=<http://www.ewenger.com/tech/index.htm>
31. <http://www.cs.ox.ac.uk/people/michael.wooldridge/pubs/mas99.pdf>
32. <https://formal.iti.kit.edu/~beckert/teaching/KI-fuer-IM-WS0405/03IntelligentAgents.pdf>
33. <http://tuvalu.santafe.edu/~jdf/papers/EconomyNeeds.pdf> (The economy needs agent-based modelling, Vol. 460/6 August 2009, Nature)
34. (e-book), edited by Kazumi Nakamatsu, Lakhmi C. Jain, (2013), *The Handbook on Reasoning-based Intelligent Systems*, World Scientific, ISBN 978-981-4329-47-7, Singapore

SECTION MANAGEMENT – MARKETING

Causes of Resistance to Change. What Managers Should Do?

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Change is considered, in more and more cases, an inevitable process and the development of an organization largely depends on how it reacts and adapts to transformations occurring. Change has both positive and negative aspects, it implies experiment and creation of something new and different, but it also means destruction of familiar facts and relationships. The implementation failure rate of organizational change remains high and one of the most common causes of this is considered to be the resistance to change. Although the resistance to change is considered a natural reaction, it is necessary to understand the causes and identify the measures for its reduction. Using content analysis of representative works, as a research method, we identified a number of factors that cause resistance to change and methods than can be used to decrease it, in order to successful implement the organizational change.

Keywords: organizational change, resistance to change, causes of resistance to change, methods to reduce resistance to change

JEL Classification: M10

1. Introduction

G. Hamel (2012: 135) believes that "in our generation the rhythm of change has dramatically increased and the change has been modified." We can say that every century was marked by various major events but until now there have never been so many fast changes and with significant effects.

The development of an organization involves the constant change and requires an increased capacity to adapt to the environmental conditions of an economic, social and political environment that is more and more dynamic.

In the current context, the change means both threat and opportunity; therefore it is very important how organizational members perceive it.

Change in an organization can target strategy, vision, structure, policies, budget, products-services, suppliers and clients, costs and prices, resources and technologies etc.

All these elements determine competitiveness and organizational performance, being influenced by the external environment and the internal organization.

M. Armstrong (2007) said "change is the only constant process that exists in companies. An efficient company is the one undertaking deliberate steps towards a smooth management of change."

If the organization does not accept change as an efficient and necessary process, it will no longer be competitive, it will not be able to meet the changing requirements of the market and it will gradually lose customers.

Change is a process that produces a higher or lower degree resistance and was associated with a risk that needs to be assumed by all members of the organization.

J. Kotter (2008: 13) considered that "there is nothing harder to bring to completion, with little chances of success and more dangerous to control, as the initiation of a new order of things."

The development of an organization involves constant change and requires an increased capacity to adapt to the environmental conditions of a more dynamic economic, social and political environment. Change means different things, depending on the position of the person who defines it. For some people, it may mean keeping or losing their jobs, while for an executive director it may mean increasing profits, reducing costs, and save the business. (M. Jarrett, 2011: 13)

The organization is a living organism that responds to these forces and in a slower or faster process of change.

2. People's reaction to change

R. Bruksos (2010: 26) considered in one of his papers that "an important part of understanding change is that you should always see the full half of the glass". This requires courage, discipline and self-knowledge.

Change is a process that produces a grade higher or lower resistance and which is assigned a risk to be assumed by all members.

In the process of organizational change, we believe that special attention must be given to people, to all members of the organization because their reaction towards change is the factor that can make the difference between the failure and the success of change.

According to J. Kotter's opinion (2008), in the most successful change initiatives, people pass through a series of stages in which they:

1. create a state of necessity;
2. form a strong team to guide the process;
3. create an appropriate vision;
4. communicate that vision to a large number of people;
5. empower its employees to act in the virtue of that vision;
6. obtain sufficient results in the short term to confer credibility to initiatives and weaken criticism;
7. create the necessary momentum and use it to address the main problems raised by the change;
8. incorporate new behavior in the organization's culture.

The most important question to be answered by any organization concerned with the competitiveness and sustainable development is "do we change ourselves at the same rhythm with the world around us?"

R. Brucksos (2010) presents three ways in which people relate to change:

1. Some of them barely hold. There are always unbalanced, they oppose it, complain and blame others. They are **victims of change**.

2. Others give life back to normal after a while and go back where they were before the change. They advance slowly but continue to move forward. They are those who remain **neutral in front of change**.

3. There are also those who use change to enhance the experience. They learn, grow and reach their goals because, for them, the change is an opportunity. They are **masters of change**.

J. Kotter and D. Cohen (2008) consider that "the main problem encountered in the organizational transformation is changing people's behaviour."

The persons involved in the process of change can be in one of the following categories:

- **The opponents** to change have an overall negative attitude towards change and negative behaviour towards particular personal change.
- **The promoters** have a generally positive attitude towards change and are also positive towards the particular subject of change based on themselves. They take advantage of change and so they will support it.
- **The hidden opponents** have a generally negative attitude towards change although they seem to support change at a superficial level ("opportunists"). In this case the management of perceptions and beliefs improved with information is necessary to change the attitude.
- **The potential promoters** generically have a positive attitude towards change, at the same time they are not convinced (yet) about the subject of the respective change. Influence management may be appropriate in this case.

In many cases, the companies that have enjoyed positive results in the past continuously try to apply "the previous formula of success". The situation seems much quieter and is more easily controlled when they preserve the routine, the familiar methods and they maintain the existing status quo.

3. Resistance to change of organizational members

The belief that people dislike change fundamentally, that their first reaction is to oppose and to do everything possible to avoid it is widespread. Most times we face situations in which changes are rejected by people, their implementation leads to conflicts, the results are opposite to those expected and we believe that this can be avoided by organizational diagnosis of the attitude towards change.

The fact that a change is recommended or even mandatory does not mean that employees will accept it. In fact, even the company's key people may (directly or not) resist change. They may simply prefer the existing situation in which they feel more comfortable.

Resistance to change is a natural reaction and is not as unreasonable as many managers consider. Change is felt by employees with their whole being, at brain, emotional and instinctual level. (L. Clarke, 2002: 78)

Many people are reluctant to change consciously, emotionally or instinctively, they are extremely sensitive to the confrontation with the unknown and the threat that they predict may sometimes be real. Resistance to change is a reality in all organizations and groups where there are changes of a smaller or larger size. Resistance to change is perceived by most people as an element meant to cause disruption and additional consumption of organizational resources to implement the change according to the established coordinates.

Resistance to change is present at least at some level both from individuals and from the organization.

The causes of resistance to change are numerous, being the subject of research of many scholars in their efforts to find the best solutions to implement the change in the organizational context.

The literature identified three major types of resistance to change according to the causes that generate them:

1. **Cognitive resistance to change** - occurs when change is not well explained, his subjects not understanding the need for change, the purpose or the consequences of change for each of them as individuals or for the professional groups to which they belong.

2. **Emotional resistance to change** - occurs when the participants to change have formed an emotional attachment to certain things that will be affected by the changes that will occur. Another situation in which this type of resistance to change occurs is when participants feel that it is too deep, too radical, too high and the fear of change exceeds a certain level and generates a sense of insecurity within the participants to change.

3. **Personal resistance to change** - occurs in the situations where participants do not trust the agents of change. It is possible that people do not have a problem with the change itself but they have a problem with the person that manages the plan of change. This attitude may be the result of widespread mistrust in the management of that organization; it can be caused by negative experiences with that person or simply for personal reasons. This latter type of resistance to change is the most difficult to overcome and control.

Causes that determine people's resistance to change (M. Armstrong, 2007)

- the shock of the new (people do not want to lose the safety of something that is familiar, they are suspicious of anything that can change procedures, the existing working methods or conditions of employment);

- economic fears (loss of fixed salary, job threat);

- uncertainty (because the effects are not definitely known, the change provides uncertainty)

- fears at symbolic level (a small change affecting a cherished symbol of someone can be perceived as a much greater change, especially when employees do not know how comprehensive is the agenda for change);

- threat of interpersonal relations (any intervention in the social area and the impairment of habitual social relationships will implicitly lead to the manifestation of resistance);

- threat of the status or qualification (moving to a lower level)

- fears about competence (employees express concerns over the ability to meet new requirements or acquire new skills).

The positive aspects displayed by people in most cases are: excitement, challenge, new skills and knowledge, opportunity, rewarding, motivating, relevant experience. Most often, the negative aspects are apparent and can be easily seen. These may include fear, anger, distrust, confusion, stress, lack of motivation, loss of sense of belonging to the group, inattention, insecurity, conflict, loss of self-esteem.

Blockages at the individual level are represented by: personal attitudes, education and living environment, financial reasons, routine, fear of change, the need for security, selective perceptions, distrust in management, altered social life, loss of freedom, diminishing status, low tolerance to change and extra effort.

Resistance to change was eloquently presented by the specialists of the consulting company named PROSCI, who created a model based on the behaviour of the employees affected by organizational changes. (fig.1)

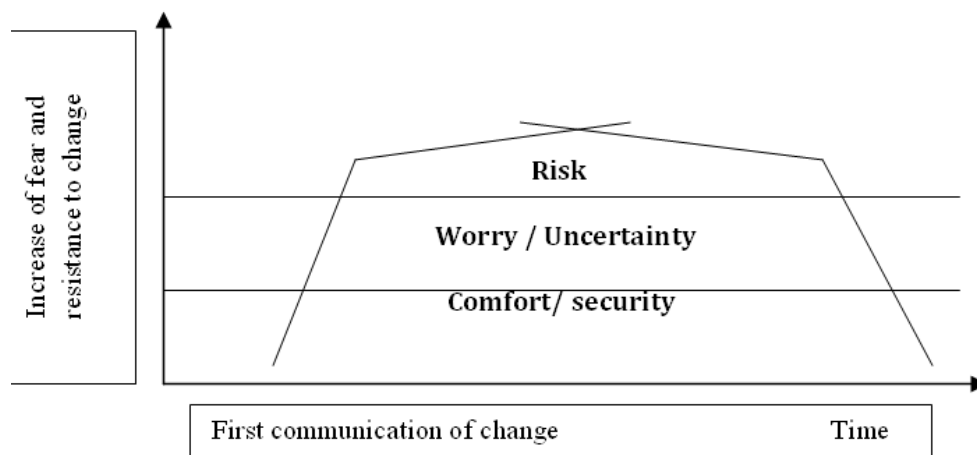


Figure no. 1. **Model of resistance to change (Prosci)**

Source: adaptation after www.prosci.com

The model comprises three zones (regions), each of which is defining the employees' behaviour.

In **the first zone**, characterized by **comfort and safety**, employees feel safe in their working condition and environment. This is the region of optimal productivity and it corresponds to a normal working behavior.

In **the second zone**, characterized by **concern/uncertainty**, the employees are afraid of the changes taking place in the workplace. In this region, the employees' focus on the activities they have fulfilled decreases, which negatively affects the persons around them. Also, the employees' morale might decrease and their passive resistance to change is visible, even measurable, by cutting productivity.

In **the third zone**, characterized by **risk**, the active resistance to change is visible in the case of some employees; some of them even leave the company. In this context, the impact on customers is significant and measurable and change itself becomes a risk.

Psychologists consider that individual resistance is fed by habits and behaviors of dependence on the values and structures already established, by feelings of insecurity and uncertainty, while organizational resistance is based on the inherence of routines (inertia that reinforces their perception of effectiveness), fear of losing power and influence, reduced resources and fixed investment. Moreover, also at the organizational level, we meet hermetic cultural phenomenon that creates barriers that prevent organizations with the outside and absorption of new elements.

Many times, however, resistance to change can represent a factor contributing to the success of change by forcing the change artisans to focus more on the elements involved in organizational change.

4. Managerial solutions to reduce resistance to change

Understanding how to minimize resistance to change can be very beneficial to all the members of the organization.

When faced with resistance to change, managers need to exert their influence on all those involved in order to achieve the implementation of necessary changes. They must know how to convince people that change is necessary and appropriate that that is the right time to implement it and to explain the effects of transformation of the organization.

The activity of a manager means 60% finding the right solutions, while their implementation represents 40%. (Michael Armstrong, 2007, p.104). Managers spend much time persuading others to accept their ideas and suggestions and must frequently argue in favor of what must be done.

The persons who propose changes in the organization must have a clear idea of what they want and believe in order to be able to persuade others to accept the recommendations.

In order to reduce resistance to change, Michael Armstrong (2007), in his paper "How to be a better manager", proposes ten rules for effective persuasion:

1. *Defining the problem.* Managers must determine whether the problem is a misunderstanding (the failure of mutual correct understanding) or a real disagreement (failure of agreement, even if both sides understand each other). Resolving a real disagreement is not necessarily possible through a better mutual understanding. In general, people think that a disagreement is a battle to determine who is right.

2. *Defining the object and presenting the facts.* It is absolutely necessary to know what needs to be achieved and why. Managers must "assemble" all the facts they need to support his case. The proposal should be judged only on the basis of facts, without any emotional arguments involved.

3. *Knowing the views of the other party.* The key of any belief is to see a proposal from the other person's point of view, to know what he needs and what he wants.

4. *Insisting on benefits.* The presentation of organizational changes must focus on the benefits that they will produce for reluctant people and diminish their objections or concerns.

5. *Anticipating the other person's response.* Managers should ask themselves how others might react negatively to the proposed change and to think about ways they might respond.

6. *Determining the next action of the person that resists change.* This is not what managers want to do but what they want others to do.

7. *Convincing people making reference to their own perceptions.* The attitude of people towards change is influenced by personal perceptions, not by managers.

8. *Preparing a simple and attractive proposal.* Managers should be as direct as possible to divide the problem into fragments approachable to be handled at a time.

9. *Involving other persons in their managers' ideas.* People must be determined to offer their contribution by finding a common ground that allows managers to begin an agreement. Trying to defeat those who are not convinced of the role and importance of change in a dispute will lead them to become refractory.

10. *Concluding the exposure and the opportune operation.* Discussions should not be prolonged too much, managers must choose the right time to complete the proposal.

To reduce resistance to change, managers must pay attention to the way employees understand their new roles and to encourage the expression of opinions of those involved and affected by the change, so that they accept and support change.

Prosci's five tips for managing resistance to change are:

1. Do change management right the first time - effective change management can eliminate many of causes of resistance before it occurs;

2. Expect it - do not be surprised by resistance, expect it and plan for it;

3. Address it formally - incorporate resistance management planning in all phases of your change management strategy and plan development;

4. Identify the root causes - make sure that you aren't simply responding to the symptom, but really addressing what is causing the resistance;

5. Engage the "right" resistance managers - senior leaders, managers and supervisors are the "right" people in the organization to manage resistance.

Anticipating, identifying and even accepting the reactions of resistance to change, managers can transform this "negative energy" into a "positive" one needed for change.

4. Coaching for change – a possible solution to reduce resistance to change

Coaching has been identified as a key tool for executive development and has been cited as a significant way to produce both performance improvement and cultural change.

Organizations that are engaged in a process of change and who want to achieve a real improvement in performance should adopt a management style based on coaching. (Whitmore J., 2011: 42)

Coaching gained interest as an effective action on change and development, whose results depend on coachee's participation and involvement in the process. (Rațiu L, Băban A., 2012)

For having best result of coaching for change, there should be involved proactive individuals who are open to change and wish to cooperate.

The essence of coaching for change is to highlight and increase awareness and responsibility. Coaching can be an effective way of reducing resistance to change, providing flexibility to increase capacity to adapt to change throughout the organization

The role of coach in reducing resistance to change process is to create the employees' feeling of "we **want** to change" instead of "we **have to** change".

Bennett L. J. and Wayne Bush M. (2013: 262) consider peer coaching to be appropriate for successfully implementation of organizational change. "Peer coaching can be ideal as a support to change, since the peers are from the same organizational setting or environment and are aware of the contextual challenges and opportunities

In specialists' opinion, "the key to high-impact coaching is asking powerful questions about the appropriate roles at the appropriate phases of the change process. (Bennett L. J., Wayne Bush M., 2011: 120). Therefore, it is very important that the coach understands the roles that contribute to the change process.

Conclusions

Change is a continuous process; many changes take place without organizations to interfere. Changes can generate sometimes just a slight adjustment from a functional and structural point of view or, on the contrary, may lead to a major redesign of the organization. Change can bring both improvements and deterioration in the performance of the organization, which is why the adequate moment to initiate change is one of the most important steps in any model of change and one of the biggest responsibilities of managers. For a change to produce positive effects, it should be consistent and lasting, and the biggest challenge when initiating or leading change, both at organizational and individual level is related to changing mentalities and paradigms in thinking. We consider very important in the process of change to review strategies, train and motivate human resources to accept and promote change, communication and expertise in the design, implementation and evaluation of changes.

Every change involves the activation of factors and going through some stages. To adapt to the new situation, the members of an organization need its integration, going over sadness, anger, fear and reaching acceptance. Managers can increase the success rate in an effort of organizational change by understanding the phenomenon of resistance to change, then applying the methods, the techniques and the tools to reduce this phenomenon and to overcome the resistance of employees, both at individual level and the resistance to group or to the organization as a whole. Coaching is a common practice for change and human development but also an organizational development tool.

References

1. Armstrong Michael, (2007), *Cum să fii un manager și mai bun*, Ediția a VI-a, Editura Meteor Press, București
2. Bennett L. John, Wayne Bush Mary, (2011), *High-Impact Coaching for Organizational Change*, *International Journal of Coaching in Organizations*, 2011 Issue 32, 8(4)
3. Bennett L. John, Wayne Bush Mary, (2013), *Coaching for Change*, Routledge
4. Bruksos Ralph, (2010), *Schimbarea ca oportunitate*, Editura Curtea veche, București
5. Hamel Gary, (2012), *Ce contează acum. Cum să câștigăm într-o lume a schimbărilor implacabile, a competiției feroce și a inovației de nestăvilit*, Editura Publica, București
6. Jarrett Michael, (2011), *Gata de schimbare – de ce unele companii se pot transforma cu succes iar altele nu*, Editura Publica, București
7. Kotter John, (2008), *Ce fac liderii cu adevărat*, Editura Meteor Press, București
8. Kotter John; Cohen Dan, (2008), *Inima schimbării – povestiri adevărate despre felul în care oamenii își transformă organizațiile*, Editura Meteor Press, București
9. Rațiu Lucia, Băban Adriana, (2012), *Executive Coaching as a Change Process: An Analysis of the Readiness for Coaching*, <https://www.questia.com/read/1P3-2631162841/executive-coaching-as-a-change-process-an-analysis>
10. Whitmore John, (2011), *Coaching pentru performanță*, Editura Publica, București
11. www.prosci.com

Model Analysis on Consumption and Tourist Demand in Galati

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Based on national income distribution scheme and the individual income coming to citizens after tax deduction, Swiss Professor K. Krapf is trying to define the place of the tourism consumption within total consumption. This paper presents a research based on a semi-structured interview and a questionnaire. The purpose of this research is to highlight the degree to which respondents are aware of motivation influence on tourist consumption. In order to determine this influence, we can create a model with a number of controllable variables with beneficial effects for society.

Keywords: tourism consumption, motivation, tourist demand.

1. Introduction

The research of tourist motivation covers qualitative research that is aimed to explore the hidden subconscious motivations of the consumer of tourism products, most of the times consumers do not know or cannot respond by acting in a certain way.

At the basis of all human action stands, therefore, motivation [Iverson, K. M., 1990]. The study conducted on the motivation of the tourism market in Galati can be considered a means to research the relationships between current and future tourism offer and dominant or potential factors of the tourist consumption. Motivational factors of tourism demand are known [Lane, H.E., Van Hartesvelt, M., 1989]:

- social motivations
 - a need to escape from the routine;
 - a need to change the ordinary human framework and get to know new people;
 - cultural aspiration;
 - a need to contract and know other civilizations;
 - a need to see and establish personal contact with the realities described by others.
- family reasons
 - the need of family life retrieval affected by everyday routine;
 - the need to participate more actively in children's training and education;
 - seeking relaxation of a family group when it becomes constructive.
- Personal motivations
 - the need contact with nature;
 - the need to escape the pressures (collective, professional, social, etc.);
 - the need for knowledge and the pursuit of personal fulfillment (through culture, through contact with other civilizations through artistic activities);
 - the need to escape the everyday character (eg allowing expenses that exceed normal amount);
 - the need to allow some freedom (for example in the clothing, meal times etc.)
 - the biological need of maintaining health and physical movement;
 - the need to restore mental health;
 - the need to escape from daily responsibilities etc.

Employing motivational factors in the three previous groups - social motivations, family and private - must not create the impression that some of the motivations presented would lose their personal character individually.

Grouping the three categories highlights the nature of their provenance, but it does not affect at all individual character, personal motivation. As such, travel motivations, like all other motivations

should always be considered in an indissoluble bond with the individual, as an attribute and a product thereof.

2. Current state of research

Tourist consumption represents the concrete manifestation of tourism demand and the way in which tourism product is actually purchased and consumed by tourists [Lattin, G. W., 1977].

Starting from the scheme of national income and individual income incumbent members of society after tax deduction, Swiss Professor K. Krapf is trying to define the place of the tourist consumption within total consumption [Krapf, K., Hunziker, W. 1942].

Such individual income will primarily cover expenses related to the coverage of vital needs (consumption required), which cannot be reduced arbitrarily. The remaining revenues are revenues "free available" in which a series of consumptions are subsidized satisfy requirements related to the living standards of provisioning and free consumption. Free consumption includes free tourist consumption and other types of consumption.

Following the growth rate of tourism consumption of a family, whose income comes from wages, K. Krapf noted that this rate depends on the actual costs required for consumption, which absorbs a relatively steady income.

The lower the share of personal income for consumption required, the higher the income freely-available will be and, consequently, the respective family will have the most important resources to subsidize the financial needs required by holiday and leisure.

As global individual income increases, the percent of the income dedicated to satisfying its vital subsistence needs decreases progressively. Thus tourist consumption rate increases more than the income elasticity with above par.

Another determinant that requires mentioning is that the intensity of travel motivations is not the same for all individuals; it varies depending on a number of variables related both to bio-physiological considerations and a range of environmental and economic conditions [Mill, R. C., Morrison, A. M., 1985].

One of the variables is, for example, the social-economic categories, another may be the living environment (urban or rural) and age etc., all exerting an influence on the intensity of motivation.

While a hierarchy of the role played by different motivators on travel motivation is difficult and, at one point even risky, given the nature of personal and subjective motivation, shown above, a number of experts feel that though three of them play a more important role in tourist motivation in general [Schmenner, RW, 1995]. These factors include: lifestyle, income levels and leisure time.

3. Identifying the problem, research objectives and assumptions

We never intended to consider the motivation model as being an aim, but to have some finality consisting in, based on referral consumer behavior in Galati, judging them to define the resorts of the domestic tourism demand and thus obtain a favorable decision in buying a specific tourism product.

Based on the identified problem, our research sets itself the following objectives:

- finding the factors and drawbacks exerted on tourism offer;
- determining consumer behavior on potential tourist buying;
- knowing the motivation that can determine tourist consumption;
- knowing the judgments they consumers make about the offered or purchased tourism services;

Assumptions made for research start are based on other studies on the subject, and the observations of the authors.

H1. Environmental characteristics and lifestyle are determinants of tourism motivation in Galati

H2. Free time is a factor of motivation concerning Galati tourism market

H3. Income level is an important determinant of tourism motivation in Galați

H4. Age is a factor of tourism motivation in Galati;

In this sense, a tourist organization must ask the following questions:

1. Who is the buyer of tourism services?
2. Why is the consumer buying potential tourism products?
3. What kind of tourism products are required?
4. Where, how, when are the tourism products been purchased?

To answer the question "Who is the buyer of tourism services?" We need to know the proportions and characteristics of buyer's tourism market tourism products. Regarding the characteristics of tourism products buyer, they may be corporate buyers (travel agencies), which plays

a role of intermediaries and individual buyers (consumers properly so called). In terms of the study motivational those who matter are individual consumers because they are final consumers of tourism products. The argument is simple: do not buy intermediaries tourism products for their own consumption but for reselling to consumers; if there were such consumers, intermediaries would not justify their existence. So, in the study of tourism demand we will focus on the final consumers of tourism products.

Thus it appears that the second question: "why buy consumer potential tourism products?" does that "propensity" lead to the potential demand for tourism products? What reasons may determine their purchase decision? This brings us to the conclusion that only differing characteristics ("propensity") and some special reasons may explain the phenomenon of purchasing travel products. Conducting a motivational research is necessary in order to know them better.

Thirdly, the question "what kind of tourism products are required on the tourism market in Galati," "where, how and when purchasing tourism products?" These questions involve a number of different answers on the tourism product, its price, and aspects of marketing and how to promote it.

Thus, examining the motivations of Galati travel market, we will just answer the question "why do potential consumer buy tourism products?" The answer to this question can be obtained by sellers of tourism products market Galati in three ways:

- from their own experience gained from a long practice on Galati market;
- from others' experience, obtained from research;
- studying the market the way through a motivational independent study that responds to their needs.

Basically, none of three ways should be neglected. The first two imply, taking serious risks, especially when we are talking about a dynamic tourism market. Therefore, the only way that can respond scientifically to seller needs to know his consumer's requirements, remains an independent motivational study, where his own experience and others can bring a positive contribution, but cannot be considered defining.

4. Research methodology and results

In terms of nature of research, we conducted a qualitative and quantitative research through semi-structured interview method, i.e. a questionnaire based survey. The interview was conducted during April 1 to 15 on a sample of 400 people. Following the identification of existing issues, the next step involved a questionnaire during 18 to 23 April 2016 on a sample of 120 people.

Galati tourism market inquiry highlighted that real knowledge of travelling is difficult, as interviewees answer often given was that they would go on holiday to rest without referring to other reasons. The results are significant and allow detection of important factors departure on holiday or have tourism:

- 82% mentioned recreation, in the broadest sense (rest, recreation, etc.)
- 68% had hinted at escaping "routine" (meaning escape from everyday life);
- 61% were related to the aim of development and training;
- 30% cited reasons related to family obligations;
- 21% said that the reason was health;
- 30% have alluded in sports and other activities.

We can also mention that the total exceeds 100% because those surveyed cited several factors at once.

Factors driving motivation model Galati tourism market are:

- Environmental characteristics of Galati county;
- leisure time;
- the income level of Galati population;
- age;
- sex;
- social and professional factors.

H1. Environmental characteristics and lifestyle-factors of motivation on Galati tourism market

Regarding environmental characteristics and way of life they are factors which are assigned to driving tourist consumption, starting from the idea that these factors are generating the need for "rupture" and "escape" of modern man.

Lifestyle and living conditions created by contemporary civilization represent a major factor which influence tourism demand and consumption at all levels of socio-professional categories, regardless of their living standard.

Looked on the position of the consumer potential of tourism products, the environment is one of the arguments underlying the motivation Galati travel. Galati population feels increasingly drawn to offer domestic and international tourism as a means of compensation and adaptation to the conditions of daily life.

H2. Leisure - determinant of motivation on Galati tourism market.

Tourism demand market is essentially linked to the existence of free time, which, together with the fact that income levels, represent the permissive element of this application. Without leisure, tourism demand cannot be conceived as without some purchasing power cannot be obtained tourist products.

Taking time off factor separately, we can conclude that more time means more vacation. Holidays are regarded today as becoming increasingly a social necessity, seeking to ensure relaxation and a compensation for voltage and nervous and physical fatigue caused by work.

Technical progress has reduced the duration of working time and so increase leisure time. Also by reducing the work week from six days to five days it was created opportunity for tourism weekend with a duration of 1-2 days. The study conducted on Galati market revealed that this form of tourism is very nice especially for people between 25-40 years. Increased duration of annual holidays of rest is another important growth market tourism demand Galati. A longer duration of stepping departures leave on vacation.

H3. Income levels - determinant of motivation on Galati tourism market.

As noted, the income level represents the second factor of tourism demand permissive Galati. As K. Krapf also outlined, income is the material basis of any act of consumption and an equally participation in tourist consumption.

Survey-conducted market survey on tourism demand in Galati showed that the economic factor decides priority enrollment attitude to tourists and new categories of tourists in tourist movement.

Income levels represent a significant factor for the behavior of potential consumers of tourism products market in Galați. There is a strong connection between income levels and the existence of leisure time. As revealed in the survey, the option for leisure or for higher incomes is an individual problem, linked to concepts of personal and social conditions.

The survey has shown that tourism demand in Galati is significantly dependent on individual income levels, budgetary obstacles being the main cause of not practicing tourism. The investigation showed that 60 people out of 400 people which were investigated and said they did not practice tourism, i.e. 15%, 51 people, i.e. 85 motivated that lower income was the main reason for not doing it.

The obstacles that make those who cannot afford to go on holiday to become inactive customers are: the cost of the trip, accommodation, food, pocket money, or the cost of the holiday equipment.

So, it is clear that income represents an essential motivational obstacle for departures on holiday and for tourism, in general.

But income, as an economic factor, is linked to the socio-professional status of the person involved. The investigation revealed that socio-professional categories with lower incomes are highly affected by the lower budget than ones with higher income.

Thus, the 51 people who do not practice tourism because they have limited financial means are workers, farmers, pensioners or inactive people. Therefore, these social categories that are important to tourism consider that income is the main obstacle for tourism.

H4. Age - determinant of motivation on Galati tourism market.

The following age categories of the Galati population: youth (18-30), mature people (31-50 years) and elderly (over 50 years) are of high interest for the study of tourism motivation. Tourism plays a fundamental role for youth from Galati, both in terms of the aspirations of knowledge according to the age, the spirit of adventure and a sense of detachment from the tutelage of the family, much stronger in young contemporary than previous generations. Tourism represents an educational factor

for young people, opening new horizons for intellectual activity and discovering other countries and people and also giving them the opportunity to better understand youth from other parts of the world.

The need for outdoor activities young people feel gives them the element of compensation they need themselves, along with other population groups.

These motivations that are available for young people all over the world and the existence of leisure time, more important than other population groups, determined teenagers from Galati to practice tourism in relatively higher proportions than other age categories.

This survey demonstrates pronounced dispositions to travelling of the youth from Galati; so from the 117 people surveyed who were aged from 18 to 30, 107 people (91.5%) travel, and only 10 people (8.55%) doesn't.

However, convincing young people from Galati to travel encounters some obstacles primarily related to their financial constraints. Here's how youth of Galati motivates this lack of tourism practice, as presented in Table 1.

Galati young people motivation to lack of tourism practice

Table 1

Reasons	Age	
	18-22	23-30
No leisure time	-	-
Family responsibility	-	1
Job responsibility	1	-
Financial constraints	3	5
Total	4	6

Therefore, 8 of 10 young people of Galati motivate their holiday discontinuity by "lack of money". It is interesting that this "missing" increase the balance and importance consequently, as the age grows (75% at age 18-23 and 83.33% at 23-30). This can be explained by two main reasons: on the one hand, the personal demands of travel conditions increase with age and, therefore, the amounts necessary becomes increasingly higher, and secondly by the fact that young people who feel less lack of money still live with their parents and therefore have higher net worth. Income levels are reflected not only in the level of youth participation in tourism but also in the level and nature tourism services for which they opt, young people of Galati opting especially for weekend trips.

Unlike young people, matures grant greater importance to comfort and security in the practice of tourism.

Regarding the elderly, they are generally represented by pensioners, on the one hand, the pension representing only a certain percentage of previous income retirement and this causes a sharp decline in the financial possibilities of pensioners compared with those taken earlier as employees, and on the other hand, older people, in their majority, they do meet expenses and social obligations relatively lower than those assets, which relieves to some extent their budget for a number of expenses that would be done as employees.

From this survey we can notice, as a general feature, impaired financial position to employed persons, which reduces to a certain extent for some retirees able to undertake travel for tourism. Galati population represents has a considerable potential demand, whose enhancement is equally in the interests of elders, and of tourism products bidders. The investigation led to several significant conclusions that can be extended to the entire population, because it turned out that the sample was representative of the population Galati:

- The majority of investigated subjects, 85%, practice the tourism and only 15% do not practice tourism.
- Motivations of those investigated in terms of tourism practice are numerous and mainly leisure, recreation, daily routine removal, expanding horizons and health maintenance, restoration work capacity.
- The main reason that stands in the way tourism is the practice of limited financial resources.
- Investigated subjects preferred practice of tourism in both holidays (91.76%) and weekend (90.88%). While only 17.65% of those investigated practice outbound tourism. We note also that the 60 people who have opted for outbound tourism particularly preferred the organized form of it (91.67%) and to a lesser extent, unorganized form (on their own) (8.33%), and this due to difficulties related to outbound tourism (e.g. difficulties obtaining visas, passports procurement etc.).

- Galati people's favorite seasons for tourism are: summer (52.06%), winter (26.18%), spring (13.23%) and fall (8.53%). Galati preference for practicing tourism only in certain seasons of the year is mainly related to their own preferences (e.g. habit to take leave especially in summer).
- Favorite tourist area is to the sea (52.06%) and mountain (37.94%).
- Length of stay is low, 51.93% of people surveyed in the tourism practicing paid leave for a short period up to 10 days.
- Form of accommodation for tourists of Galati is: hotel accommodation (30%), cottages (28.82%), camping (22.94%), private homes (12.35%), and chalets (5.89%).
- Regarding meals, 41.76% of people surveyed prefer the restaurant and 34.12% prefer to dine on their own.
- Transport arrangements used by the subjects investigated to travel for tourism purposes are in order: rail transport (51.76%), transport vehicles (45.88%), shipping (1.47%), air transport (0.89%).
- Regarding the practice of weekend tourism, 90.88% said that practice this form of tourism, but the frequency of tourist trips on weekends is low, majority (57.28%) saying that practice tourism weekend only occasionally and more often the rest of 42.72%; the period of such a stay mostly (54.05%) is a day and a half overnight. It is worth mentioning that the majority of investigated subjects weekend tourism practice in more remote areas, arranged in touristic areas.
- Engaging in high percentage, 59% of the subjects investigated, tourism on their own is determined by the travel agencies policies that offer travel services of lower quality at higher prices.
- The reduced period for tourism, preference for dining on their own, preference for rail and practicing foreign tourism in a very limited extent (17.65%) can be considered to be the main causes of low level income.

5. Conclusions

Tourism occupies a special position in economic activity; he became a socio-economic phenomenon of great complexity that requires a multidisciplinary approach and good training of those involved in this activity. Therefore tourism adaptation as a branch of the national economy to a market economy became indispensable, which necessarily involves adaptation research tourism of supply and demand, especially of behavior of potential tourism consumer.

In this paper we tried, through an questionnaire-based research, to see from a sample of 400 people in Galati County, which is their attitude on the practice of tourism in general tourism during the vacation, on weekends and on practicing foreign tourism, which is the frequency and duration of travel holidays of people of Galati and the motivations that determine whether or not the practice of tourism.

To ensure higher incomes, each operator from the Galati travel market must work towards attracting a large number of tourists and also to ensure maximum satisfaction of their requirements. In order to achieve these goals one of the basic tools that is within bidders reach is market research, study that should be considered in scientific and in-depth research market, in a long-time overview, to examine not only its evolution past and present, but also, especially, its future evolution. On these lines, the investigation survey on tourism demand in Galati may provide travel operators answers to a series of fundamental questions: what should be their branch activity, tourism products to be offered on the market, distribution manner of such products, prices and marketing etc.

Items that could attract potential tourists, in current Romanian economy conditions can be:

- Continuous diversification continues of tourism products and its constant adaptation to the demands of consumers.
- Enriching the offer of tourism products with some individual programs.
- Diversification of tourism off-season products.
- Diversification and enhancement of leisure services, because leisure is the element that complements and enhances the value of the tourism product; leisure programs can be put into practice through: cultural and recreational fun, tourism services means recreational sports: water skiing, windsurfing, rock climbing, horseback riding, hunting, fishing all fall into this category and slot machines, electronic games, amusement parks etc.
- Some free leisure services, such as entry to museums, exhibitions, dolphinariums etc for all travelers, or only to certain categories of consumers (children, pensioners).
- capitalization of specific Romanian travel benefits by Galati tourism companies :

- promoting the heritage of geographical areas of tourist interest by carrying out excursions, sightseeing, hiking with the motivation main interest in diversification and harmony of forms of relief, something that places Romania among the countries most favored, with the total tourism practice;
- valorization of monuments and historic sites;
- valorization of folklore, customs, cookery and old Romanian traditions.
- Considering the fact that the main reason for tourism by the population of Galați is recreation in the widest sense of the word and given the amounts of money that tourist from Galati is willing to spend for tourism, it is required that travel agencies in Galati to enrich their tourist offer programs and tourism activities in the "countryside". This form of tourism, also known as agritourism, is characterized by the use of the accommodation and catering hostels and agritourism farms. The tour operators can provide this offer, either specialized in rural services such as "holiday homestead" where the tourist can find animals, food-specific environmental or "weekends on the farm" which are short programs with include accommodation, meals and specific entertainment, various thematic programs, such as learning horse riding, fishing or hunting. This way of spending the holidays can be promoted especially during Easter and Christmas.
- Inclusion in the travel agencies 'tourist offer the so-called travel "incentive" trips that are organized in partnership with various organizations from Galati. The cost of these arrangements is borne, partly or wholly, by the firm for a number of employees as rewards. The content of these programs may also include elements of a professional, such as attending meetings, symposiums, exhibitions, documentary visits etc., which motivates those trips.
- Establishing close contacts between trade unions and travel agencies from Galati.
- The marketing of pricing policy based on demand because there are many aspects involved in the consumer's attitudes towards price tourism product. The pricing of the tourism product, bidders must take into account that today, consumer tourism is a competent buyer, because they have more active tourist trips and based on these experiences, as well as information that it receives in the media and the acquaintances, he is able to discern which products meet its claims and its financial possibilities.
- The tour operators from Galati market must take into account the fact that in the minds of every potential tourist Galati there are two price limits: a lower price limit under which the tourist begin to lack confidence in the quality of the product that is offered and an upper price limit, beyond which he begins to believe that the tourism product offered is too expensive for him and therefore ceased to interest him.
- The providers of tourism products from Galati may try to direct pricing policy based on the economic potential of different categories of customers (request optics). Applying this concept can be achieved by rationalizing the content of tourism product, which can be relieved by a number of elements which are only accidentally interfering with a consumer and that it is not always willing to accept them. For example, offering the strictly necessary touristic services only (transport, accommodation and possibly some meals), others can be provided to the consumer tourism optional basis.
- Differentiation of prices and tariffs according to peak seasons, off-season and categories of consumers (young, elderly, families with children, etc.).
- Reduced prices according to the number of days purchased for a particular stay.
- Promote publicity, advertising, sales promotion to stimulate tourism demand.
- Attract the target audience at different events (cultural, special exhibitions, celebrating the national days, Olympics, World Cup, etc.).
- The use of travel agents systematically covering the entire geographical area of Galati tourism market.

References

1. Iverson, K.M., *Introduction to Hospitality Management*, Van Nostrand Reinhold, 1990
2. Lane, H.E., Van Hartesvelt, M., *Essentials of Hospitality Administration*, Reston Publishing Company, 1989
3. Lattin, G.W., *Modern Hotel and Motel Management*, W.H. Freeman and Company, 1977
4. Krapf, K., Hunziker, W., „Grundriss der allgemeinen Fremdenverkehrslehre“, St. Gallen, Elvetia, 1942
5. Mill, R.C., Morrison, A.M., *The Tourism System – an Introductory Text*, Prentice-Hall, 1985
6. Schmenner, R.W., *Service Operations Management*, Prentice Hall, 1995

Post - Crisis Resilience and Trends in the International Service Exchanges by Romania

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International transactions that occur with non-tangible goods (also-called “invisible” trade) represent more than a third of the world trade, recording a higher dynamics than that of the trade with tangible goods, whose rhythm goes over the dynamics of the global industrial production. The production globalization and the tendency of liberalization of the trade with merchandises, in the spirit of the European Union, have extended to the trade with non-tangible goods as well, and the demand for services has increased, massively contributing to the extension of the array of tradable services and the internationalization, at a fast pace, of the invisible trade. The international transactions with services represent, today, a major component of the international flow of values. In our work, we would like to briefly analyze the evolution of Romania’s services flows in terms of volume (as value) and dynamics in the crisis and post-crisis years, to highlight a series of particularities suggesting “a decoupling of Romania’s trade with services from the evolutions that took place on the global and European level” and the fact that the year 2013 is equivalent to the vigorous relaunch of the Romanian trade with services, being a sure sign that these flows have regained their vigor after the crisis and we will also delineate some essential aspects such as the dynamic expansion of the business trade services, proving Romania’s increased attractiveness as a destination country for relocated services.

Keywords: Romanian international invisible trade, comparative analysis, relocation services

JEL classification: F2, M20, M21, F4.

1. Introduction

Romania’s process of integration in the global economy by means of its services flows, under the impact of the 2008 crisis, has diminished, and its traditional gaps compared to the New Member States of the European Union (NMS) have grown deeper. According to the Eurostat estimates (2014a), in 2013, in the EU-28, “the indicator of integration in the global economy” was 4.6% for services trade and 12.9% for goods trade.

The negative effects of the crisis on Romania’s services trade emerged at multiple levels:

- reduction of the services’ participation degree to Romania’s total trading exchanges;
- restrained participation of Romania to the international services exchanges;
- under the impact of the crisis, Romania’s process of integration in the global economy by means of its services flows slowed down, and Romania’s traditional gaps in relation to the new member states (NMS) have grown.

The services’ participation to Romania’s trade exchanges expressed by the indicator “services’ weight in the total exports of goods and services” decreased considerably, going down to 13.8% (2011), similarly to the 1990s and the beginning of the years 2000, while, during the period prior to the crisis, this indicator had come very close to the world average (20%) and even the European average (25%), reaching 21% according to the WTO data, 2014. Due to the services trade decline during two consecutive years (2009-2010) and its late relaunch, the Romanian services exports managed to go over the level of the year 2008 only in 2013, while the imports continued to be lower. Consequently, the weight of the Romanian services exports in the world services exports diminished to 0.2% during the period 2009-2012 and only in 2013 it drew near to 0.3% again. (The situation is not

much better, however, in the sphere of the goods trade, either, as Romania recorded, during the last decennium, a ratio of only 0.3% of the global goods exports, which drew near 0.4% in 2013).

In general, the services activities participate to a much lesser extent in the international trade circuit than the goods producing sectors, and for this reason they are considered to be less integrated in the global economy. The reasons of the gap between the two categories of flows (Tabel 1) are multiple, principally: the intrinsic nature of services (intangibility, incapacity of being stored, lower capacity of being traded etc.), the particularities of these markets, but also other factors, including of statistical order.

Table 1. Services exports and services balance evolution in some new member states of the European Union during the period 2008-2013 (in € billion. and %)

NMS	Export/ Balance (€ billion)	2008	2009	2010	2011	2012	2013*	Weight of the services/goods trade* in GDP, in 2013 (%)
Bulgaria	Export	5.4	4.9	5.0	5.4	5.7	5.8	11.8
	Balance	1.3	1.3	1.9	2.3	2.3	2.1	(58.6)
Czech Republic	Export	14.9	13.9	15.8	16.7	17.2	16.9	10.6
	Balance	3.0	2.8	3.0	2.4	2.0	2.0	(65.9)
Hungary	Export	13.8	13.3	14.6	15.8	15.8	16.2	14.7
	Balance	1.5	2.0	2.9	3.1	3.4	3.5	(77.2)
Poland	Export	24.2	20.7	24.7	27.0	29.5	30.2	7.1
	Balance	3.5	3.4	2.3	4.0	4.7	5.3	(39.7)
Romania	Export	8.8	7.1	6.6	7.3	8.4	10.8	6.6
	Balance	0.7	-0.3	0.4	0.3	1.1	2.7	(36.1)
Slovenia	Export	5.0	4.3	4.6	4.8	5.2	5.4	12.5
	Balance	1.4	1.2	1.3	1.5	1.8	2.0	(61.8)
Slovakia	Export	5.8	4.3	4.4	4.7	5.6	5.6	7.7
	Balance	-0.5	-1.0	-0.7	-0.4	0.3	0.1	(86.3)

*Average imports and exports; between brackets are indicated the weight of the goods trade in the GDP.

Source: Authors' calculations based on the Eurostat balance of payments statistics of Eurostat (2014a).

A brief comparison of the crisis and post-crisis evolution of Romania's services flows in terms of volume (as value) and dynamics with the tendencies manifested internationally highlights particularities suggesting a decoupling of our country's services trade from the evolutions that took place on the global and European level. In the crisis year 2009, the contraction of the Romanian services exports (-19%) was much more marked than at the world level (-11%) and European level (-13%) and continued during the year 2010 as well.

According to the Eurostat estimates (2014a), in the EU-28 average, "the indicator of integration in the global economy" was 4.6% (2013) for services trade (growing from 3.2% in 2004) and 12.9% for goods trade (growing from 9% in 2004). At the level of the whole EU-28, this index is much lower compared to the member states taken individually, since the data for the EU as entity include only the flows with the rest of the world (extra-EU), whereas the data for the member states also include the intra-EU and extra-EU flows. In the old EU member states, the values of the index of integration for services flows in the global economy oscillated in 2013 between a maximum level of 106.4% (Luxemburg) and a minimum level of 5.3% (Italy), most of the countries ranging between 8 and 20%.

If our analysis moves to the level of the new member states of the EU (NMS), Romania stands out in this group of countries by the lowest level of integration in the global economy of both the services flows and the goods flows. In 2013, the indicator of integration in the global economy via services trade was just 6.6% (36.1% in the case of goods), growing from a 4.9% level in 2004 (and, respectively, from 35.4%).

The evolution of this indicator in time highlights a slow progress concerning the integration of our country in the world economy by the services flows and, implicitly, a relatively weak specialization in this domain. This aspect becomes even more obvious by comparison with the indicator of integration in the sphere of services for the Czech Republic (from 8.2% to 10.6%), Hungary (from

10.3% to 14.7%). Slovenia (from 8.9% to 12.5%) and Poland (from 5.3% to 7.1%) and, yet, Romania's situation is better compared to that of Bulgaria and Slovakia, where the indicator decreased during the period 2004-2013 respectively from 14.4% to 11.8% and, from 8.5% to 7.7%.

2. Analysis of the Romanian potential in the international services exchanges compared to other European Union member states during the post-crisis period

Worldwide, the European Union (EU-28) is the main services provider, but also importer. The services sector holds about 75% in the community GDP, foreign direct investments (FDI) in this sector hold 70% of the FDI flow and 60% of the FDI stocks on the community level. The 2008 crisis influenced Romania's trading performances in the sphere of services and appreciable gaps can be noticed, as far as Romania is concerned, compared to the older EU members. In 2013, 5 old EU member states were among the Top-10 world services exporters¹⁰⁷. Romania also presents significant gaps in relation to the new member states of the EU (NMS), either countries comparable as dimension and potential, such as Poland, or much smaller states (the Czech Republic and Hungary), which had the same basis for a start. The data provided by Eurostat (2014a) indicate that Romania's gaps compared to these three countries became narrower in 2013 compared to 2012: Poland's services exports are 2.8 times bigger than those of Romania, the Czech Republic's are 1.6 times bigger and Hungary's 1.5 times bigger (Table 1) and only Poland appears on the list of the main 30 services exporters worldwide, going up from the 30th position in 2012 to the 28th according to WTO, 2013b: 2014.

Romania's position in the services flows is not more advantageous even if the reporting has in view the EU, and the calculations based on the data provided by Eurostat (2014a) highlight the modest weight of the Romanian services flows on the internal market of the EU, with a tendency of diminution during the recent years. During the last few years, the weight of the Romanian services flows on the internal market of the EU decreased compared to 2008 and, in relation to our country, inferior ratios of the internal services market were held by Slovakia (0.6%/0.6%), Bulgaria (0.5%/0.3%) and Slovenia (0.5% / 0.3%) in the year 2012.

On the internal market of the EU, Romania has to face a tough competition both from NMS and especially from the older member states, which have a huge potential and an appreciable competitive force in services trade, to which one can add their long experience and prestige as important providers of a large array of services at high quality standards. The fact that over three quarters of the total of the Romanian services exports go to EU countries and less than a quarter to the rest of the world reflects the special importance of the unique European market of services for Romania and, at the same time, the high degree of dependence of our country compared to this market¹⁰⁸, a relatively constant ratio during the last five years and among the highest in the NMS group.

If we relate Romania's services exports to the configuration of the exports on the global and European level, based on the OMC and Eurostat data, one can notice certain structural particularities (WTO, 2013a; Eurostat, 2014b):

- the very high weight of the **transport services** compared to the global and European average (22%/2012)

considered to be part of the category of traditional services, even though their weight decreased significantly compared to the average of 40% recorded during the first half of the years 2000;

- the very low weight of the **tourism services** in Romania's total revenue in its services exports compared to

the global average (26%/2012) and even to the European one (15%/2012). The consequence was a balance of Romania's tourist services recording economic deficits;

- 53% goes to the component "**other services**" in the total of the Romanian exports of services since 2013 - a weight similar to the global average (54%/2012), but much under the European average (63% in 2012).

It's a positive trend reflecting the qualitative mutations intervened in the structure of Romania's in trade.

¹⁰⁷ For the services exports: Great Britain (2nd position/\$ 290 bln); Germany (3rd place/\$ 287/6.2%); France (4th place/\$233 bln/5.0%); Spain (7th place/\$144 bln./3.1%) and Holland (9th place/\$142 bln. /3.1 %). Regarding the imports, a situation similar with a slightly different Top-10 and Spain no longer appears in this top according to the data provided by WTO (2014).

¹⁰⁸ In 2011, Romania's services exports were directed in a proportion of 74.3% to the EU-27, 8% to Switzerland and 4.7% to the US, similarly to Poland (70.5%, 7.6% and, respectively, 4.9%). In the case of the Czech Republic, the main destination of the services exports is the EU-27, with a ratio of 74.8%, followed by the US (4.3%) and Switzerland (3.8%), and in the case of Hungary, the services exports to EU-27 (68.6%) were followed by those to the US (7.7%) and Japan (3.7%) (WTO, 2013c)

Along with constructions, this heterogeneous component includes all the categories of services considered modern: communications services, financial and insurance services, IT services, juridical services, consulting services, advertising services, marketing services, research-development services etc. known under the generic name "business services" since they are used as intermediate inputs in the production process and contribute to the increase of the efficiency and competitiveness of the companies in all the domains of the Romanian economy.

Important to mention is that the dynamic expansion of the Romanian services exports during the years prior to the crisis was supported principally by the component "other services" with an average annual growth rhythm of 39% during the years 2004-2008, which significantly went ahead of the dynamics of the other two components of the trade with services, respectively "tourism" (35%) and "transports" (21%).

After the consecutive decline of 2009 and 2010, due to the crisis and a relatively modest relaunch in 2011, the volume (as value) of the exports generated by the component "other services" of Romania's services trade managed to go over the record level of the year 2008 in 2012, due to a 19% increase. The dynamic expansion of these exports continued as well in 2013, increasing by 14% compared to 2012, totaling almost €5.5 billion (over 50% of the total exports of services). Due to an extremely heterogeneous structure of the component "other services", the categories of services included in it presented divergent trends in their evolution.

The categories of services with particularly high growths of their export in 2013 include: juridical services, accounting and managerial consulting services (58%); research-development services (46%), constructions services (44%, after two years of decline); advertising, marketing and public survey services (42%), IT services (27%), architecture, engineering and other technical services (22%); in exchange, communications services grew relatively modestly by 6%. On the other hand, in the case of certain categories of services that resumed their growth even since 2011, exports decreased; insurance services (-28%) and financial services (-18%); in the case of the audiovisual services, exports decreased by 53% in 2013, after having suffered important contractions in 2011-2012 as well.

According to the ratio held in the total exports of services in 2013, the most important five categories of services included in "other services" were: IT services (€1.43 billion. and a ratio of 13.9%); juridical services, accounting and managerial consulting services (€844 millions. /8.2%); architecture, engineering and other technical services (€ 651mln./6.3%); advertising, marketing and public surveys services (€499 millions./4.8%); and communications services (€ 485 millions/4.7%). These categories of services constantly occupy the first five places in the makeup of the component "other services", even if their order changes a little bit in time, with the exception of the IT services, situated on the first place.

The remarkable expansion of the exports of IT services and of the exports of other categories of business services from the component "other services" of the services trade is a proof of the *dynamic relocation process* in the Romanian economy, even if the conventional data of the payment balance cannot offer an exact image of the real dimension of the services relocated in Romania by foreign companies. Systematically, imports have been larger than exports, triggering structural deficiencies, which reflects Romania's competitive disadvantage at categories such as: audiovisual services (deficit of €1 million. in 2013, compared to €259 million in 2012); financial services (€-46 mln. in 2013, after a minus 214 mln. in 2012); licensee taxes and copyright (€-541 mln. in 2013, after € -80 mln. in 2012); insurance services (€-160 mln. in 2013, after -167 mln. € in 2012). Juridical services, accounting and managerial consulting usually register deficits (€-120 mln. in 2012) with a surplus of €139 mln. in 2013. IT services were the spear point of the Romanian services exports during the recent years, according to a brief comparison to the other NMS, based on the data provided by Eurostat (2014a), as value of the exports of IT services.

As trading performances, there are essential differences between the different categories of services in the component "other services". The export of certain services continued to be higher than the import, in 2013 as well, generating trading surplus: the IT services (Table 2) recorded the largest surplus (€886 mln.), followed by the advertising, marketing and public survey services (€329 mln.), architecture, engineering and other technical services (€200 mln. and communications services (€186 mln.). The category of services generating trading surplus usually includes the research-development services, yet the surplus is modest (€22 mln./2013), and for constructions, trading deficits and surpluses alternate - an €87millions deficit (2012), compared to an € 245 million surplus in 2013. The remarkable expansion of the IT services exports, but also of the exports of other categories of services out of the component "other services" of the services trade is a proof of the *dynamic process of*

relocation in the Romanian economy, even if the conventional data of the payment balance cannot offer an exact image of the real dimension of the services relocated in Romania by foreign companies.

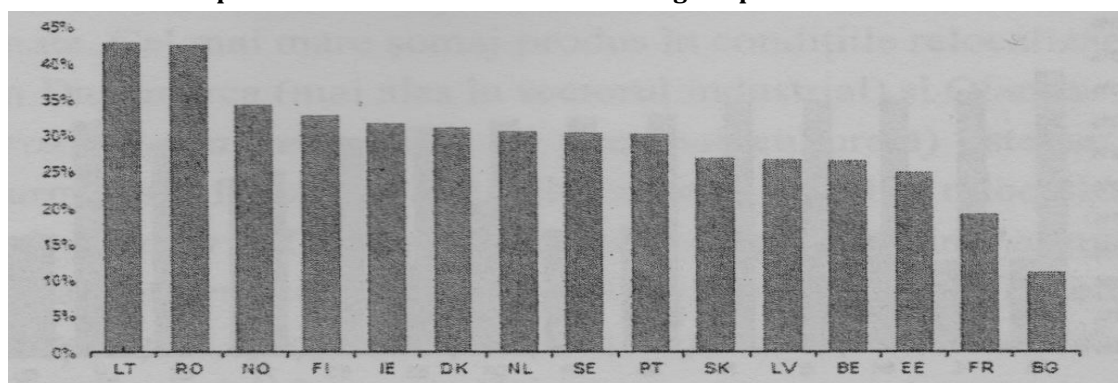
Table 2. Romania's IT services trade during the period 2008-2013

Indicators	2008	2009	2010	2011	2012	2013
Value (in €millions)						
Exports	600	725	793	745	1,126	1,434
Imports	503	549	551	415	382	548
Balance	97	176	242	333	744	886
Annual changes (in %)						
Exports	33.9	20.8	9.4	-6.1	51.1	27.4
Imports	49.3	9.1	0.4	-24.7	-8.0	43.5
Weight (%) in total services exports	6.9	10.3	12.0	10.3	13.4	13.9
Weight (%) in total service imports	6.2	7.5	8.9	6.0	5.3	7.1

Source: Calculations based on payment balance statistics (BNR. 2008-2014).

Systematically, the imports have gone over the value of the exports, triggering structural deficits, which reflects Romania's competitive disadvantages at categories such as: audiovisual services (deficit of €1 mln. in 2013, compared to €259 mln. in 2012); financial services (€-46 mln. in 2013, after minus €214 mln. in 2012); license taxes and copyright (€ -541 mln. in 2013, after €-80 mln. in 2012); insurance services (€-160 mln. in 2013, after €-167 mln. in 2012). Juridical services, accounting and managerial consulting, generally, register deficits (€-120 mln. in 2012) with a surplus of €139 mln. in 2013. IT services have been the spear point of the Romanian services exports during the recent years. A brief comparison with the other NMS: based on the data provided by Eurostat (2014a), under the aspect of the volume (as value) of the IT services exports, Romania was overtaken in 2013 only by Poland (€ 2.2 bln.) and the Czech Republic (€1.6 bln.).

Graph 1. Relocation of ICT* services during the period 2009-2012



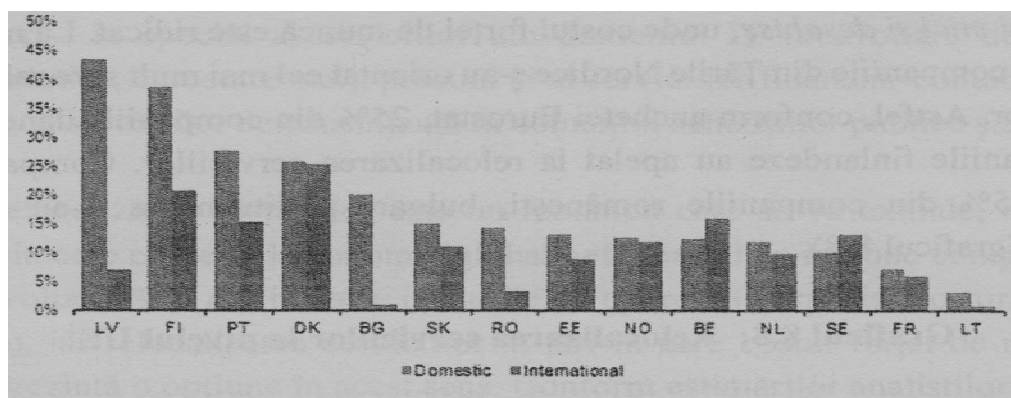
*sample selected out of the EU countries according to the ratio (%) in the total number of companies surveyed in each country.

Source: Eurostat (2013)

Given the size of the positive balance of the IT services in 2013 (€0.9 bln.), our country was clearly in front of all the NMS (Poland and the Czech Republic were situated behind Romania, by €0.5 bln. as in 2012). IT services and business services facilitated by ICT are more often than not outsourced and relocated (1/3 of the firms that undertook the Eurostat survey provide outsourcing and relocation services). An interesting fact is that the firms in the countries relocating services to a small extent on the EU level such as Romania and Lithuania have the highest level of relocation of ICT services (over 40% of the total of the firms relocating services outside the country boundaries) compared to the other member states (Graph 1).

In most of the countries, between 70% and 80% of the companies transfer functions towards their subsidiaries from other countries (captive relocation) and only between 30% and 40% of the companies outsource / relocate functions towards other companies from outside their borders. In the member states that adhered at the European Union in 2004 or 2007, Romania included, most of the companies actually outsource functions and services and do not transfer them to the branches of other countries. This can be explained by the fact that in the EU member states there are relatively fewer CTN than in the rest of the member states (Graph 2).

Graph 2. Internal outsourcing and external relocation of the companies' tasks

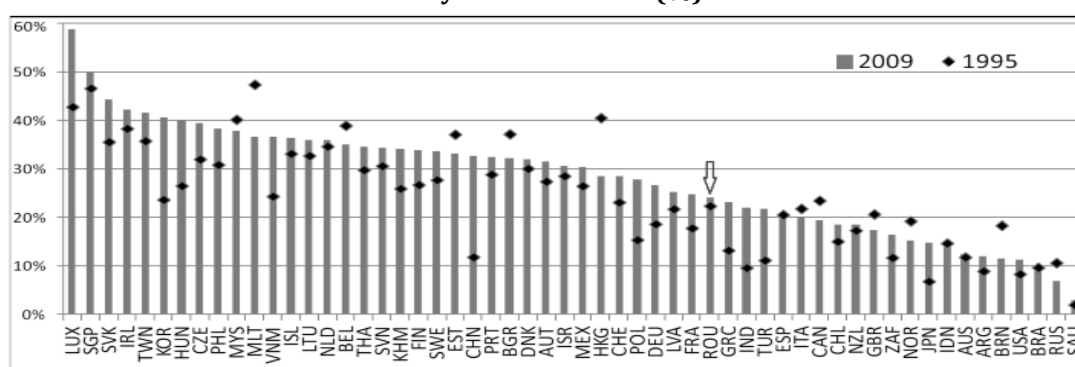


Source: Eurostat (2013).

1.1. Romanian participation in the global production networks

The new statistical data regarding trade expressed as added value have the advantage of providing an overall image on the relative positions held by different countries in the global production networks (GPN), by means of which the overwhelming part of the world goods and services trade is taking place. The ratio of external content in gross exports is an indicator frequently used to illustrate the countries' engagement in GPN, being known as well as *"the indicator of vertical specialization"*. The more the countries use intermediate inputs imported to produce goods and services exported later on, the greater their involvement in GPN. The data coming from the new databases elaborated by OCDE, 2013b – OMC highlights that, during the last two decennia, in most of the world's countries the external content of the exports has grown, implicitly increasing as well their degree of integration in these networks. The indicator of vertical specialization, respectively the ratio of external added value in the total gross exports (Graph 3) for Romania was around 25% (2009), compared to the world average of 28%, and between 1995-2009 it increased by just 3 %, which suggests a modest participation of Romania in the GPN and, at the same time, the slow progress recorded by Romania during the last decennium and a half.

Graph 3. External evolution content of the gross exports in the countries selected during the years 1995-2009 (%)



Source: Graph taken over from OECD (2013 b), based on the data provided by OECD-WTO Trade in Value-Added (TiVA) database

This reality becomes even more obvious if Romania is compared to other NMS (ex. Slovakia, Hungary and the Czech Republic) where the external content of the exports was much higher in 2009, reaching or even going over 40% compared to 1995. Out of the NMS, Poland and Hungary recorded the most significant growths of this indicator during the period 1995-2009 considering the strong involvement of CTN and of the subsidiaries in the two economies, judging according to the relatively

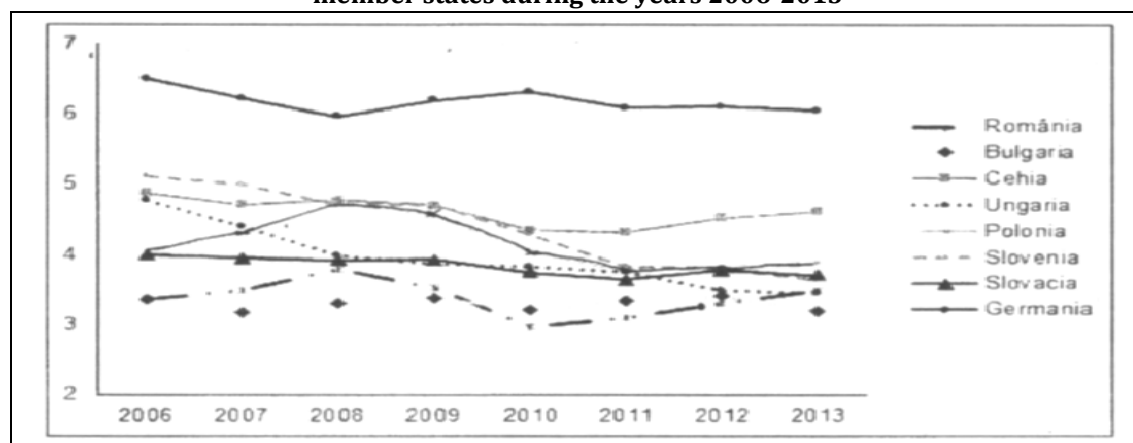
high level of the FDI stocks received¹⁰⁹.

In the specialized literature, the industrial processing centers concentrated in Europe and situated in the sphere of influence of CTN are frequently conceptualized by the syntagm "Enterprise Europe Network". These evolutions reflect the NMS specialization during certain stages of the production processes within GPN in the sphere of the electronic industry and car industry, gravitating mainly around Germany, a country where the foreign added value in exports grew from under a fifth in 1995 to almost a third in 2009.

Similar specialization models can be found as well in Asia ("Enterprise Asia" called), reflecting especially the economic ascension of China and its rapid integration into GPN, especially after it became a WTO member in 2001. Significant changes took place as well in the other areas of the "Enterprise Asia", for instance in South Korea (41% in 2009) and Japan (15% in 2009), where the external content of the exports doubled between 1995-2009, and other countries (e.g. India and Turkey) spectacularly doubled the weight of the external component of the value added in their exports during the period 1995-2009.

The relatively weak presence of Romania in GPN and the slow progress of the recent years are also confirmed by the indicator "global value chain (GVC) amplexness"¹¹⁰ elaborated by the World Economic Forum (WEF), which is particularly relevant for the involvement of the countries in GPN (Graph 4) being an important component of the "Global Competitiveness Index (GCI)", calculated annually by WEF, and reflecting the companies' presence in LGV, evaluated on a scale from 1 to 7. GVC amplexness reflects the presence of a country's companies in the global value chains (GVC), evaluated on a scale from 1 (low) to 7 (ample), the world average being 3.8 in 2013.

Graph 4. Comparative evolution of the GVC indicator in Romania, Germany and in some new EU member states during the years 2006-2013



Source: Graph elaborated based on the annual reports of the World Economic Forum (2006-2013)

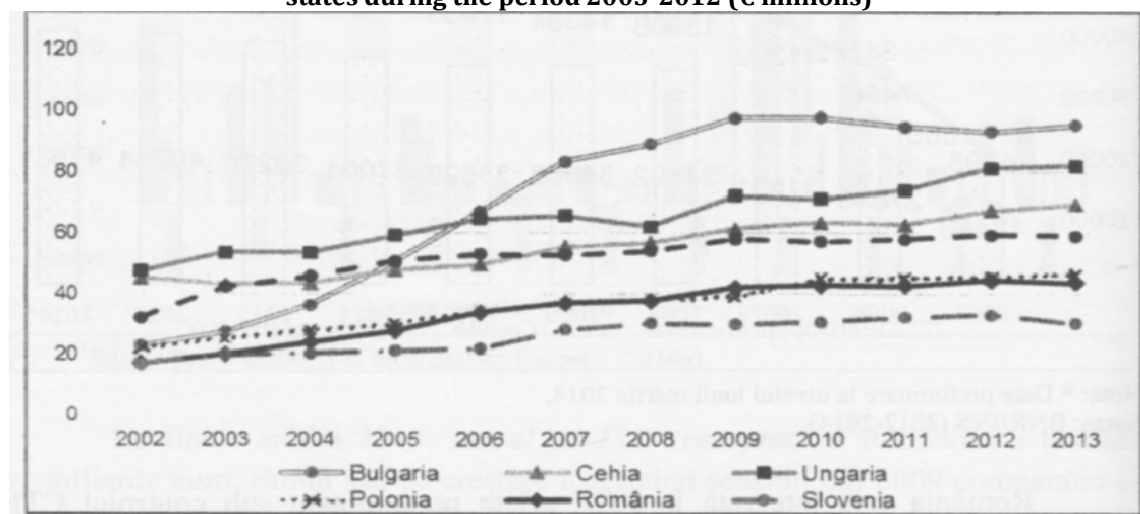
In 2013, the value of this indicator for Romania was 3.5 – inferior compared to the world average of 3.8 – situating our country on the 97th place in the world (in the world top the absolute leader is Germany, with 6.1). In point of the participation of the companies to GVC, our country is behind the Czech Republic (4.6), Poland (3.9), Slovakia (3.7) and Slovenia (3.6), equal to Hungary (3.4) and only in front of Bulgaria (3.2). The reasons of Romania's relatively weak participation to GPN and of the lack of progress in the sense of its intensification, is, in our opinion, mostly the relatively modest FDI stock in the Romanian economy during the last decennium and the marked reduction of the FDI flows attracted by Romania beginning with 2009. By analogy, the attraction of an increasing FDI volume by some new member states of the EU (Graph 5), and by numerous emerging countries largely explains their much more marked insertion in the global production networks managed by CTN.

¹⁰⁹ We need to mention that, beyond the high degree of involvement of FDI in economies, the external content of the exports and, implicitly, the intensity of the integration and specialization of the countries in RGP are influenced as well by many other factors, having to do with the economies' dimension, their degree of development, the exports' structure etc.

¹¹⁰ In the specialized literature, 2 syntagms used alternatively have emerged - respectively "global value chains (GVC)" and "global production networks (GPN)" to describe those phenomena/processes circumscribed by CTN and their firm networks giving birth to the global production system (as interconnected set of firms, industries, countries, as a result of the fragmentation of the production internationally).

Romania is integrated in GPNs which are predominantly under the control of CTN originary in the EU and over 80% of the FDI stock went to the EU-15 investors, just as in the case of the other NMS.

Graph 5. Evolution of the weight of the FDI stock in Romania's GDP and in some new UE member states during the period 2003-2012 (€ millions)



Source: Graph elaborated by authors based on the Eurostat data (2014a).

The main countries of origin of the FDI in Romania are: Holland (22% in the total FDI stock in 2012), Austria (with 19%), Germany (with 11%), France (with 9%) and Italy (with 5%), countries holding together 2/3 of Romania's FDI in 2012, a hierarchy remained practically unchanged since 2009. US held, during the same year, only 3.1% of Romania's FDI stock. The geographic configuration of the foreign capital confirms that, despite the rapid progresses in the domain of ICT which reduced the transaction and coordination costs, technically facilitating the geographic spreading of the different stages of the production processes -, geographic and cultural proximity matters very much in the attraction of the FDI flows. This explains why the GPN managed by CTN have a dimension that is rather regional than global, and Romania is integrated in intra-EU networks, actually just like the other NMS. In other words, Romania belongs to the "Enterprise Europe" and not to the "Asia Enterprise" or "North America Enterprise".

In the distribution of the FDI stock on the three large sectors of the Romanian economy – industry, agriculture and services – during the period 2008-2012, the services sector continued to hold over 50% of Romania's FDI, with an increase from 41.3% to 46.5% for the weight of the industry, and from 1.4% to 2.4% for the weight of the agriculture, to the detriment of services.

Closing remarks

The last crisis has left its mark on Romania's trading performances in the domain of services, although the impact is hard to estimate because of the gap occurred in the statistical data series following the changes intervened relatively recently in the measurement of Romania's international flows of services.

According to the statistical data published by the Romanian National Bank given a € 300 million deficit recorded during the crisis year 2009, the trading balance in the sphere of services has improved, as the trade with services has increased. The year 2012 marked a moment of turnover in the evolution of the services balance by the recording of a historical surplus, worth € 1.1 billion that in 2013 was €2.6 bln.. This performance is all the more impressive as, in the case of Romania, the services balance traditionally records structural deficits, even since 1990, which have turned into moderate surpluses only during the years that preceded the crisis, culminating with that of the year 2008, worth € 659 mln.

Romania's steps forward towards the increase of the positive balance of the trading balance in the sphere of services become even more eloquent if we refer this balance to our country's GDP. While, in 2012, the weight of the services balance in Romania's GDP was 0.9% (increasing from 0.5% in 2008, when it reached the highest level of the years preceding the crisis), in 2013 this ratio doubled (1.9%) going over the respective indicator of Poland (1.3%) and the Czech Republic (1.4%). Our country is inserted in GPN both by means of the FDI (namely, by participation to capital), by an internalized

system of subsidiaries of Romania which are owned and managed by their mother firms, and by forms of international production not based on participation to capital. After the historical peak of 2008, of € 9.5 bln., the FDI flows oriented towards Romania plummeted by over 60% (2009), reaching € 2.1 bln. in 2012, while in 2013 they were € 2.7 bln.. By contrast, in countries such as the Czech Republic, Poland and especially Hungary, the FDI flows returned on an ascending slope, going a lot over the level prior to the crisis. At the end of the year 2013,

In Romania the FDI stock (received) totaled € 61 bln., much behind Poland (€ 179 bln. in 2012 – the most recent year available), the Czech Republic (€ 103 bln.) or Hungary (€77 bln.), and only in front of Slovakia (€42 bln.), Bulgaria (€38 bln.) and Slovenia (€12 bln.). The weight of the FDI stock in the GDP for Romania in 2013 was 43.8% in 2013, our country being behind most of the NMS, respectively, Bulgaria (95.5%), Hungary (82.3%), the Czech Republic (69.7%), Slovakia (59.1%) and Poland (46.4%), and only in front of Slovenia (30.4%). While the weight of the FDI stock in the GDP increased during the period 2008-2013 by 20 %, in Hungary, 13 % in the Czech Republic and 8 % in Poland, Romania recorded an increase of just 6 %. The presence of foreign capital in Romania indicates a much lower level of corporate integration in the case of Romania compared to the majority of the NMS. The analysis of the UNCTAD specialists regarding the trade with added value remarked a strong positive correlation with an ascending trend between the level of the FDI stock attracted also the rates of participation of the countries to the GPN, which for Romania was indicating that FDI constitutes an important opportunity of development by which our country can increase its participation to the GPN.

In the international top drafted by private consulting companies of the domain of services relocation, in the investors' preferences top, Romania is on the first places in the Information Technology outsourcing (ITO), including Business process outsourcing (BPO). The services relocated are both services calling for a high level of specialization and expertise (knowledge process outsourcing-KPO), and other types of services, for example in the juridical domain (legal process outsourcing - LPO), fiscal, accounting-financial and audit services. Out of the principal factors that have made out of Romania a preferred destination for the investors who want to relocate their services, one can find:

- a. relatively low costs of labour force;
- b. cultural and geographic proximity compared to Western Europe in relation to other world
- c. Regions;
- d. relatively well-prepared labour force, especially in the ITC domain;
- e. relatively good level of knowledge of foreign languages and linguistic acquisitions;
- f. the existence of university centres able to continually prepare young people – the future
- g. labour force in the domains within the investors are interested in (services in ICT sector,
- h. financial-accounting domain etc.);
- i. a good infrastructure in the ITC domain.

Services relocation is a phenomenon that will extend and according to the estimates of the analysts of the Jones Lang LaSalle Company (2013), Romania is a favorable destination due to its labor force, relatively less expensive than in Poland or the Czech Republic, being known that most EU companies turn to the outsourcing of their operations on the internal market and not at a global level, a process characterizing all the EU states except for Belgium and Sweden.

References

1. Constantinescu, L. M., Cucui, I., Goldbach, I., Cucui, A. (2012), *The Influence of Foreign Companies in Developing the Technological Absorption Capacity of the Romanian Economy During the Current Financial Crisis*, Chinese Business Review, David Publishing, pp.157-167.
2. Cristureanu, C. (2009), *Tranzactiile internationale in economia imateriala (International Transactions in the Immaterial Economy)*, C. H. Beck Publishing, Bucharest.
3. Giarini, O. Stahel, W. R. ((1996), *Limitele incertitudinii. Infruntând riscurile în noua economie a serviciilor*, Edimpress-Camro, Bucharest (translated by A. Ghibutiu of the book *The Limits to Certainty facing Tasks in the New Service Economy*, 2nd Revised Edition, 1993, Kluwer Academic Publishers, Dordrecht, The Netherlands).
4. Ghibutiu, A. (1997), *Procesul internationalizarii serviciilor: șansă și afirmare pentru integrarea României în structurile economice mondiale*, studio, Institutul de Economie Mondială, January, Bucharest..
5. Ghibutiu, A. (2012), *Relansarea comerțului cu servicii al României după doi ani de declin available on <http://iem.ro/relansarea-comertului-cu-servicii-al-romaniei-dup-doi-ani-de-declin/> open 20.04.2016*

6. Ghibutiu, A. (2013b), *Reconfigurarea comerțului internațional sub impactul rețelelor globale de producție. De la comerțul cu bunuri și servicii la comerțul cu valoare adăugată (The Reshaping of the International Trade under the Impact of the Global Production Networks. From Goods and Services Trade to Added Value Trade)*, in: Ghibutiu, A. (Coord) (2013d), pp. 57-79.
7. Gibbs, M. (1989), *Trade in Services. A Challenge for Development* in Bressand A., Nicolaidis, K. (ed.) (1989), pp. 83-105.
8. Herman, B., van Holst, B. (1981), *Towards a Theory of International Trade in Services*, Netherlands Economic Institute Series on Foundations of Empirical Economic Research.
9. Hill, T. P. (1997), *On goods and services*, *Review of Income and Wealth*, 23, December, pp. 315-338.
10. Hoekman, B., Sauvé, P. (1994), *Liberalizing Trade in Services*, *World Bank Discussion Papers*, No.243, The World Bank, Washington D. C.
11. Illeris, S. (1989), *Producer Services: the Key Sector for Future Economic Development?*, *Entrepreneurship Regional Development*, Taylor Francis Ltd, 1, pp. 267-274.
12. Institute for research on Public Policy (1985), *THE Contribution of services Attributes to Trade performance*, Montreal.
13. Jones, R. W., Kierzkowski, H. (1990), *The Role of Services in Production and International Trade: A Theoretical Framework* in: Jones, R. W., Krueger, A. D.(ed.) (1990), p.31-48.
14. Katouzian, M. A. (1970), *The Development of the Service Sector: A New Approach*, *Oxford Economic Papers*, New Series 22, November, pp. 362-382.
15. Kostecki, M. (1994), *Foreign Direct Investments and Service Economies of Eastern Europe*, OECD, Centre for Co-operation with the Economies in Transition, CCET/DAFFE(94) 70, Paris, p.2.
16. Miles, I., Wyatt, S. (1991), *Technological Change in Services and International Trade Competitiveness*, UNCTAD/ITP/TEC/29, 12 July.
17. Ramasamy, B., Yeung, M. (2004), *The Determinants of Foreign Direct Investment in Service*, UNCTAD (2014), *Global Investment Trends Monitor*, No.15, 28 January.
18. Ruggiero, R. (1997), *Les services dans une économie sans frontières*, in *Organization Mondiale du Commerce*, *Communiqué de presse*, PRESS/80, 23 October, Genève. Samson, G., Snape, R. (1985), *Identifying the issues in Trade in Services*, *the World Economy*, 8, June, pp. 171-182.
19. Sauvant, K. P., (1990), *The Tradability of Services*, Messerlin, P. A., Sauvant, K. P. (ed) (1990), pp. 114-122.
20. Sbughea Corina, *Financial And Currency Crises Over Time, Risk In Contemporary Economy*, 2013
21. *World Economic Forum* (2013), Schwab, K. (Ed.), *The Global competitiveness Report 2013-2014*, Geneva.
22. WTO (2012), *World Trade 2011, Prospects for 2012. Trade Growth to Slow in 2012 after Strong Deceleration in 2011*, WTO Press Release, PRESS/658, 12 April 2012, Geneva.

Improving Organizational Citizenship Behavior based on Flow Experience

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Building on previous research on Organizational Citizenship Behavior (OCB) and its influence on the performance of SMEs, this article intends to expand the investigation area to the concept of Flow and its relationship with OCB. In this paper we performed an analysis of the two theoretical constructs, we highlighted similarities and complementarities and we formulated arguments supporting the need to implement strategies that promote a state of flow. Our study points out that through these strategies, employees are encouraged to perform an extra role, beyond their formal duties, which generates an increase of OCB and favorable conditions for sustainable development.

Keywords: organizational citizenship behavior, flow, intrinsic motivation, engagement, organizational performance

JEL Codes: M12, M50

Introduction

Both literature review and business practice show that it is hard to predict employees' behavior. However, it is clear that organizational performance could be significantly improved through a better understanding of the mechanisms that influence human resources in our organizations.

Our interest in understanding the soft component of human resources made us analyze the concept of *organizational behavior* and especially its informal part, referring to that voluntary behavior that could be extremely important in creating an organizational climate aimed at sustaining the organizational performance. Our studies made us observe that the prerequisites for a positive voluntary behavior, mainly for the organizational citizenship behavior (OCB) are directly linked to employees' motivation.

This paper aims to analyze two theoretical concepts - organizational citizenship behavior and flow -, to highlight similarities and complementarities, and to formulate arguments supporting the need to implement strategies promoting the state of flow in organizations. Through these strategies, employees are encouraged to perform an extra role, which is beyond their formal duties and leads to an increase of OCB and to the creation of favorable conditions for sustainable development.

The paper is structured as follows: in the first section we analyzed the organizational citizenship behavior and its influence on organizational performance; in the second part, we clarified the concept of flow; in the third section we focused on the relationship between flow and OCB. At the end we expressed our conclusions, by highlighting some ideas that could be integrated into the managerial approach of modern organizations.

1. Organizational Citizenship Behavior: - Definition, Evolution, Components

In order for an organization to be efficient, its members should develop a positive behavior that can be driven by various motivators. Therefore, it is important to understand these drivers, mainly what makes people decide to involve more in the organization's activities and what makes them identify themselves with the organization's objectives. It is also important to answer to a series of related questions referring to how the organization can attract and retain the right people, how employees can be motivated to be more creative and to have better results, how organizations can find

people whose psychological profile is very well suited to the job profile, which conditions are needed in order to have maximum individual performances and what should be done in order to influence employees' behavior, by making them work at a higher intensity and with better results.

Organizational behavior refers to studying and understanding the individual and group behavior at the organizational level (Keith and Scott, 1969; Cole, 1998; Colquitt, Lepine and Wesson, 2009; Newstrom, 2011). The continuous interest into increasing the organizational performance (Keith and Scott, 1969; Robbins, Judge, Milette and Boyle, 2013; Luthans, 2011) led to deeper analyses of the impact of the organizational models and structures on the human behavior (Mullins, 2010), to trials to predict and control the human behavior at all the organizational levels (Kreitner and Kinicki, 2010; Robbins, Judge, Milette and Boyle, 2013), and to various studies on the evolution of the organization's internal and external environment (McShane and Von Glinow, 2009). The behavior of the members of the organizations is crucial not only for the efficiency of the organization, but also for its existence (Katz, 1964).

According to some authors (Griffin and Moorehead, 2011), research on organizational behavior allows us: (a) to have a description of the human behavior in order to be able to find a common code for manager and employee when talking about the behavior at the workplace; (b) to understand the reasons why people behave and act in a particular way and have a particular behavior and particular reactions in given contexts; (c) to make predictions regarding the behavior of the employees and thus to avoid discontinuities in the activities; (d) to influence the employees' behavior towards the desired directions in order to attain the organizational goals.

The complexity of organizational behavior is increased by its informal component. The influence of the informal organizational behavior on the organizational performances can be assessed by looking at the degree in which the individuals have a balance between organizational objectives and individual interests (Simon, 1976).

The concept related to the informal component of the organizational behavior that can be seen as a behavioral indicator reflecting the way in which employees respond to the organization's conditions is known as organizational citizenship behavior (OCB). This concept first appeared in the work of Dennis W. Organ, professor of management and organizational behavior at Indiana University. Organ studied the relationship between work satisfaction and people's performances and discovered two main behavioral drivers of performance – the cognitive determinant, which determines the actual work of an employee, whose results can be measured through productivity, and the affective determinant, which can be seen as a mutual help among colleagues and personal initiatives, with effects hard to be measured, but very important in attaining the organizational goals (Organ, 1977).

OCB appears as a consequence, as a reaction to a variety of psycho-social stimuluses existing at the organizational level. Therefore, studying these stimuluses and their effects on OCB constitutes a major analysis direction in this field (Greenberg, 1993).

Organizational citizenship behavior was defined as a positive individual behavior that is voluntary. OCB is not directly and explicitly required through organizational rules and contributes to the proper functioning of an organization (Organ, 1988). This concept takes into account the informal interpersonal relationships that can have a decisive influence on the individual and organizational performances.

The following four criteria apply for OCB: (a) it should be an act that is not part of job requirements and it is not rewarded, nor penalized; (b) the employee should voluntarily have this type of behavior; (c) the behavior should be positive for the one who initiates it and to also be perceived as a positive one by the person who benefits from it; (d) the behavior should lead to the benefit of another person and not to the own benefit.

The interest for studying OCB is not new; it actually has strong roots in the works of many researchers in psychology and economics (Münsterberg, 1913; Follett, 1924; Barnard, 1938; Roethlisberger and Dickson, 1939).

Most of the studies on OCB use the five dimensions defined by Organ (1988) - altruism, conscientiousness, civic virtue, courtesy, and sportsmanship. These components contribute to a positive atmosphere at the workplace, by encouraging the development of strong interpersonal relationships, as people help their colleagues, avoid putting the others in uncomfortable situations, accept and conform to existing rules within the organization and voluntarily involve themselves into various activities.

Any manager interested into a higher level of OCB should create a proper environment in which people can become more performant and more efficient. Employees with a higher level of OCB can contribute to a really important competitive advantage. A higher quality of the informal

relationships between employees is valuable, as these relationships are difficult to develop and to imitate, thus leading to a sustained competitive advantage. Managers should better understand the factors that make employees go beyond their job requirements. All these explain the interest into further studying OCB and its driving factors: (a) individual characteristics of the employee; (b) characteristics of the job; (c) organizational characteristics and (d) leadership behavior (Podsakoff, MacKenzie, Paine and Bachrach, 2000).

2. Flow: Nature and Conditions of a Motivational Concept

The concept of flow comprises a complex content. We retained some ideas that are significant in terms of content and influence on people and organizations.

Csikszentmihalyi (1975) first defined flow as a holistic sensation felt when people act with total involvement. Therefore people work at their full capacity, seemingly without any effort, but with high engagement, by matching their personal skills to a series of challenges. People enjoy what they are doing and are intrinsically motivated for their daily activities (Csikszentmihalyi, 1990), as opposed to extrinsic rewards (Bakker, 2005). It is interesting that flow has positive effects on people in general, as they are happier and more satisfied with their lives and protect them against potential negative effects in late adulthood (Collins, Sarkisian and Winner, 2009; Kasa and Hassan, 2013; Rowe and Kahn, 1997). If, at the beginning, the concept of flow was developed with a focus only on the balance between challenges and skills (Csikszentmihalyi, 1975), in time it was characterized by nine components (Csikszentmihalyi, 1990; Csikszentmihalyi and Rathunde, 1993; Fullagar and Kelloway, 2009):

1. *Balance between challenges and skills*; of course, challenges without the matching skills lead to frustration, while skills without challenges imply boredom; moreover, these challenges and skills should exceed a particular level of complexity and difficulty, in order to avoid apathy;
2. *Right merging of action and awareness*; staying focused in the task implies an automatic reply and quite little awareness of anything other than the task itself;
3. *Clarity of goals*; people understand what they have to do very well;
4. *Clarity of feedback*; the progress with achieving goals should be clear and the feedback should come immediately and without any ambiguity;
5. *Concentration on the task*; no distractions are present;
6. *Paradox of control*; when experiencing flow, people do feel they have control without doing anything in particular for achieving this; however, when being aware of the need to control the process, they lose the sense of flow;
7. *Loss of self-consciousness*; people do not pay attention to their daily concerns anymore, as they become one with the task performed;
8. *Loss of time awareness*; the perception of time changes a lot as time seems to pass very fast, when people are doing something they really enjoy;
9. *Autotelic experience*; it is considered that these experiences become a goal by themselves, a state of mind and spirit that should be attained again and again.

The importance of the concept of flow made specialists interested into finding some ways to measure it. For sure, this concept cannot be measured easily (Csikszentmihalyi and LeFevre, 1989). Most of the researchers studied the ratio between challenges and skills and opinions are different. Some specialists (Voelkl and Ellis, 1998) considered that challenges and skills should be rated quite equally; on the other hand, there were authors who considered that the condition for flow in older adults consists in challenges slightly higher than the skills people possess. Csikszentmihalyi and LeFevre (1989) pointed out that challenges and skills should be above average.

Although relying on people in general is more subjective, it could be a better approach, since flow by itself is a matter of perception.

3. The Relationship between OCB and Flow

Studying the two concepts was for us an occasion to reflect and look for new ways of integrating them into the managerial theory and practice. We wanted to understand the relationship between OCB and flow, the similarities and differences between them and the influence they have on the organizational performance.

It is clear that many organizations are striving to use their resources in order to create a real competitive advantage. Most of them understand that human resources are still not fully used at their own potential, which is a favorable context for developing our topic.

Our literature review showed there are only a few studies that make a connection between the two concepts (as, for example, Collins, Sarkisian and Winner, 2009). Based on these studies and also on a debate we initiated with colleagues from Department of Management in our university, we could find some useful theoretical and practical ideas.

Our methodology followed three main steps:

Step 1. Documentation about the two concepts.

Step 2. Organizing a series of debates on the content and role of each concept in the managerial practice. Discussions were held with experts in human resource management in large companies operating in Bucharest, with people occupying positions of middle management in various companies and with colleagues from the Department of Management who are doing research on management, human resource management and/or organizational behavior.

Step 3. Interpretation of the information obtained from the previous two steps.

The activities of the second step took place in March-April 2016. We initiated and moderated 3 workshops with 37 participants (18 HR specialists, 14 general managers and 5 experts from the academic field). Each participant received bibliography on OCB and flow two weeks prior the meeting and participated at a workshop organized in two parts. In the first part facilitators briefly presented the goal of the meeting, the maximum duration and a series of rules in order to properly conduct the discussions. In the second part participants came with a series of ideas.

At the end of the meeting, each facilitator completed a discussion form structured on three chapters: Chapter 1 – Current knowledge and application of the two concepts, Chapter 2 – Usefulness of the two concepts in increasing the organizational performance and Chapter 3 – Proposals to integrate these concepts in the managerial processes in order to enhance the organizational performance. At the end of the document there was a place for further comments, in which we included other ideas arising from the discussion that could not be properly framed in the previously given chapters.

By analyzing the discussion forms, we could highlight the following main ideas:

- ✓ The two concepts are not consistently approached in the management literature in our country, but parts of them or similar concepts are part of the current studies and are also found in business practice. There are obvious concerns to work on the management message, to cultivate values, beliefs and behaviors that support civic virtue, motivation, intrinsic motivation, involvement, team spirit, conscientiousness, sense of affiliation, working properly with conflicts, cooperation, fair play in business, etc.
- ✓ Cultivating these concepts in the Romanian business environment is something desirable if we want our managers to think about the future of their companies, to build a stronger relationship with their employees, to create a climate aimed at attracting and retaining the best employees, to stimulate initiative, creativity and responsibility.
- ✓ Both managerial literature and business practice offer good arguments for sustaining the relationship between the two concepts and organizational performance. It can be seen that many studies were aimed at increasing the organizational performance. In most of the cases, the relationship between *OCB* (as a form of organizational behavior) and *motivation* (with its specific component, intrinsic motivation), on the one hand, and *performance*, on the other hand, is not an exclusivist one, but contains also other influence factors.
- ✓ Both concepts are strongly related to motivation. OCB, as an informal not-imposed behavior, can be observed only in employees with a high level of motivation and work satisfaction. We cannot omit the fact that one of its components, *civic virtue*, refers explicitly to the desire to belong to the organization you are working with, and this for sure means involvement, something more than motivation in work. Flow is associated with concepts like involvement, engagement, experience of working at full capacity, concepts that reflect a deeper level of employees' involvement.
- ✓ The two concepts are strongly related to each other, in the sense that an employee with a high level of OCB will surely have a high level of flow and vice-versa. This finding suggests that, by building a higher level of flow, we create the conditions to raise the level of OCB and to improve the conditions for increasing the organizational performance. However, effects do not produce automatically. On the contrary, the process should be well monitored and managed in order to benefit from better managerial results.
- ✓ The integration of these concepts into the managerial theory is quite easy, as it depends on the level we understand their content and on our capacity to integrate them into

existing courses, such as Management (when presenting the influencing function, in the chapters of Motivation, Organizational Culture or even as a separate chapter), Human Resource Management (in chapters referring to recruitment, training, career and rewarding systems) or Organizational Behavior (when defining organizational behavior or in the chapters referring to team management, time management or conflict management).

- ✓ The integration of these concepts into the business practice needs a conscious action of the general manager and / or of the HR manager. The general manager plays a very important role, because, by directly integrating them into his/her own behavior, he/she will stimulate through the power of personal example, which is a practice extremely convincing and "contagious" for employees. It is also the general manager the one who can ask for formulating and implementing adequate policies and procedures aimed at increasing the level of OCB and flow for the members of the organization. The role of the HR manager is extremely important and refers to including the information referring to OCB and flow in the decisions of selection, assessment, promotion, training and rewarding employees. It is very important to have correct and clear criteria for selecting new employees and assessing the current employees, criteria that include high standards for the two concepts. These represent favorable conditions for significant positive changes of the employees' behavior.
- ✓ The description of the characteristics of the flow (balance between challenges and skills, right merging of action and awareness, clarity of goals, clarity of feedback, concentration on the task, paradox of control, loss of self-consciousness, loss of time awareness and autotelic experience) show a series of dimensions of the intrinsic motivation that have a high impact on organizational performance, but which are still not fully exploited by management.
- ✓ An authentic integration of these concepts into the organizational practice will be hardly done or will not be done at all unless adequate strategies are developed in order to encourage employees to perform an extra role, beyond their formal duties, thus leading to an increase in the OCB level and to favorable conditions for sustainable organizational development. Such a strategy would unquestionably affirm the manager's option for an organization in which employees are considered crucial factors, conscious and work-dedicated, and would guarantee the consistent formulation and implementation of HR policies aimed at changing mentalities and behavior into the desired direction.
- ✓ The influence of the new behavior created through conscious and sustained managerial action should be reflected also beyond the business space, in society, by being a milestone and a real support for other people as well.

Conclusions

The present changes in society and especially in the Romanian business environment are indisputable. The so many plans in which these changes have been developed and their rhythm decreased the level in which the soft component of general management or HR management were taken into consideration. In this context, our intention was to bring to discussion two qualitative concepts that are not so well-know (OCB and flow), to contribute to explaining their content, to identify the relationship between them, to highlight the positive impact they can have on the organizational performance and to advocate for the real need to create strategies through which employees are encouraged to go beyond their roles expressed in their job description and formal rapports and to be self-aware of the benefits of flow and civic behavior.

In order to reduce the subjectivity of our approach, we chose to debate these concepts in environments potentially-interested into the research on and/or into the implementation in the managerial practice. This approach encourages us to consider that we identified a niche with exploitable potential and we will continue our research through other related studies. We are also encouraged to believe that managers will be increasingly interested into promoting OCB and the state of flow in order to create conditions for sustainable development of their companies. We will continue our work on OCB (Popescu, 2016; Popescu and Deaconu, 2013) by investigating the level of flow in order to check the existence of a direct relationship between the two concepts in SMEs. We are also tempted to investigate this issue in the educational sector, because we would like to identify ways of enhancing the educational results, by focusing on the development of OCB and the state of flow.

References

1. Bakker, A. B. (2005). *Flow among music teachers and their students: The crossover of peak experiences*. *Journal of Vocational Behavior*, 66, 26-44.
2. Barnard C. (1938). *The Functions of the Executive*. Cambridge: Harvard University Press.
3. Cole, G. (1998). *Organizational behaviour*. London: Lets Educational.
4. Collins, A.L.; Sarkisian, N.; Winner, E. (2009). *Flow and happiness in later life: an investigation into the role of daily and weekly flow experiences*. *Journal of Happiness Studies*, 10(6), 703-719.
5. Colquitt, J.A., Lepine, J.A.; Wesson, M.J.(2009). *Organisational behaviour*. London: McGraw-Hill Irwin.
6. Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco: Jossey-Bass.
7. Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Collins.
8. Csikszentmihalyi, M.; LeFevre, J. (1989). *Optimal experience in work and leisure*. *Journal of Personality and Social Psychology*, 56(5), 815-822
9. Csikszentmihalyi, M.; Rathunde, K. (1993). *The measurement of flow in everyday life*. *Nebraska Symposium on Motivation*, 40, 57-97.
10. Follett, M. P. (1924). *Creative experience*. (Reprint 1951.) New York: Peter Smith.
11. Fullagar, C.; Kelloway, K. (2009). *Flow at work: an experience sampling approach*. *Journal of Occupational and Organizational Psychology*, 82, 595-615.
12. Greenberg, J., (1993). *Justice and organizational citizenship: A commentary on the state of the science*. *Employee Responsibilities and Rights Journal*, 6(3), 249-256.
13. Griffin, R.; Moorhead, G. (2011). *Organizational behavior*. Cengage Learning.
14. Kasa M.; Hassan Z. (2013). *Antecedent and Consequences of Flow: Lessons for developing Human Resources*. *Procedia – Social and Behavioral Sciences*, 97, 209-213.
15. Katz, D. (1964). *The motivational basis of organizational behavior*. *Behavioral Science*, 9, 131-146.
16. Keith, D.; Scott, W. G. (1969). *Human Relations and Organisational Behaviour: Readings and Comments*. New York: McGraw Hill.
17. Kreitner, R.; Kinicki, A. (2010). *Organizational Behavior*. 9th edition, New York: Irwin McGraw-Hill.
18. Luthans, F. (2011). *Organizational Behavior*. 12th edition, Burr Ridge, Ill.: McGraw-Hill.
19. McShane, S.L.; Von Glinow, M. (2009). *Organisational behaviour*. London: McGraw-Hill Irwin.
20. Mullins, L. J. (2010). *Management and Organisational Behaviour*. 9th edition, Harlow: Financial Times Prentice Hall.
21. Münsterberg, H. (1913). *Psychology and industrial efficiency*. Boston: Mifflin.
22. Newstrom, J.W. (2011). *Organisational behavior*. London: McGraw-Hill Irwin Neman.
23. Organ, D. W. (1977). *A reappraisal and reinterpretation of the satisfaction-causes-performance hypothesis*. *Academy of Management Review*, 2, 46-53.
24. Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
25. Podsakoff, P. M.; MacKenzie, S.B.; Paine, J. B.; Bachrach, D.G. (2000). *Organizational Citizenship Behaviors: A critical review of the theoretical and empirical literature and suggestions for future research*. *Journal of Management*, 26(3), 513-563.
26. Popescu A.M.; Deaconu, A. (2013). *Organizational Citizenship Behavior Compared Analysis at Romanian SMEs Level*, ICBE, 8, Special Issues, Management &Marketing. *Challenges for the Knowledge Society*, 209-301.
27. Popescu, A.M. (2016). *Depășind limitele formalului, Comportamentul civic organizațional, sursă de performanță la nivelul IMM-urilor din Romania*. București: Editura Granada.
28. Robbins S.; Judge, T.; Milet, B.; Boyle, G. (2013). *Organizational Behaviour*. 7th edition, Pearson Australia.
29. Roethlisberger, F.J.; Dickson, W.J., (1939). *Management and the worker*. Cambridge: Harvard University Press.
30. Rowe, J. W.; Kahn, R. L. (1997). *Successful aging*. *The Gerontologist*, 37(4), 433-440.
31. Simon, H., A. (1976). *Administrative Behavior. A Study of Decision-Making Processes in Administrative Organization*. 3rd edition, London : The Free Press, Collier Macmillan Publishers.
32. Voelkl, J.; Ellis, G. (1998). *Measuring flow experiences in daily life: An examination of the items used to measure challenge and skill*. *Journal of Leisure Research*, 30(3), 380-389.

Innovation Management and SMEs Development in Romania

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The lack of innovation affects the capacity of companies to survive and grow in the current process of liberalization and openness toward international markets. The ability of an enterprise to create innovation will be improved by the introduction of information technology in the support of fair competitiveness, by the training of qualified personnel and the adoption of an innovation culture within. Although in the specialty literature there are many works that address the management of SMEs from the perspective of their impact on the economy and employment, there are very few that address SMEs in terms of innovation, and those that do this are oriented more on SMEs with activity field in the high-tech area. The main objective of our research was represented by the identification of the way in which the patterns of innovation could lead to further changes in the performance of SMEs.

Key words: innovation, invention, innovation management, SMEs competitiveness

JEL Classification: M00, M15

1. Introduction

The intensity of globalization process and the new technological advances have led to changes of vision and behavior, therefore the competitiveness and survival of European companies is more and more connected to the efficiency of IT processes and knowledge. In general, we consider that innovation is a factor of stimulating the progress even in the period of economic and political crisis in which we find ourselves.

In recent years, the structural changes in the economic environment have increased. The competition at global level has emphasized. We assist to a transfer of work places from the North in the South of America and from Western Europe in the former socialist countries. In Asia and in the countries in transition in Africa and the Arab World appear new markets. The corporations and organizations in the industrialized world will be able to win this race only in the extent in which they will know to improve their ability to innovate. Unlike other managerial models in the world euro-management, as management of diversity, is characterized by the emphasis on elements of informal nature, the establishment of some informal work relationships (Petrescu, Stegăroiu et al, 2010, p.50). The SMEs by their nature adapt easily to change and therefore they may adopt such a management to track progress.

The building and sustainable maintaining of the competitive advantages represent an essential condition for obtaining, by the firms, of some superior performance, on long term (Duică, 2005, pp. 261-268).

Recent decades have marked important advances in the field of scientific, technological, social innovation and of other nature, these progress exerting a major influence on the changes in society, for example fixed telephony, in developed countries has entered in the stage of decline, while mobile telephony is growing. Also it strongly manifests the tendency of passing toward broadband telecommunications, which offer enhanced transfer speeds and allow the introduction of some new services and applications (Văduva, 2006, p.3). Innovation is no longer regarded as a specific result of individual actions but rather as: a process (through which are identified solutions associated

to certain problems); a process that usually takes place in innovative enterprises, where the role of authorities or RDUs (Research Development Unit) is to some extent secondary; an interactive process that involves relationships between enterprises, both formal and informal relationships; a diversified and interactive learning process; a process which involves the tacit and coded knowledge exchange.

From a macroeconomic perspective, there is no doubt that innovations have a positive impact on the development of the organization and on employees (OECD, 2004). Innovations are key factors in the success of a business and are the most important factor in raising the profitability of the enterprise (Christensen and Raynor, 2003, pp.109-110). The new technologies, processes and products are essential for the survival on the market of the enterprises. The management of innovation is a real solution for the development of the SMEs. It can provide solutions, but this thing does not solve by itself, it is necessary a deep scientific research of the field, of finding realistic criteria for identifying problems, of evaluating them and on this basis, of elaboration and implementation of new managerial systems that will provide real solutions and will contribute to the development of SMEs.

2. Materials and methods

At the beginning of the scientific approach we conducted an extensive documenting activity on the specificity of innovation management activities, innovation, invention and the link between them and the competitiveness of the enterprise. Based on the documentation activity we established a database with a sufficient amount of information that allowed us to highlight the phenomena and processes approached, in a personal, concrete manner, and retaining the logic of the ideas mentioned. Also, we were able to notice the existence of difficulties arising from the analysis of the level of knowledge of the field, these difficulties being related more to the pragmatic side than to the theoretical one. Recent research, in the strategic management, considers the company as a set of tangible and intangible resources or as a portfolio of new distinctive skills that contribute in an essential manner to the achievement of strategic objectives. These approaches suggest that the performance of the company depends on the valorization of resources and available skills, which are internal sources of the competitiveness of the company.

3. Results and discussions

Dubuisson and Kable (1999, pp. 213-226), show that, although it does not yet represent another distinct field of the management science „it is concerned with the way of innovation management in the enterprise.” Hatchuel and Weil (2002, pp.78-83) confirm this observation: „we have to turn innovation into a subject in itself.” They classify the reference works of innovation management in five categories, which address different issues: management of innovative projects; management of technological and marketing resources; management of knowledge in the organization; accountancy of innovation; sociology of management tools.

Gradually, there have appeared transversal preoccupations regarding innovation management. Thus, Le Duff and Maisseu (1991, pp.18-50) state that: „Technical invention is the result of a whole culture that surrounds and precedes it; technical inventions don't come suddenly. They are developed through a prolonged and collective effort. They are, therefore, a scarce and expensive resource. Therefore, it is necessary to optimize their acquisition, use and drop. The technique appeared both in the field of management and in the one of strategy. The manager of the organization had to establish an evaluation of the technical heritage, to focus on technological development, to make certain predictions related to technique”.

Midler et al. (1996, pp.24-30) consider the technological resource management as a necessity to counteract the generalization of innovation management through projects, stating: „Rationalization of concept and the instrumentation of project management has progressed, which granted a more broadening autonomy of project management. Today, we have tried to create some organizations within organizations, a thing that calls into question the technological capitalization of the organization.” Any innovation process is marked more or less by technology. Cohendet (2003, pp.383-404) underlines the fact that technology can also be seen as a product of the innovation process: „Technology is not a good offered prior, but the result of the innovation process. Technology is the result of the experience gained by the organization, which relies in its turn on the learning processes used.”

Morin and Seurat (1989, pp.39-46) consider that the technological resources of the company have to be seen as the most important heritage; hence the requirement for it to be protected, enriched

and valorized. The problem of technological resources is also addressed in the specialty literature related to its operational and informational aspects, namely:

- the care to assess the technological resources of the company in relation to the ones of its potential competitors (Desvals and Dou, 1992 and Rouach, 1996).
- the affirmation of knowledge management to support knowledge and savoir-fair of the organization (Tisseyre, 1999, Prax, 2000 and Ermine et al., 2002, pp.293-298).

In his reference study, on the project Twigo Renault, Midler (1993) emphasizes both the need to mobilize resources related to the project, to increase performance on short term, and the preservation of the aspects related to trades, to generate and manage successfully new projects in the future. Addressing innovation through projects led to certain questions about the organization of the enterprise in itself: how to implement the management of launching new products through the projects and the production activity management on operations?. The matrix approach of the company's organization has been established gradually until it reached a sophisticated formalization, as well as the model of „channeled development” belonging to Wheelwright and Clark (1992, pp.18-30), authors who propose the combination of ideas in a development platform, including a major project and certain derived projects, of a lower importance, resulting into a family of products. Apart from these few studies focused on taking decisions in projects, a series of various publications emphasize the projects management, the works comprising studies regarding mainly the operational dimension of the project and less the strategic dimension. Ramon (2003, p.67) was stating that: „Project management is a first achievement in the innovation management. From the moment we decided to launch a new product, it was possible to define the result to be achieved, a gradual development, a division of tasks, an allocation of resources, therefore the time allotted to the launch on the market was reduced, the development costs were controlled, a higher level of product quality was achieved.”

The size of a company it is not an impediment to an innovation. There is the tendency to allocate resources to existing businesses, to the current crisis, which means to „feed” the past and „starve” the future. It is good for the problem of innovation to be put when the organization is „flourishing and healthy”. The obstacles can be overcome, so that the present and the new, the maturity and the beginning to benefit and to prosper together. The innovative system and the innovation can be learned, but this requires time and work. If they are seen as a duty for which people are trained, for which they work and which they practice, they generate achievements.

Many SMEs are obliged to take on the innovation from the multinationals and to execute a predetermined product which then returns to the mother company, for the final product assembly. Under such circumstances the innovative matrix comes from the multinational mother company. The SMEs can bring their innovative contribution, but they cannot develop it on this product without the acceptance of the multinational. If the flows between SMEs and multinationals do not work perfectly, the innovation of type 5 loses much from its value.

Conclusions

After studying specialty literature we noticed that, the implementation of an innovation management is a long-term process that requires an extensive, qualified and converging effort at the level of enterprise management and, even more, at the level of SMEs, an effort conducted with the help of specialists and based on a strategy of modernization and remodeling of the enterprise.

The managers of the SMEs have to demonstrate that they have innovative spirit, which may be innate but can also be formed. Innovative leadership requires a certain policy and a particular practice: the SMEs must be receptive to innovations and embrace the change as a gift, and not as a threat.

The SMEs need to be organized to do the innovator's work enjoyable. For the creation of the creative climate it is needed a well oriented effort; it is compulsory both the systematic evaluation or at least the appreciation of performance obtained as innovators and the skill to improve innovative activity; innovative leadership imposes toward the organizational structure, the staff and the management, toward the system of payment, toward stimulation and rewarding some specific practices; innovative leadership has a set of prohibitions, of things that should not be done.

Reference

1. Christensen, C.M., Raynor, M.E., (2003), *The innovator's solution*. Boston: Harvard Business School Press, septembrie 2003
2. Cohen, W.M., Levinthal, D.A., (1990), *Absorptive Capacity: a New Perspective on Learning and Innovation*, *Administrative Science Quarterly*, 35, pp. 128-152.
3. Desvals, H., Dou, H., (1992), *La veille technologique. l'information scientifique, technique et industrielle*. Paris, Dunod.
4. Dubuisson, S., Kabla, I., (1999), *Innovations et competences in Foray D., Jaques, M., Innovations et performances, approches interdisciplinaires*, Paris, Editions de l'EHESS, pp.213-226.
5. Duică, M., (2005), *Determinanții interni ai competitivității firmei*, Simpozionul internațional „Nav-Mar-Edu”, 2-4 iunie, Constanța, p.261-268, ISBN 973-8303-54-0.
6. Ermine, J.-L., Benhamou, P., Bezard, J.-M., (2002), *La gestion conception, des connaissances, un levier de l'innovation*. Revue annuelle ENSAM 2002.
7. Hatchuel, A., Weil, B., (2002), *De la R=D à la R-I-D ou comment organiser l'innovation répétée*, *Industrie & Technologies*, n° 841, octobre 2002
8. Le Duff, R., Maisseu, A., (1991), *Management technologique*. Paris, Sirey.
9. Midler, C., Ben Mahmoud-Jouini, S., Boudès, T., Charue Duboc, F., Garel, G., Kessler, A., (1996), *Du management de projet aux nouvelles rationalisations de la conception*, Cahier CRG n°13. Paris, Centre de Recherche en Gestion.
10. Morin, J., Seurat, R., (1989), *Le management des ressources technologiques*, Paris, Editions d'Organisation.
11. Petrescu, M., Stegăroiu, I., Năbârjoiu, N., Duică, A., Duică, M., Popa, E., (2010), *Managementul schimbării și riscului*, Editura Biblioteka, Târgoviște.
12. Prax, J.-Y., (2000), *Le guide du knowledge management*, Paris, Dunod.
13. Romon, F., (2003), *Le modèle de management de l'innovation reste à construire*. *Industrie et Technologies* n°845.
14. Tisseyre, R.-C., (1999), *Knowledge management: théorie et pratique de la gestion des connaissances*, Paris, Hermès.
15. Văduva, F., (2006), *Teza de doctorat cu titlul Perfectionarea strategiei de dezvoltare a telecomunicațiilor în România*.
16. Wheelwright, S.C., Clark, K.B., (1992), *Creating project plans to focus product development*, *Harvard Business Review*, march-april, vol. 70, n° 2, pp. 71-82.
17. *** Oslo Manual (2005), *Guidelines for collecting and interpreting innovation data*, OECD și Eurostat, p. 33

Happiness in the Context of European Human Values

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When we think about our values, we think about what is important in our lives (security, independence, wisdom, success, goodness, pleasure). This article has as its starting point the assumption that happiness is the result of manifestation of human values. The first part deals with the concept of human values, and the second part is focused on the analysis of secondary sources (data obtained from the investigation conducted by the European Social Survey). Data was retrieved and processed by me in Excel, and SPSS. In order to test research hypotheses correlation was used. To support the argument we used a series of tables and representative images.

Keywords: human values, happiness, security

1. Theoretical Approach

Each of us holds many values with varying degrees of importance. Human values are the qualities of a human being, which are desired, and aspiring (respect, dignity, esteem, dominance) and that are sanctioned by a given society. They are universal and are the essential foundation for a good individual. These include the moral intuitions of the world (<http://unhabitat.org/wpdm>)

Values are not books in a library, but they are linked. The values cherished by the individual are not always in harmony with those of the institution or society, on the other hand, they differ from one individual to another (Abigail S, et al, 2009). Values operate at the level of individuals, institutions and societies, and in this respect should study their origin. Personality traits are dimensions of individual differences to show consistent patterns of thought, feeling and action. Socialization –values origins in needs, which are manifestations related to survival. Culture viewed in terms of value refers to abstract rules of conduct (Koivula N, 2008).

Human values are evolving due to the following factors:

1. Impact of company rules on individual needs or wishes.
2. Choice and judgment in fulfilling needs.
3. Teachings and practice.

Basic values can be characterized by describing the motivational purpose (Schwartz & Bardi, 1997): Self driven-(thought and independent action) Stimulation (new things) Hedonism (pleasure and satisfaction) Achievement (personal success through demonstrating competence according to social standards), Power (social status and prestige), security (safety, harmony and stability of society, relations), Compliance and Tradition. The theory provides a framework for linking the value system. A behavior involves compromise between competing values. Almost any behavior has positive and negative implications for expression, supporting or achieving values. (Schwartz, 2006)

2. Europeans happiness in the context of human values

2.1. Research methodology

The purpose of the research - lack of information on how happiness is influenced by human values of individuals. This paper is a research focused on the analysis of secondary sources, information obtained from the European Social Survey (ESS), an academic study conducted in over 30 countries and Romania is not part of the research.

The investigation in Europe targets: to monitor and interpret the changing attitudes and values. Among the countries participating in the research are: Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Estonia, Finland, France, Ireland, Netherlands, Norway, Poland, Sweden and Slovenia. The sample consists of 28 221 people by education, age and sex. The period of application of the questionnaire was during 2014.

Research objectives:

- Knowing the level of happiness of Europeans
- Identify the importance of the material side in the lives of individuals,
- Observation of Europeans care towards the environment,
- Knowing the security's place in the lives of individuals.

Research hypotheses:

- H1: A small percentage of respondents declare themselves as very happy,
 H2: The majority of Europeans show an attitude of environmental protection,
 H3: The status of happiness of Europeans is determined by the material side,
 H4: Financial security gives an individual altogether security.

2.2. Research results

Out of the questions of the questionnaire applied by the European Social Survey site I chose those relevant to support my argument. Data was taken from the site and processed by me in Excel. The hypotheses were tested in SPSS as application of Pearson's correlation coefficient, but also on absolute and relative frequencies. Results are presented on several levels.

A. happiness in the lives of Europeans

The table below shows the absolute and relative frequency of this first level of analysis.

Table 1. Happiness in the life Europeans

	Frequency	% of all	% of valid
Extremely unhappy	113	0.4	0.4
1	97	0.3	0.3
2	246	0.9	0.9
3	526	1.9	1.9
4	687	2.4	2.4
5	2266	8.0	8.1
6	2111	7.5	7.5
7	5094	18.1	18.1
8	8652	30.7	30.7
9	5347	18.9	19.0
Extremely happy	2998	10.6	10.7
Refusal	5	0.0	-
Don't know	63	0.2	-
No answer	16	0.1	-
Total	28 221	100	100

Source: <http://nesstar.ess.nsd.uib.no/webview/>

The answers of European respondents indicated that they mostly feel unhappy, and of these only 10% are say that they are very happy.

For the next levels of analysis there was presented a situation of some example people and were asked to report their situation to the cases identified.

B. The importance of the material side

Level number two role is to present individual perceptions about the first human value: wealth. Table 2 and Figure 1 show the perception of Europeans on this level.

Tabel 2. Important to be rich, have money and expensive things

	Frequency	% of all	% of valid
Very much like me	700	2.5	2.5
Like me	2289	8.1	8.3
Somewhat like me	4869	17.3	17.6
A little like me	6216	22.0	22.5
Not like me	9406	33.3	34.1
Not like me at all	4140	14.7	15.0
Refusal	50	0.2	-
Don't know	417	1.5	-
No answer	114	0.4	-
SYSMIS	20	0.1	

Source: <http://nesstar.ess.nsd.uib.no/webview/>

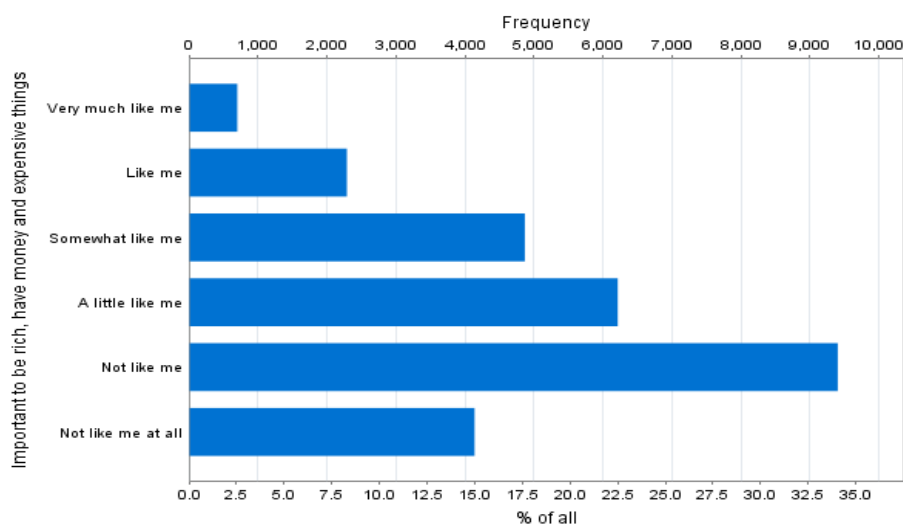


Figure 1. Important to be rich, have money and expensive things

Source: <http://nesstar.ess.nsd.uib.no/webview/>

According to the answers of Europeans, their situation as a result of comparing the cases presented with their own situation, they consider that there is similarity of the importance of materials side.

C. Caring for the environment

Level number three shows the attitude towards environmental protection. The figure and table below show the absolute and relative frequencies.

Tabel 3. Important to care for nature and environment

	Frequency	% of all	% of valid
Very much like me	8788	31.1	31.8
Like me	11303	40.1	40.9

Somewhat like me	4991	17.7	18.1
A little like me	1818	6.4	6.6
Not like me	581	2.1	2.1
Not like me at all	146	0.5	0.5
Refusal	53	0.2	-
Don't know	405	1.4	-
No answer	116	0.4	-
SYSMIS	20	0.1	-
Total	28221	100.0	100.0

Source: <http://nesstar.ess.nsd.uib.no/webview/>

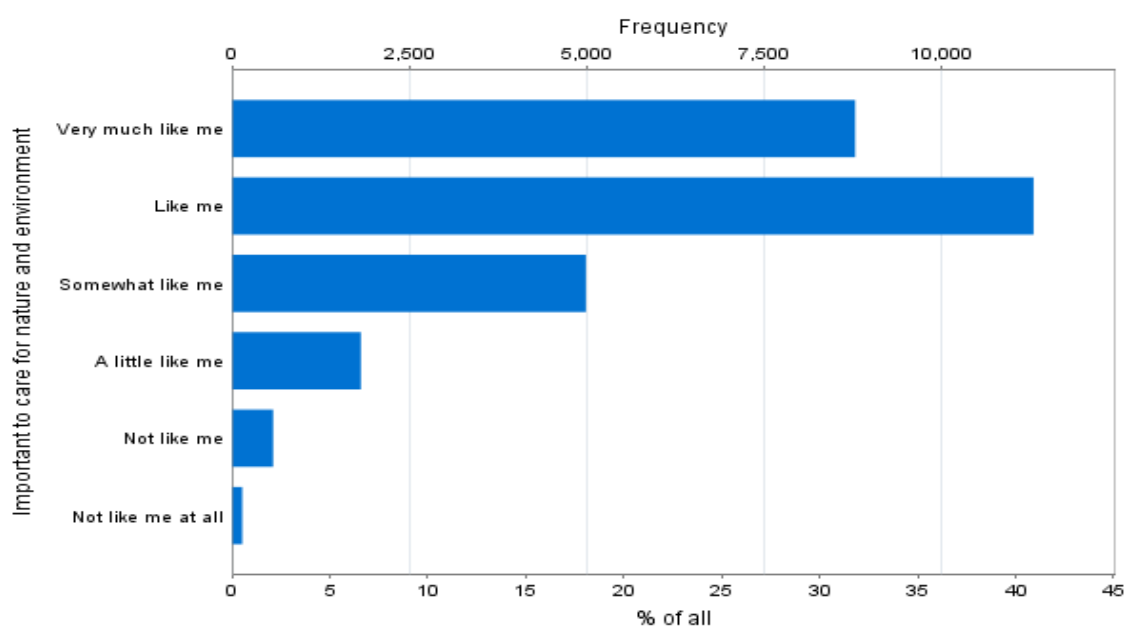


Figure 2. Caring for the environment

Source: <http://nesstar.ess.nsd.uib.no/webview/>

88.9% of respondents identify with the attitude of cases reported regarding the importance of environmental friendliness.

D. The importance of security

The last level of analysis is security. The table and figure below show respondents' answers.

Tabel 4. Important to live in secure and safe surroundings

	Frequency	% of all	% of valid
Very much like me	7096	25.1	25.7
Like me	9876	35.0	35.8
Somewhat like me	5387	19.1	19.5
A little like me	2922	10.4	10.6
Not like me	1,922	6.8	7.0
Not like me at all	405	1.4	1.5
Refusal	54	0.2	-
Don't know	429	1.5	-

	Frequency	% of all	% of valid
No answer	110	0.4	-
SYSMIS	20	0.1	-
Total	28221	100.0	100.0

Source: <http://nesstar.ess.nsd.uib.no/webview/>

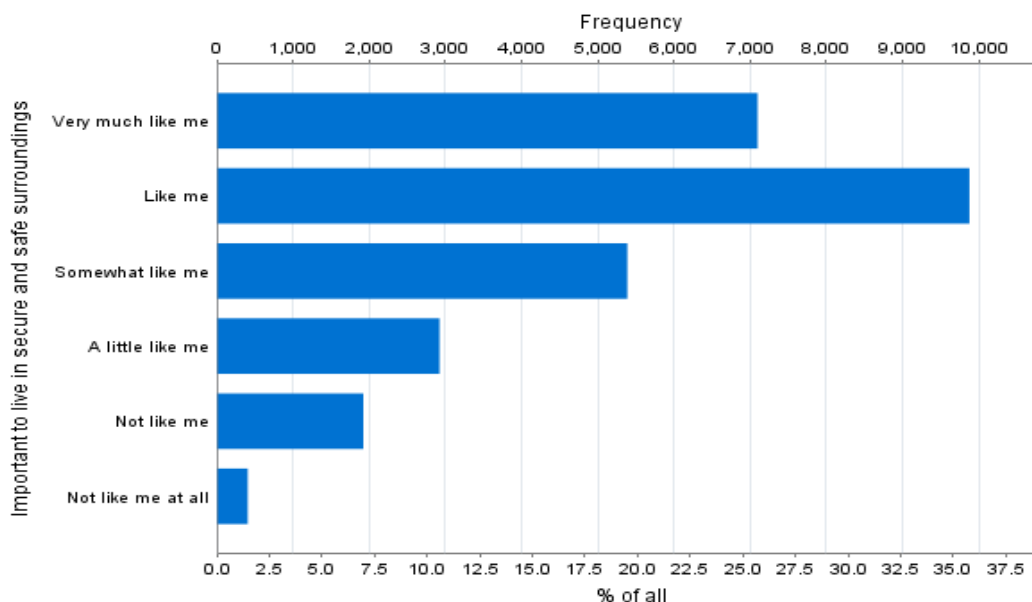


Figure 3. Important to live in secure and safe surroundings

Source: <http://nesstar.ess.nsd.uib.no/webview/>

Most respondents (over 70%) consider security as very important in their lives, almost as important as in the model statements presented.

2. 3. Testing hypotheses

In order to test the first two hypotheses using absolute and relative frequency and see if the last two hypotheses check or not we used as a test the correlation. Demonstration of verifying or refuting the hypothesis number three can be seen in the table below.

Tabelul 5. Testarea ipotezei cu numărul trei prin intermediul corelație

How happy are you		
Important to be rich, have money and expensive things	Correlation	0.037 **
	Significance	0.0000
	Count	27548

After testing the association we see that it is statistically significant because the value of Sig is below the minimum allowed.

Testing the hypothesis number four is shown in the table below.

Table 5. Testing the hypothesis number four through correlation

Important to live in secure and safe surroundings		
Important to be rich, have money and expensive things	Correlation	0.100 **
	Significance	0.0000
	Count	27533

The test of association shows that there is statistically significant association.

3. Research findings

All assumptions made in the methodology part of the research are checked. The first hypothesis stating that a small percentage of respondents declare themselves as very happy is checked, and this is verified as a result of calculating the rate. The majority of Europeans show an attitude of caring for the environmental and relative frequency shows that the hypothesis number two is checked. Hypothesis number three stating that state of happiness of Europeans is determined by the material side is checked. The last hypothesis is checked because it gives the individual financial security. The most relevant conclusions drawn as a result of the study conducted reveal that human values are reflected in the happiness of Europeans in the current century.

Bibliography

1. Abigail S, Rogers Y, Harper R(2009), *Reflecting Human Values in the Digital Age*, communications of the acm / march vol. 52 ,no. 3, Oxford, Ed Butterworth – Heinemann
2. Koivula N(2008) *Basic Human Values in the Workplace*, Ed. P.O. Box 4 , Helsinki,
3. Schwartz S, Bardi A. (1997). *Influences of adaptation to communist rule on value priorities in Eastern Europe*. *Political Psychology*, 18, New York, Ed McGraw-Hill,
4. Schwartz S (2006). *Basic human values: Theory, measurement, and applications*. *Revue française de sociologie*, New York, Ed McGraw-Hill,
5. <http://unhabitat.org/wpdm>.
6. <http://nesstar.ess.nsd.uib.no/webview/>.

The Impact of the Human Resources on the Romanian Court of Accounts' Performance

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This article analyzes the human resource management of the Supreme Audit Institution of Romania, the Romanian Court of Accounts. The paper mostly analyzes the status and the development of the specialized personnel of the institution, represented by the external public auditors in the period 2010-2015. It also addresses the link between the quality control system and the human resources existing in the institution.

Keywords: management, human resources, audit, Romanian Court of Accounts, INTOSAI, quality control, performance

JEL Code : P34, P35

1. Introduction

The Romanian Court of Accounts is a public authority of constitutional rank, which aims is set out by article 140 par. (1) of the Romanian Constitution, which provides: "Art. 140 (1) The Court shall exercise the control over the formation, administration and use of the financial resources of state and public sector ... », thus representing the supreme audit institution and control of the Romanian state.

The primary role of any Supreme Audit and Control Institution is to provide assurance to the Parliament that the state funds were used appropriately and in purposes established under the law. The Supreme Audit and Control Institutions were organized to best meet the national specific requirements and even to integrate into the institutional organisation, culture and traditions of each country and the types of the activities conducted took into account the nature and extent of the mandate given by law.

The main organizations that define this professional system at international level are the International Organization of the Supreme Audit Institutions (INTOSAI) and the European Organisation of Supreme Audit Institutions (EUROSAI) that promotes the objectives of INTOSAI at regional level, together with the six other regional organizations constituted by geographic areas (AFROSAI, ASOSAI, ARABOSAI, OLACEFS, PASAI).

The International Organization of Supreme Audit Institutions (INTOSAI) managed to synthesize this general world context into the motto ***Unity in Diversity***, referring to the unity of its members despite to the diversity of the way of organizing and functioning of them.

INTOSAI is an autonomous, independent, apolitical and non-governmental organization, established in 1953 at the initiative of the President of SAI Cuba (Supreme Audit Institution of Cuba), initially with 43 members and currently reaching 192 permanent members and five associate members. One of the strategic objectives of this international cooperation framework is the development of uniform professional standards (Auditing Standards, Methodological Norms, Guides, Manuals, etc ...) in the control and audit of public finances through which to ensure a uniformity and harmonization of how such activity is conducted around the Romanian Court of Accounts, as the supreme audit institution, is a member of INTOSAI and EUROSAI, contributing by its experience in the development of the external public audit.

The Romanian Court of Accounts is organized as a collegiate body, consisting of 18 counsellors of accounts appointed by the Romanian Parliament for a term of 9 years, which cannot be extended or renewed. The executive management is ensured by the Court of Accounts' President and two Vice-Presidents.

The Court's staff is composed of specialized personnel (external public auditors, performing the Romanian Court of Accounts' specific activity of audit and control), public servants and contractual staff.

Together with the Romanian Court of Accounts is working the Audit Authority for external funds granted to Romania in the accession period, as well as the funds granted to Romania's post-accession, as a Member State of the European Union. The Audit Authority is headed by a president and two vice presidents, members of the Romanian Court of Accounts' Plenum.

In terms of organizational structure, the Romanian Court of Accounts includes a central structure (12 departments led by a counselor of accounts), 42 County Chambers of Accounts (which provide audit and control at the local level) and 8 regional audit offices (territorial structures of the Audit Authority).

The specific activity carried out by the Romanian Court of Accounts is represented by three types of audits under the Regulation on the organization and carrying out the specific activities of the Court of Accounts, and the documents resulting from these activities:

a. compliance audit (control): activity designed to verify and monitor whether the management of public and private patrimony of state and administrative-territorial units and also whether the execution of revenue and expenditure budgets of the controlled entity are consistent with the purpose, objectives and tasks set out in the regulations by which the entity was founded and whether it complies with the principles of legality, regularity, economy, efficiency and effectiveness;

b. financial audit: activity which seeks whether the financial statements are complete, accurate and in compliance with laws and regulations and whether the governance of public and private patrimony of state and administrative-territorial units and the implementation of revenue and expenditure of the audited entity are in accordance with the purpose, objectives and tasks set out in regulations by which the entity was founded and the compliance with the principles of legality, regularity, economy, efficiency and effectiveness, while providing an opinion to this effect.

c. performance audit: an independent evaluation of the way that an entity, program, project, process, activity or operation works in terms of economy, efficiency and effectiveness".

2. The evolution of the Romanian Court of Accounts' human resources during 2010-2015

The specialized personnel of the Romanian Court of Accounts consists of external public auditors. They perform the specific activity of the institution, the external public audit of public funds.

According to art. 2 of the *Statute of the Romanian Court of Accounts' external public auditor* "The external public auditor fulfills a public interest career, with a special status conferred by the level and complexity of the tasks and the responsibilities, risks, incompatibilities and prohibitions arising from implementation of the Law no.94/1992, republished, and from the Romanian Court of Accounts' regulations developed under the law."

The complexity of public external auditing function is given, first, by the uniqueness of this function, the external public auditors of the Romanian Court of Accounts being the only ones performing the external audit of public funds in Romania.

At the Romanian Court of Accounts level there are some norms that are designed to regulate the status, the behaviour and their professional training: the Status of the Romanian Court of Accounts' external public auditors, the Code of the Professional Conduct and Ethics of the Romanian Court of Accounts' personnel, a human resources strategy and a training program (multi-annual and annual). The human resources have the most important role in the development of an organization. An adequately trained human resources and a proper motivation can lead to a significant increase in overall organizational performance.

According to art. 24 para. 4 of the *Statute of the Romanian Court of Accounts' external public auditor*, "The continuous training of the external public auditors is achieved through a multi-annual program of continuous training, detailed by the annual programs approved by the Plenum so that each external public auditor to benefit from at least 40 hours of training annually. "

Thus, each external public auditor is required to attend training courses at least once a year to update their professional knowledge and of best practices in external public audit.

Practical training of the external public auditors is a good practice taken from the international practice that is found in the INTOSAI standards.

The training of the Romanian Court of Accounts' specialized personnel is performed in special training centers spread across the country. Thus, within the institution there are 12 training centers in Argeş, Bihor, Brăila, Bucharest, Buzău, Cluj, Constanta, Galati, Iaşi, Sibiu, Suceava and Timiş. During

these seminars, the training is provided both by trainers within the Court and by external trainers (specialists who provide training in the activity area of the Romanian Court of Accounts).

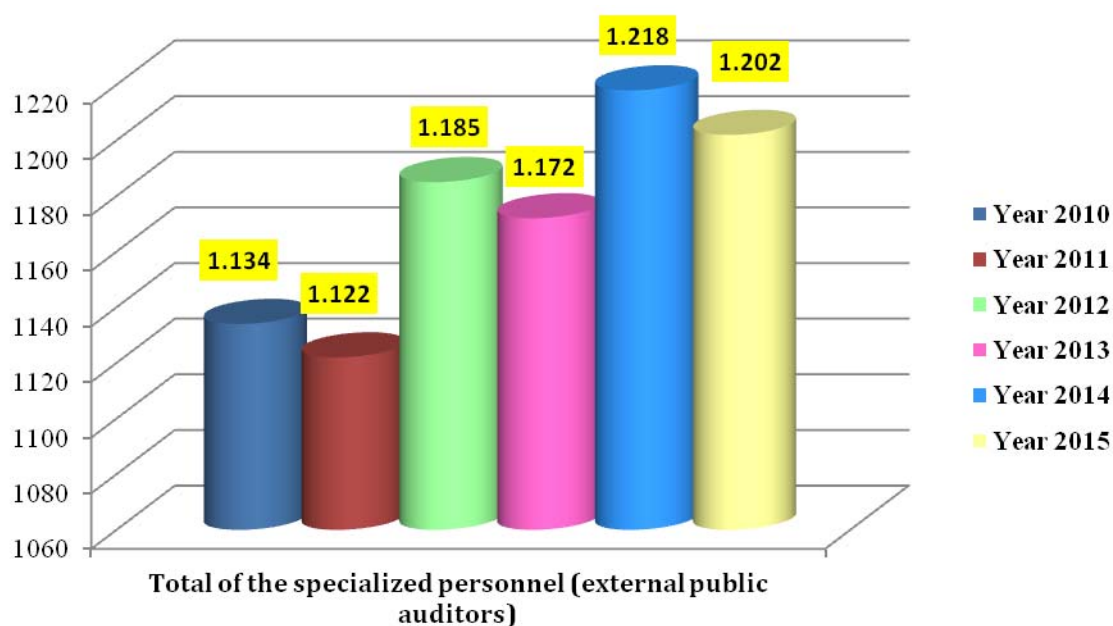
The number of the external public auditors of the institution has evolved from one year to another. The status of the specialized personnel evolution within the Romanian Court of Accounts during 2010-2015 is as follows:

Table no. 1 The evolution of the number of specialized personnel during 2010-2015

Year	Total of the specialized personnel (external public auditors)
2010	1134
2011	1122
2012	1185
2013	1172
2014	1218
2015	1202

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

Graph no. 1 The evolution of the number of specialized personnel during 2010-2015



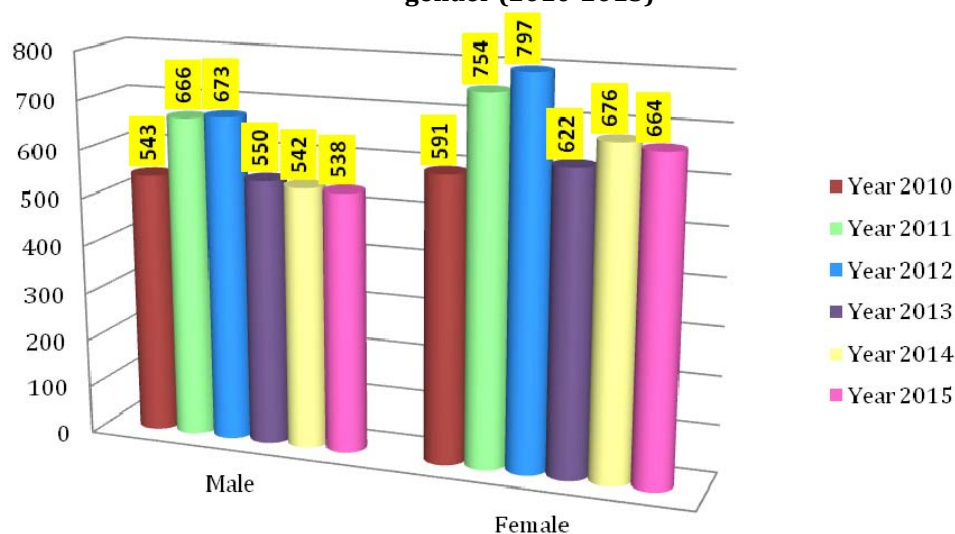
Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

The evolution of the human resources in the past 6 years, in terms of gender distribution, is as follows:

Table no. 2 The distribution of the human resources at the Romanian Court of Accounts by gender (2010-2015)

Year	Male	Female
2010	543	591
2011	666	754
2012	673	797
2013	550	622
2014	542	676
2015	538	664

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

Graph no. 2 The distribution of the human resources at the Romanian Court of Accounts by gender (2010-2015)

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

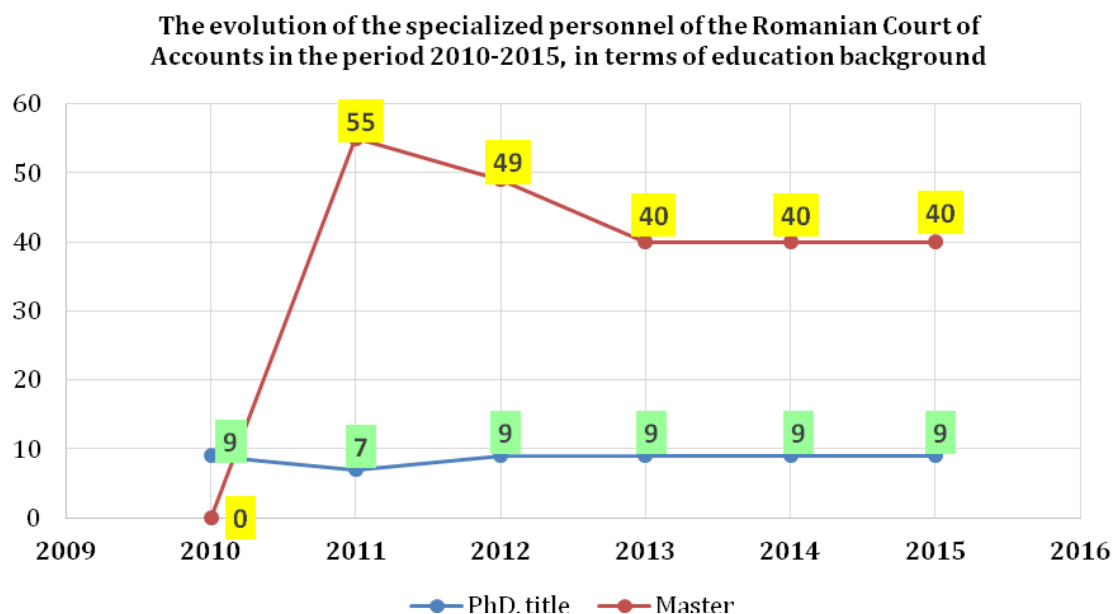
Analyzing the data above, we observe that the number of men is relatively equal to the number of women in the period under review, highlighting that the Romanian Court of Accounts applies a policy of equal opportunities between women and men.

In terms of education background, referring strictly to master and doctoral studies (given that, according to Art. 5 para (3) of the *Statute of the Romanian Court of Accounts' external public auditor*, in order to be placed in a position of external public auditor it is needed higher economic education), the situation of the specialized personnel at the Romanian Court of Accounts is as follows:

Table no. 3 The evolution of the specialized personnel in the period 2010-2015, in terms of education background (%)

Year	PhD. title (%)	Master (%)
2010	9	43,7
2011	7	55
2012	9	49
2013	9	40
2014	9	40
2015	9	40

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

Graph no. 3 The evolution of the specialized personnel in the period 2010-2015, in terms of education background (%)

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

Analyzing the data presented above, it is observed that during those six years, the specialized personnel evolution for the studies completed is relatively constant, with the exception of 2011 where there is an increase in the number of public auditors who hold a PhD. in various areas.

In terms of languages known by the external public auditors, the most commonly used are English, French and German, followed by other languages such as Spanish and Italian.

3. The quality control system of the Romanian Court of Accounts' specific activities

Within the Romanian Court of Accounts, the activity of quality assurance is carried out in two stages: first, it is performed during the specific activities of the Court of Accounts, and in the second stage is carried out after the completion of specific activities, at the compartment assessing the specific activities of the Court of Accounts.

The evaluation of the activities' quality of control / audit carried out by the structures of the Romanian Court of Accounts is based on the provisions of section 452 of the "Regulation on the organization and activities specific to the Court, and the documents resulting from these activities" and paragraph 1.6 of the "Standard on quality assurance and control in auditing" from the Romanian Court of Accounts' Audit Standards.

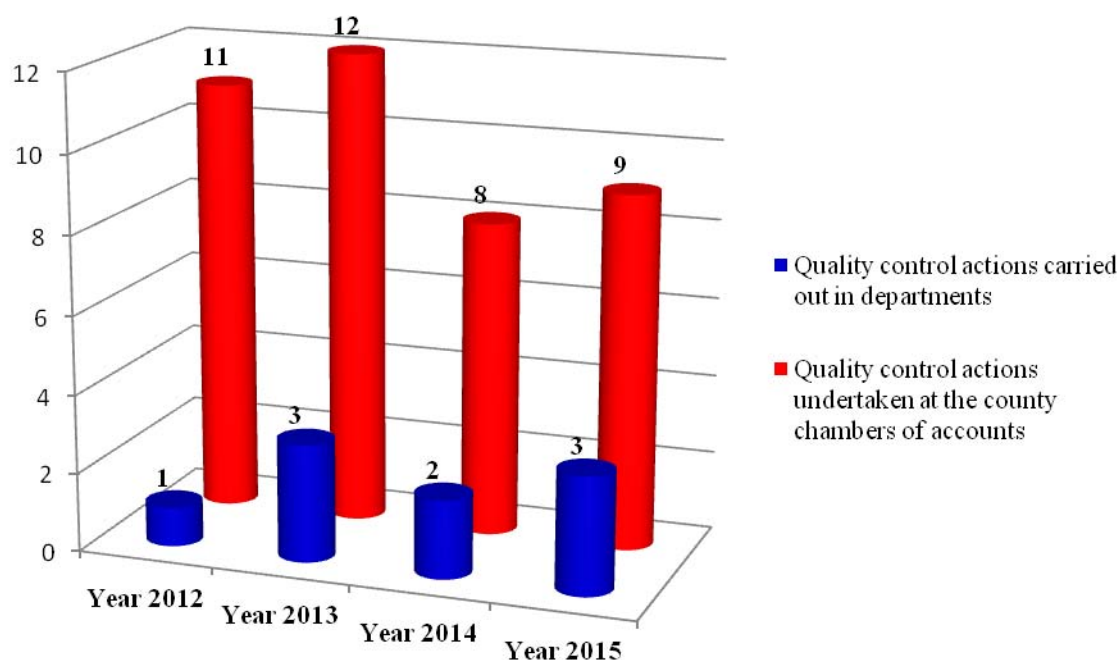
The purpose of this type of evaluation is to ensure continuous high quality output of the quality of the Romanian Court of Accounts' specific activities.

In the period 2012-2015 there were conducted quality control activities, as follows:

Table no. 4 Quality control activities undertaken at the Romanian Court of Accounts*

No.	Year	Quality control actions carried out in departments	Quality control actions undertaken at the county chambers of accounts	TOTAL
1	2012	1	11	12
2	2013	3	12	15
3	2014	2	8	10
4	2015	3	9	12

*Data available for 2012-2015

Graph no. 5 Quality control actions undertaken at the Romanian Court of Accounts

Source: The Romanian Court of Accounts' activity reports, years 2010 -2015

Analyzing the data in the table, we can observe that the activity of quality control of the specific activity of the Romanian Court of Accounts for 2012-2015 took place mainly at the local chambers of accounts, most of the activities taking place in 2013, respectively 15 activities.

This activity is conducted by the assessment compartment established and based on an inspection program approved annually by the executive management and approved by the Plenum of the Romanian Court of Accounts. This program is designed to ensure the assessment of each structure of control/audit at least once every 5 years, but can be made also ad-hoc inspections ordered by the management of the Romanian Court of Accounts.

4. The performance evaluation system of the Romanian Court of Accounts

In 2014, the Romanian Court of Accounts introduced experimentally the "Performance Evaluation System of the Court of Accounts", which seeks regular analysis of how control and audit activities are realized and distributed, in order to identify the strengths and weaknesses that appear in the activity of the specialized personnel (external public auditors) and to find solutions that can improve the Court of Accounts' performance and public financial management of the examined entities.

One of the most important indicator used is "Opinion of the examined entities' management on the quality of the audit performed by the Court of Accounts and its impact on the examined entities, as well as on the compliance by external public auditors with ethical principles and values" by which the Romanian Court of Accounts has implemented a provision of the ISSAI 30¹¹¹ Standard – INTOSAI Code of Ethics, according to which the Supreme Audit Institutions (including the Romanian Court of Accounts) should obtain information about the stakeholders¹¹² perception of the independence and impartiality of the external public auditors during audit and control.

The information are obtained through questionnaires that are sent electronically to all audited entities, after the completion of the audit and control actions. Subsequently, this information is used to express and measure this indicator.

¹¹¹ ISSAI – International Standards of the Supreme Audit Institutions

¹¹² The stakeholders are the Parliament, the Government, the public entities, the public opinion, etc.

According to the Romanian Court of Account annual activity report for 2014, more than 2,600 questionnaires were sent, which were received 1,100 responses (41%). Most of the audited entities that provided answers to these questionnaires (71%) felt that the relationship between them and the Romanian Court of Accounts as «very good».

Graph no. 6. The relationship between the auditees and the Romanian Court of Accounts

The relationship between the auditees and the Romanian Court of Accounts



5. Conclusions

The human resources development has become a priority for all organizations, both for the public system and those in the private sector. This development is achieved through investment in human capital, the most important resource for an entity.

The Romanian Court of Accounts, as a supreme audit institution in Romania, has an unique mission: to conduct the external public audit of public funds. This particular mission requires a certain degree of responsibility with regard to this activity. This responsibility involves a certain quality of its results, which automatically implies a professional well-trained human resources. From the data presented, it appears that external public auditors of the Romanian Court of Accounts have a strong professional background, resulting both from the graduation of higher education (Masters and PhD), as well as individual personal training.

The Romanian Court of Accounts, in order to ensure adequate human resources, contributing to the prestige of the institution, is focusing particularly on the recruitment, and the training of its personnel, respectively, external public auditors. This training contributes to the development of specific skills required particularly in external public audit work.

Regarding the overall performance of the institution, there must be a close connection between the training of specialized personnel, quality control assurance of the specific activities of the Romanian Court of Accounts and the system of performance indicators.

References

1. *Raportul anual de activitate a Curții de Conturi pe anul 2010;*
2. *Raportul anual de activitate a Curții de Conturi pe anul 2011;*
3. *Raportul anual de activitate a Curții de Conturi pe anul 2012;*
4. *Raportul anual de activitate a Curții de Conturi pe anul 2013;*
5. *Raportul anual de activitate a Curții de Conturi pe anul 2014;*
6. *Raportul anual de activitate a Curții de Conturi pe anul 2015;*
7. *Regulamentul privind organizarea și desfășurarea activităților specifice Curții de Conturi, precum și valorificarea actelor rezultate din aceste activități;*
8. *Codul de conduită etică a personalului Curții de Conturi;*
9. *Statutul auditorului public extern din cadrul Curții de Conturi;*
10. *Norme metodologice privind controlul calității activităților specifice Curții de Conturi a României, efectuat de compartimentul de evaluare;*
11. <http://www.rcc.ro/>
12. www.intosai.org

Risk Management and SME's: Needs, Attitudes, Competencies

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Risk is nowadays part of our daily lives. Business associated risks are no exception and managers should be prepared to face them. Our paper presents some of the results on a larger study on the impact of various risk exposures on private companies with the objective to determine the general perception of Romanian SMEs management teams regarding risk. The findings illustrate, from their perspective, the main threats and the main vulnerabilities of their business, some preferred methods of risk management and last but not least the size of the risk management team if any in place.

Keywords: risk, management, risk management, risk professionals, risk competencies

JEL Code: J24, L21, M10

1. Introduction

Risk is part of all our lives, both personal and professional. As a society, we need to take risks to grow and develop. Organisations are facing and taking risks with every moment of their existence. All organisations, from the tiny ones to large multinationals should have a risk management professional or, even better, a risk management team in place since the larger the organisations, the greater the likelihood of risks. regardless of the size of the business.

Risk itself has many definitions depending on the elements selected to describe it. Some definitions focus on threats others on vulnerabilities. In a dynamic risk model, in which time plays a role, risk is defined as "the combination of an asset, a type of damage that may occur to the asset and the circumstances in which this damage may occur" (White paper- Risk management, 2009, p.12).

The importance of studying risk is given by its constant presence in our private and business life. We need to do it in order to identify, accept and control it, which is precisely the risk management process as defined by Douglas Hubbard "Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities." (Hubbard, 2009, p.46) or similarly by Greenfield "a systematic process by which risks are identified, assessed, analyzed, reduced or eliminated in order to achieve the objectives" (Greenfield, 2005).

Some other specialists (Izverceanu & Ivascu, 2012; Zeininger & Irimie, 2015) expressed similar views defined risk management as the process of identifying loss exposures, losses that an organisation is facing, and the selection of the most appropriate techniques for treating each exposure in an individual manner.

This paper adds to the work in this field through the findings of an empirical research, aiming to illustrate the Romanian SME's top manager's perception on risk management out of which we looked into what a risk management specialist is looking like.

2. Research on risk management: methodology and findings

The research used as main methodology the inquiry. The authors designed and documented a questionnaire that was applied to the target group: top managers working in SME's. The questionnaire, presented below in table 1, has 8 questions, out of which 3 are meant to set the scene, 1 is related to counting staff dedicated to risk management and 4 are questions asking the respondent to set up a classification by distributing 1, 2 or 3 points among the 3 options provided because in order to narrow the large pallet of possible answers and make it more manageable, the authors provided the respondents with only 3 options to choose from. For questions 4, 5, 6 and 7 a total of all the points awarded was calculated for each option provided.

Table 1 Questionnaire

No.	Question	Answers - options provided		
		Microenterprise	Small enterprise	Medium enterprise
1.	Please indicate the type of your company	Microenterprise	Small enterprise	Medium enterprise
2.	Please indicate your position in company	Manager	Owner/shareholder	Both
3.	Please indicate the number of employees in your company?	<10	<100	>100
4.	Which are the top threats for your company? Please select from examples provided	Ambiguous legal frame	Arbitrary law enforcement	Excessive taxation
5.	Which are top vulnerabilities for your company? Please select from examples provided	Product/ service quality	Employee competence and attitude	Managers competence and attitude
6.	How is risk managed in your organization? Please select from examples provided	Externalization	Increased monitoring and control	Organisational culture change
7.	What is risk impact on your company? Please select from examples provided	Mostly negative; risk is a threat	Mostly positive; risk is an opportunity	Neutral
8.	How many employees are involved in risk management in your company?	0	<10	>10

The target group consisted of 60 top managers of various sizes Romanian SMEs. A first iteration of the findings for only 38 respondents was thoroughly analysed in the paper "Romanian SME's face-to-face with risk management" presented at the first international risk management conference in Turin, Italy (2016). This second iteration is based on the answers of 50 respondents and focuses on how risk management is dwelt with in terms of options to address it and staffing and we aim to answer the concern of whether do the SME's have anyone to look after their risk management process. Based on that we'll take a step further and look at the market offerings in terms of positions and competencies.

From the about 60 answers only 50 were complete and therefore considered for a full critical analysis. A first observation of quantitative nature is regarding the structure of the group of respondents: half are both shareholders or owners and managers of the company doubling the impact power of their judgement. A second observation also qualitative is that 95% of the respondents are acting top managers.

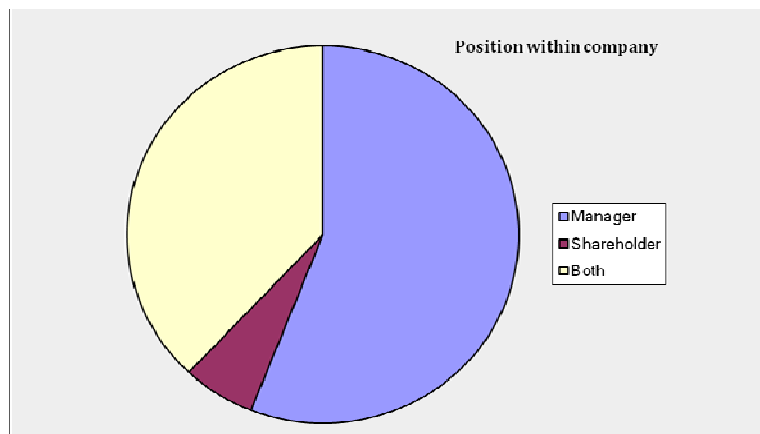


Figure 1. Qualitative split of the respondents

Source: authors

When asked to select a risk management treatment option the most popular selected by the respondents was the one of externalisation as presented in figure 2 and figure 3.

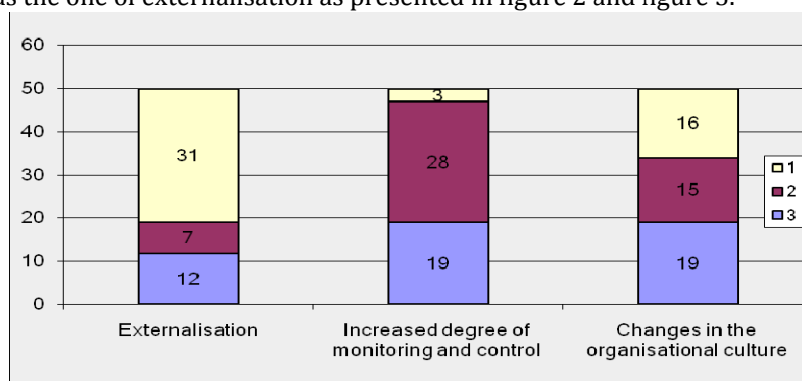


Figure 3. Ways of managing risks

Source: authors

However a deeper analysis of the above, detailed in Figure 3, shows that despite the fact that externalisation was selected by 62% of the respondents it is graded with 1 - indicating a minimalistic degree of importance. The 56% of the option of increased degree of monitoring and control -graded with 2 -shows the conservative approach top managers are willing to take regarding risk management. It is not to be overlooked an encouraging 38% of the ones aiming toward the empowering and involvement culture, as shown in the Figure 4, below:

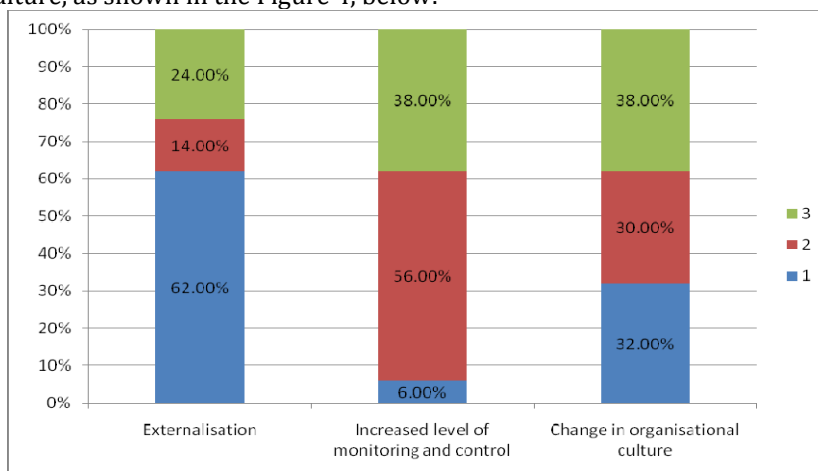


Figure 4. Ways of managing risks- percentage

Source: authors

3. Risk management careers

We came to find out that managing risks mostly by externalisation means most of the times having a contractor looking after health & safety training or having all cars covered by a CASCO policy. On the other hand behind increased level of monitoring and control means having a 24-hours guard on the premises, as required by the 333/2003 law and an eye on the IT risks, as required by ISO 27001.

The findings about managing risks through changes in the organisational culture, presented in Figure 4 above together with the details provided during the interviews are encouraging. results are indicating a change toward a sound work climate within a consistent risk management strategy served by well prepared risk management teams.

Awareness of the importance of risk management in the world's new high growth economies is increasing. Sooner or later all organisations, big and small alike, will understand the value of having a risk management team in place and a risk management plan with a comprehensive strategy in order to guard against risks of any kind that may occur. The risk management plan could hardly be a shelf-product due to its specificity that would make it valuable. Regardless of the size of the business, each risk needs a personalised addressing and a ranking as well as a prioritisation. That allows for a swift execution in case one risks or more become a reality, because then, employees will know what to do from the very first moments, the critical ones that could make the difference between salvation or disaster.

The Institute of Risk Management (IRM) has developed a model for their vision on career levels, presented below in Table 2.

Table 2 Career levels

Career level	Description	Examples of job titles
Leadership level Highest level of knowledge and application	Creates an organisation's risk strategy and provides oversight of risk matters. Influences and informs the governing body and decision makers on risk management strategies. Influences the direction and profile of risk management and the profession.	Chief Risk Officer Director of Risk Management Head of Risk Management Director/Consultant Partner/Consultant
Senior level Advanced level of knowledge and application	Develops risk management policies and procedures. Contributes to organisational risk management strategies and oversees their implementation. Manages and advises on improvements to risk management practices and associated changes; liaises with internal and external stakeholders.	Risk Manager Senior Risk Consultant Senior Risk Analyst Head of Risk Management
Management level Full knowledge of the concepts and application	Manages and advises on the implementation of risk management processes and procedures and champions its importance.	Risk Management Executive Risk Management Officer Risk Management Adviser Risk Analyst Risk Consultant
Support level Basic or no knowledge or experience	Communicates the importance and benefits of risk management; supports the implementation of risk management processes and procedures.	Risk Management Assistant Risk Management Officer Risk Analyst

Source: IRM, 2016 <https://www.theirm.org/about/professional-standards/career-levels#support>

Risk management is a multi-disciplinary profession. "Risk-related careers are incredibly diverse, reflecting the widespread role of risk management in companies and communities. Risk roles

range from banking and insurance to logistics and infrastructure, aviation, space travel, construction, public health, international development and many more." (IRM, 2016)

Awareness about the importance of risk management in the world's new high growth economies is increasing. Because of their highly transferable skills, qualified and experienced risk management professionals are able to move easily between different sectors and countries. Needs are for risk managers, specialists, advisors, consultants; very large companies even dedicate a chief risk officer to its risks management. Due to their highly transferable skills, qualified and experienced risk management professionals are able to move easily between different sectors and countries.

4. Risk management's occupations - comparative analysis

For a comparative analysis between western European countries and Romania, we have searched for information on the website of the Ministry of Labour, Family, Social Protection and Elders about the Romanian Occupations Classification (COR) the Romanian version of the International Standard Classification of Occupations (ISCO) looking for latest version the 2015 one. Hence, we have been able to identify and match the occupations presented in Table 2 with the ones in COR version 2015 - presented below in Table 3 since a first search after "risk" only provided with merely seven occupations.

Table 3. Comparative analysis of risk management occupations

Level	Examples of job Titles - IRM	Examples of occupation titles - COR
Leadership level Highest level of knowledge and application	Chief Risk Officer	
	Director of Risk Management	112016 Manager risk control
	Head of Risk Management	325701 Manager for quality management systems 325702 Manager for environment management systems 325708 Manager for risk management systems 325709 Manager for health & safety management systems
	Director/Consultant	122313 Project manager
	Partner/Consultant	
Senior level Advanced level of knowledge and application	Risk Manager	
	Senior Risk Consultant	
	Senior Risk Analyst	214139 Risk management auditor 214140 Risk management specialist
	Head of Risk Management	
Management level Full knowledge of the concepts	Risk Management Executive	325708 Manager for Risk management systems 121104 Executive manager bank/ Manager/ Deputy Director

Level	Examples of job Titles - IRM	Examples of occupation titles - COR
and application	Risk Management Officer	242104 Process manager 122109 Product manager 121112 Chief - accountant/Financial Director for bank/leasing company 133006 IT Director 134920 Security Director 133005 IT division Director 112020 Economic Director 111238 Deputy General Manager 112015 Deputy General Manager - state company 112012 Deputy General Manager - private company 112014 General manager - state company 112011 General Manager- private company 122104 Director of operations 112033 Human resources Director 112004 Director private company 112023 Branch Director 112007 Research & Development Scientific Director 112024 Technical Director 121110 Branch Director for bank/ leasing company 112019 Director/ Deputy Director/ Chief-inspector
	Risk Management Adviser	226307 Risk evaluator and Health & Safety auditor
	Risk Analyst	
	Risk Consultant	213238 Agri-business consultant 241234 Banking consultant 242312 Labour consultant - work conditions 241269 Investments consultant 242113 Security consultant 241222 Fiscal consultant 242318 Human resources - internal consultant 242307 Labour consultant - work force 251901 IT consultant 263107 Management consultant 242317 Human resources consultant 242316 Standardisation consultant 241213 Real estate consultant 214134 Quality management systems consultant
Support level	Risk Management Assistant	243217 Assistant Director
Basic or no knowledge or experience	Risk Management Officer	214949 Expert prevention technological risk

Level	Examples of job Titles - IRM	Examples of occupation titles - COR
	Risk Analyst	251201 Analyst 351202 Junior analyst 261912 Legal analyst 241229 Banking/ leading company analyst 214131 Quality analyst 241241 Credit analyst 243301 Buyer analyst 242224 Information analyst 263203 Environment analyst 241305 Financial analyst 241309 Bank financial analyst 242222 Company information analyst 241211 Investment analyst 214132 Metrological measurements analyst 242308 Labour market analyst 241220 Revenue costs/ prices analyst 333306 Human resources analyst 243216 Customer services analyst 242310 Wage systems analyst 331201 Financial markets technical analyst

Source of date: IRM, 2016 <<https://www.theirm.org/about/professional-standards/career-levels#support>> and COR, 2015 <<http://www.mmuncii.ro/j33/index.php/ro/2014-domenii/munca/c-o-r>>

At the first glance the comparative analysis reveals an uneven stretch of the occupations over the four levels taken into account. A second observation is that on the senior level, particularly, but on all levels alike, there are many positions missing in the Romanian COR, which would translate into lack of such positions and associated staff in both private and state owned companies. Thirdly we did noticed that on the management and support levels defined by I.R.M. the Romanian C.O.R. has a vast number of various occupations, some redundant not only in responsibilities but also in title and level like these ones all related to staffing: 242307 Labour consultant- work force, 242318 Human resources internal consultant and 242317 Human resources consultant.

The result draws our attention for further research in terms of identifying the competencies' content of the risk management positions classified by COR and the possibilities of bridging the gap with the international standards in place, especially since getting on the same pace with European standards is a major task with a due dead-line.

5. Conclusions

Businesses need to demonstrate to customers and stakeholders alike that risks are being managed effectively.

Today's risks include many from cyber attacks to threats posed by natural phenomena from earthquakes to global heating. Organisations need skilled professionals with the right qualifications to ensure procedures, processes and plans are implemented and therefore risk management is growing with an increasing demand particularly strong in developing countries.

An organisation that effectively and efficiently manages its risks and opportunities is more likely to achieve its business objectives at lower overall costs. Risk management is an inherent part of good management.

Romanian SMEs are still a long way away from managing effectively and efficiently their risks and opportunities, but, as our empiric research shows firsts steps are made in the right directions.

References

1. GREENFIELD M., *RISK BALANCING PROFILE TOOL*, HANLEY PUBLISHER, CALIFORNIA, 2005.
2. HUBBARD D., *THE FAILURE OF RISK MANAGEMENT: WHY IT'S BROKEN AND HOW TO FIX IT*, JOHN WILEY & SONS, 2009.
3. INSTITUTE OF RISK MANAGEMENT (IRM), *RISK MANAGEMENT CAREERS*, 2016
<https://www.theirm.org/the-risk-profession/risk-management-careers/>

4. IZVERCIANU M., IVASCU L., *THE INNOVATIVE INFORMATION SYSTEM FOR SYSTEMIC APPROACH OF THE SUSTAINABILITY IN THE ENTERPRISE*, INTERNATIONAL CONFERENCE ON MANAGEMENT, MARKETING AND FINANCE, VOL. 69, PARIS, FRANTA, AUGUST 2012, PP. 707-712.
5. MINISTRY OF LABOUR, FAMILY, SOCIAL PROTECTION AND ELDERS, ROMANIAN OCCUPATIONS CLASSIFICATION COR, 2015, <http://www.mmuncii.ro/j33/index.php/ro/2014-domenii/munca/c-o-r>
6. WHITE PAPER - RISK MANAGEMENT - CONCEPT AND METHODS (2008-2009).
7. ZEININGER L., IRIMIE S., *ASPECTS OF RISK MANAGEMENT INTRODUCTION IN SMALL AND MEDIUM ENTERPRISES*, RISK IN CONTEMPORARY ECONOMY, "DUNAREA DE JOS" UNIVERSITY OF GALATI, ROMANIA, 2015, PP. 200-209
<http://www.rce.feaa.ugal.ro/images/stories/RCE2015/Management-Marketing/ZeiningerIrimie.pdf>

Strategic Management in Public Administration

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The work entitled "Strategic management in public administration" focuses mainly on a documentary research of the strategic management's general aspects in public administration. The strategic vision, based on the currently reforming administrative system, aims to achieve the set goals and targets, the administrative institutions and employees being those who will undertake the formation of strategies, objectives and priorities as part of a managerial activity. In order to make the results more efficient, the strategic management in public administration represents an approach specific to every entity, an approach which includes a rational effort of integrating the strategic perspective on all managerial levels, in order for the system to function coherently.

Key words: public administration, management, strategic management

EL Classification: D73, H1, H83

Introduction

Romania's public administration has dealt in the past few years with significant changes regarding its own functioning, every government came up with its own administrative strategy, more or less applicable, having expectations from politics and, obviously, citizens, and having roles and responsibilities. But the strategic aspect of the specific activity was less highlighted. One of the most frequent criticism brought to the public administration's traditional pattern was the existence of the administrative tasks which were fulfilled without any long term perspective.

Due to the fact that the need of having a strategic perspective was ignored, the lack of the administration officer's managerial training put and continues to put its mark on some administrative institutions which are far less focused on what should be promoted, meaning initiative and flexibility.

We witness every day an extremely competitive environment, the strategic and culturally organizational way of thinking prefers change and performance, because the strategic management process is a dynamic and permanent one, and a change brought to any of the pattern's major elements will automatically lead to changes in all of the other elements.

The respective entity becomes more efficient through strategic management, with its own identity, leads to changes in the management staff's way of thinking and attitude, but especially involves permanently all the decision factors from all levels. But the most important advantage is that the organization's activity is directed long-term, through consistent and coherent correlation of all the activities, allowing itself to adapt to the rapid changes that occur in the system, to anticipate and solve them.

Of course, there are other organizations which don't use strategic management or, however, if they use it, it's possible that it doesn't enjoy the full support from behalf of that specific entity's management or staff.

Why? There could be multiple reasons. From the fact that those certain entities believe that the process of strategic planning is a waste of time, that it involves high costs in the process of strategic planning, and most of all the fact that they need to implement elaborate strategies, they fear the unknown, the comfortable staff doesn't want to put time, resources and effort into an elaborate plan, to the fact that the staff gets suspicious and lacks faith in the entity's management, previous experiences that did not have the expected result and, last but not least, the staff's fear of being poorly rewarded due to a previous success through fulfilling the set goals and the rise of a possible failure to penalize the culprits.

The process of strategic management means defining the organization's strategy, through which the managers make a choice linked to a strategic thinking, which they will further put in practice, in order to reach a better performance. At the same time, the objectives are set in order to

satisfy as many of the current and future needs, after which every strategy and tactics used will be reevaluated.

1. Strategic management in public administration

An organization's management success, regardless of its profile and activity, is shaped and supported by the promotion of strategic management. The organization's leaders determine, through strategic management, its long term evolution and performances, ensuring a rigorous formulation, proper application and continuously evaluating the set strategy. (Fred.R.David, 2000)

The administrative institutions and workers are required to undertake the formation of strategies, objectives and priorities as part of the managerial activity.

The strategic management takes into account the public workers situated in responsible positions, the workers who don't just need to mechanically fulfill their day to day work, but to also refer to the organization's general objectives.

But, most of all, it is directly linked to the public workers from the higher levels, where the strategic decisions are being conceived.

We can think that the strategic management describes that part of a public manager's activity which consists of widening the immediate horizon in order to offer the entity that he leads a "perspective way of thinking". It contains the definition of the objectives, the strategy, the structure and the functioning principles of this entity, as well as the measure of impact, through space and time, of an applied action.

A good starting point, in order to understand the strategic approach, is offered by the definition given by Chandler (1989): "The strategy means determining the organization's long term goals and objectives, adopting determined politics and assigning resources to achieve these goals". This definition shows, practically, the major problems to which the strategic process should respond:

- Where does it want to move forward?
- What parameters can translate the organization's goals?
- What certain politics will these goals imply?
- What human and financial measures will need to be taken?

The strategic management is attractive because it focuses on setting goals, identifying strengths and weaknesses and it highlights the importance of foreign opportunities and threats through the perspective of an optimal forces deployment in order to achieve the set goals.

1.1. Strategic-managerial approaches in public administration

In the public administration, different levels and approaches have been identified within the general concept of managerial strategy: (J.M.Bryson, 1995)

1. *The strategic planning system* which put forward models for formulating and implementing strategic decisions and for allocating the necessary resources to found them on all of the organization's levels. The strategic analysis and planning represent a widely spread step for private companies, aiming to help the leadership to achieve its mission of strategically coordinating the organization.

Thus, the strategic planning is tightly linked to the leeway and competitive strength.

It is also believed that, in general, an organization must put in practice a strategy in order to obtain as many advantages as possible from an environment marked by the presence of competitive forces which risk to question its survival.

Thus, the strategic step can appear too little relevant, within the public sector, taking into account the theoretical absence of the strategic leeway and the competition's illegitimate character.

The public organization's *leeway* in terms of damage done to resources is significantly restricted by the statutes; if a public organization intends to diversify its activity, there is a high possibility that a negative appreciation can occur from behalf of the control bodies.

The existence of a decisional leeway for the managers represents a prerequisite of the strategic step. We can't talk about a real strategy when it comes to an organization in which the activity perimeter is totally limited, or in which the "products" are defined by law.

The competition may deal, within the public organizations, with two aspects: a vis-à-vis competition with a public organization; a vis-à-vis competition with a private organization.

2. *The management of participants* analyzes the way in which the key participants evaluate the organization and form strategies of treating all the participants (the participants include individuals or groups who present a major interest for the organization, syndicates, clients, suppliers, etc.).

3. *The competitive analysis* which analyses the major forces present in a particular sector – the buyers and suppliers' power, replaceable products, competition – in order to gain a significant advantage through some strategies, such as differentiating from the competition and selecting the industrial fields where there are high chances of control.

4. *The strategic problems' management* – aims to identify the crucial problems for the organization's capacity to reach its objectives and take decisions regarding the method in which a group from inside the organization will solve these problems;

5. The approaches based on *strategic negotiations* treat the strategy of taking decisions as a deeply politicized process and offers methods of approaching these continuous negotiations;

6. *The logic incrementalism* highlights the incremental nature of strategic decisions.

Different studies have approached the method in which the public organizations define and implement their strategic objectives in reality, thus observing a significant influence of the public sector's distinctive elements over this field. Wechleser and Backoff (1986) have identified *four types of distinctive strategies promoted by the public institutions*:

1. *The development strategy* in public institutions which have independent objectives and sources of funding; the managers have a relative independence in structuring the organization's capacities, resources and performance;

2. *The transformation strategy* in institutions which, because of the budgetary pressures and of the pressures from behalf of the external groups, modify their way of functioning from the simple management of a public institution to promoting a performant management subsumed to the customers and the community;

3. *The protection strategy* in institutions which have to deal with strong criticism from behalf of mass-media and the legislature and with the public's rising needs and possible decreases in public allocations. These institutions will strengthen their internal control, will try to reduce the organization's "public profile", to strengthen the relationship with the legislature and to protect their levels of financing;

4. *The political strategy* in institutions which try to take decisions favorable to a certain type of participants, depending on the changes brought to the groups or individuals' configuration, which could decisively influence the organization.

In order to provide a systematic and covering frame to better understand the notion of strategic management in the public sector, we need a rational pattern of strategic planning.

The strategic planning is part of the strategic ruling, and the essence the strategic planning consists in analyzing the external environment, identifying the opportunities and threats brought to the public administration and exploiting or dealing with these through decisions taken in the present.

The strategic planning influences the public administration's entire activity, being the process through which an entity defines its strategy or strategic direction. In order to create the strategic directions, the key feature is that of taking decisions regarding the resource allocation. If it aims to determine where it's headed, the organization must know exactly where it stands, where it wants to go and then, if it wants to proceed in the set direction, it must also determine how it will arrive there. The document that results from this analysis is called a strategic plan.

The making of a rational planning requires 5 steps:

1. Identifying the problem/problems that need to be solved, as well as the opportunities of the external environment;

2. Elaborating some alternative solutions or courses of action (politics, programs, plans) which will solve the identified problems or measure the identified opportunities; in this step, stating the consequences and efficiency of each and every one of these alternative solutions must be taken into account;

3. Comparing and evaluating the alternative solutions and choosing the one whose impact is the closest to the initial desired conditions;

4. Developing an action plan to implement the selected alternative, including the allocated budget, the activities' program or the necessary regulations;

5. Evaluating the action plan as it carries out.

Applying the strategic management in the public sector could create problems similar to those identified in applying the management in the public sector in general; its applicability to public organizations represents a problem debated by papers which take into consideration the strategic approach in administration:

- Setting clear objectives and aims represents an extremely difficult process in the public sector, thus the building of strategies could appear as an effort which lacks finality;

- Another danger refers to how the strategic approach will be treated as a symbolic act (Montanari, Daneke and Bracker, 1989, p. 314) without any impact at the managerial level;
- The politics-administration relationship might be another impediment for implementing strategic management in the public sector;
- The lack of information or capacity of analyzing and interpreting the information, the difficulty of setting measurable results for the public sector or the human resource's lack of a needed qualification (Hughes, 1998).

Obviously all these criticisms do not convey the hopelessness of applying in the public sector the strategic planning and management. The strategic approach must be understood at its true value, without seeing it as a miraculous remedy and without neglecting its importance: "any strategic planning process is justifiable only if it helps the decision factors to think and act in a strategic manner". The strategic planning isn't a purpose by itself, but more of a set of concepts which helps the leaders take important decisions and initiate important actions. (Bryson, 1988, p.56)

The strategic approach finds different ways of applying in the public administration, at a state-level, the existence of a *strategic planning* under the influence of the practices in force in the great industrial groups, the planning at a state-level has assimilated an increasing strategic dimension.

The cooperation strategies have developed, aimed at sharing between multiple entities an investment too high for a single organization to handle; these cooperations can occur both within the public sector and between the public and private sector.

The local strategic approach can allow the identification of a development possibility for the strategic approach within the local organizations.

2. Do we need strategic management in the public administration?

Starting from the question: Do we need strategic management in the public administration?, the answer is definitely affirmative. That is because the public administration from the contemporary society must take into account the impact that a dynamic, continually-changing environment can have on it, because identifying the entity's aims and objectives represents not only a managerial strategy, but also a short, medium or long-term way of survival.

Even if the strategic management will suffer important pressures when it comes to entering the public domain, its potential of changing the tradition administrative patters remains extremely high.

Even if its application won't automatically ensure success, it will certainly create an atmosphere of rationality in a public administration often too less interested in the objectives placed beyond its mere existence and perpetuation (Călin Hînțea, Cristina Mora, 2002). In order to satisfy the social needs, through the corresponding creation of new values (public services), the public administration's authorities must act according to and applying principles, methods and techniques specific to the managerial science.

Any public authority, under the formal meaning, as an organization, in its mission to create final values of public interest (service benefits, public services), depending on the situation (conditions, instruments, rules), in a perspective vision, thus strategic, approaches scenario-projects, programs, whose fulfillment happens through activities of decision, ruling and command. These will come together as one and change the old values into new and final ones, which correspond to the community's needs.

Conclusions

It is important for the strategic management to be perceived on all of its three existent levels: *strategic, tactical and operational* (Bozeman and Straussman, 1990).

Strategy refers to determining the organization's missions and vision; for example, a government agency responsible for promoting regional cooperation must define the significance of this term, which are the set goals, which are the instruments of achieving these objectives and which is the cost of the required operations.

The tactical level refers to choosing from a package of alternatives a single way of achieving an objective, and it represents the typical activity in which the public managers are involved.

The operational level refers to the daily activities made by the organization in order to achieve its objectives. The most significant problems appear at the strategic level, where the public sector is more vulnerable to the external influences and pressures than the private sector.

It is also important to take risks, starting from the significant difference between the public and private sector when it comes to the tactical decisions-level. When public managers take disastrous

decisions, the organization's level of disappearance is minimum, from this point of view there is a significant pressure of accounting by law the public workers in case they commit acts considered to be illegal. On the other hand in the private sector, through the manager's disastrous decisions, there is a high risk of an imbalance to appear, which could threaten the organization's existence.

We need to understand the fact that adopting the strategic management in the public sector means much more than creating documents with strategic objectives and aims. This aspect includes a rational effort of integrating the strategic perspective on all managerial levels, in order to ensure that that certain entity functions coherently and fulfills the desired expectations.

The strategic management in public administration could be understood as being a management of change, because it comes with a know-how infusion in the traditional management, which is so reluctant to form and base changes. The public administration's new method of ruling the public, which highlights the strategic plans, objectives, aims, deadlines and results, could also be considered a tridimensional process, because it involves an analytical and rational process, which refers to the economic dimension, a socio-political process which covers the human dimension and a bureaucratic process, made by some that organization/entity's dimension.

The three dimensions could be complementary, meaning that the economical one could be the base for the social and political ones, and the both of them could be oriented towards the organizational as a guarantee of applying the strategic management.

In the public administration, change occurs especially when we talk about restructuring/reorganizing the system, a change imposed through which the entity's representatives are constrained to support the consequences of such an approach, consequences which are often negative, thus the reluctance to generate a change in the public management's system.

References

1. Fred R. David, *Strategic Management, Eight Edition*, Prentice Hall, 2000
2. J.M. Bryson, *Strategic Planning for public and nonprofit organization: A guide to strengthening and sustaining organizational achievements*, San Francisco, Jossey Bass, 1995
3. Călin Hînțea, Cristina Mora, *Management Strategic în administrația publică*, Transylvanian Magazine of Administrative Sciences, 2002
4. Calin Emilian Hinte, Calin Ghioltan, *Management strategic in administratia publica*, Babes-Bolyai University, Cluj-Napoca, 2000.
5. Constantin Bratianu, *Management strategic*, Bucuresti Publishing House, 2000.
6. Ministry of Interior, "Dezvoltarea capacitatii administrative" Operational Program, *Management strategic si planificare strategica in institutiile publice*, training session, 2011
7. A.D. Chandler, *Strategies et Structure de l'entreprise*, Editions d. Organisation, Paris, 1989.
8. Călin Hînțea, Cristina Mora, *Management Strategic în administrația publică*, Transylvanian Magazine of Administrative Sciences, IX, 2003, pp.25-33
9. B. Wechleser și R.W. Backoff, *Policy Making and Administration in State Agencies: Strategic Management Approaches*, Public Administration Review, 1986, p. 321-327.
10. J.R. Montanari, G.A. Daneke and J.S. Bracker, *Strategic Management for the Public Sector: Lessons from the Evolution of Private- Sector Planning*, in J. Rabin, G.J. Miller and W.B. Hildreth(eds) *Handbook of Strategic Management*, Marcel Dekker, New York and Base, 1989.
11. O.E. Hughes, *Public Management and Administration. An Introduction*, Palgrave, New York, 1998.
12. J.M. Bryson, *Strategic Planning for Public and Nonprofit Organisations: A Guide to Strengthening and Sustaining Organisational Achivements*, San Francisco, Jossey Bass, 1995.
13. B. Bozeman și J.D. Straussman, *Public Management Strategies*, Jossey Bass, San Francisco, 1990.
14. www.docslide.ro

Performing Causal Configurations in e-Tourism: a Fuzzy-Set Approach

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“Fuzzy-set analysis works from the assumption that the life isn’t black and white. Things can be more black, or more white, but rarely are they all one or the other”

Sophia Greeley, ImpactReady Consulting Fellow 2013

Search engines are constantly endeavouring to integrate social media mentions in the website ranking process. Search Engine Optimization (SEO) principles can be used to impact website ranking, considering various social media channels’ capability to drive traffic. Both practitioners and researchers has focused on the impact of social media on SEO, but paid little attention to the influences of social media interactions on organic search results. This study explores the causal configurations between social mention variables (strength, sentiment, passion, reach) and the rankings of nine websites dedicated to hotel booking (according to organic search results). The social mention variables embedded into the conceptual model were provided by the real-time social media search and analysis tool (www.socialmention.com), while the rankings websites dedicated to hotel booking were determined after a targeted search on Google. The study employs fuzzy-set qualitative comparative analysis (fsQCA) and the results reveal that social mention variables has complex links with the rankings of the hotel booking websites included into the sample, according to Quine-McCluskey algorithm solution. The findings extend the body of knowledge related to the impact of social media mentions on rankings and have relevant practical implications on SEO development.

Keywords: fuzzy-sets, Qualitative Comparative Analysis, e-tourism, social mention, hotel booking

JEL Code: L83, L86, C87

1. Impact of social media on SEO: Theoretical background

Despite the fact research into social media is still at an early stage (Michaelidou, Theofania Siamagka & Christodoulides, 2011), existing research in the field provide evidence that social media (like Facebook, Twitter, MySpace, LinkedIn, etc) are very popular and are used as communication and marketing tools to achieve brand objectives because of the number of active members they attract (Facebook for instance has more than 800 million fans), because of their interactive feature that contributes to foster relationship with customers and also because of their ability to boost brands popularity (Kim & Ko, 2012; Vries, Gensler & Leeflang, 2012; Michaelidou et al, 2011). Firms are now keen to make profitable use of the social media (Kaplan & Haenlin, 2012) even if they do not always know how to use them effectively and also how to measure their effectiveness (Hanna, Rohm & Crittenden, 2011). Social media are also very popular with consumers as they offer a platform where

they can share their product experiences and opinions but also evaluate the products they bought (Chen, Fay & Wang, 2011). Consumers are no longer passive. Their active role is increasing, as a result of this, they are considered as co-creators of marketing content with firms (Hanna, Rohm & Crittenden, 2011). This form of communication known as electronic word-of-mouth (eWOM) affects consumer attitudes on a wide range of products and services (Lee, Park & Han, 2008). The same way social media can be excellent marketing tools to facilitate interactions; collaborations and sharing content customers, social media can also have negative impacts on a brand's reputation (Kim & Ko, 2012).

That said research on social media or mainly focuses on: drivers that influence number of likes and comments (Vries et al, 2012); consumer posting behaviour (Chen et al, 2011); effects of negative eWOM communication on consumer attitudes (Lee et al, 2008); effective use to achieve brand objectives (Kim & Ko, 2012; Michaelidou et al, 2011; Hanna, Rohm & Crittenden, 2011; Kaplan & Haenlin, 2010) and method of measure of performance (Hanna, Rohm & Crittenden, 2011). This absence of research into the impact of social media on Search Engine Optimisation (SEO) provides the impetus for our study which addresses this gap and contributes existing literature. Al-Badi, Al-Majeeni, Mayhew & Al-Rashdi (2011) consider the impact of social media as a secondary factor in website ranking. As a matter of fact, social media is not even included in their top 10 factors namely (Al-Badi et al, 2011: 5):

- Keyword use in title tag
- Anchor text of inbound links
- Keyword use in document text
- Accessibility of document
- Link to document from site-internal pages
- Primary subject matter of site
- External links to linking pages
- Link to popularity of site in tropical community
- Global link popularity of site
- Keyword spamming.

Social Media, Classifications and Metrics

The 'social media' phenomenon has arguably revolutionized the ways people interact with each other and how firms interact with their clients. It has attracted much attention from industry and academic researchers who are intent on exploring the potential benefits and reach. From a practical perspective, there is significant drive by firms to adopt social media channels as part of their marketing strategy. This is part of an emerging strategy, often referred to as integrated marketing is driven by the belief that social media is where current and prospective customers are to be found. Globally firms of all sizes are heavily investing to adopt social media for various purposes including customer engagement, CRM and direct sales (Woodcock, Green and Starkey, 2011). In this evolving context, there is also consensus that metrics are deemed necessary for the development and evaluation of improved understanding that can lead to improvements in integrated marketing communications strategies (Hutton, 1996; Barger, 2013).

Nevertheless, there is currently intense ongoing debate in regards to how to define it exactly and what aspects to measure and how best to maximise ROI. The fact that currently there is no one agreed approach as to how to delimit what social media is or is not makes the latter difficult to understand. This can be explained by the fact that there is difficulty in drawing a distinction as well as interplay between the technology platforms that enable social interactions in cyber space and the social interactions themselves which are often highly complex (Kaplan 2008, Kaplan & Haenlein, 2010).

Various ways of classifying social media have been proposed (Ngai, Tao, Moon (2015). This paper focuses exclusively on so-called 'social networking' sites, a category that has come to be accepted across a wide number of these attempts to taxonomise the social media phenomenon.

2. Research methodology

Qualitative Comparative Analysis (QCA) is a method that bridges qualitative and quantitative analysis (Rihoux and Ragin, 2009), allowing the assessment of multiple causal configurations, which implies that (1) most often, it is a combination of conditions that generate an outcome; (2) several different combinations of conditions may produce the same outcome; (3) a given condition may have a

different impact on the outcome depending on the context (Ragin, 2014). QCA is considered the appropriate method when researchers are involved in modelling asymmetric relationships and reporting conditions that are sufficient (but not necessary) to cause an outcome condition. Using measures of consistency (analogous to a correlation) and coverage (a measure of effect size), QCA provides estimates of how alternative conjunctive models explain a certain behavior (Woodside, 2010). Set-theoretic methods such as fuzzy-set QCA (fs-QCA) are uniquely suitable for testing typological and configurational theory because they explicitly conceptualize cases as combinations of attributes and emphasize that the case combinations give them their uniqueness (Fiss, 2011).

This study uses the ranking of nine hotel booking websites, according to organic search results, as the **outcome** (Table 1 - Appendix).

The second step consists of identifying the **causal conditions** relevant to the outcome. Thus, the various combinations of conditions that might generate the outcome outline the effects of social mention variables on the ranking of the nine hotel booking websites, considered relevant cases in the research sample.

The social mention variables (according to www.socialmention.com) are the following: **strength** (the likelihood that a brand is being discussed in social media); **sentiment** (the ratio of mentions that are generally positive to those that are generally negative); **passion** (a measure of the likelihood that individuals talking about a brand will do so repeatedly) and **reach** (a measure of the range of influence, determined as a number of unique authors referencing a brand divided by the total number of mentions). These social mention variables represent the antecedent conditions in the research framework.

The **research model** can be outlined as it follows: the websites' ranking represents a function, whose arguments are strength, sentiment, passion, reach:

$$\text{Ranking} = f(\text{strength, sentiment, passion, reach})$$

Calibration of variables into conditions (equivalent to independent variables in descriptive statistics techniques) and outcome (equivalent to dependent variable in descriptive statistics techniques) is a critical step in fsQCA analysis, because it provides the final fuzzy set scores for all of them. In our particular case, we assigned the fuzzy set values 0.9 and 0.8 to the membership: "mostly but not fully in"; 0.7 and 0.6 to the membership: "more or less in"; 0.5 to the membership "cross-over: neither in nor out"; 0.4 and 0.3 to the membership "more or less out"; 0.2 and 0.1 to the membership: "mostly but not fully out" (Table 1 – Appendix).

Socialmention represents a target variable, determined by computing the fuzzy-set values of the input sets embedded into the conceptual model (strength, sentiment, passion, reach) (Figure 1). The membership rules were the same as the ranking, according to Tables 2,3,4 and 5 from Appendix.

$$\text{socialmention} = \text{fuzzyand}(\text{strength, sentiment, passion, reach})$$

76							FS/QCA
File Variables Cases Analyze Graphs							
Case	case	strength	sentiment	passion	reach	ranking	socialmention
1	1	0.9	0.3	0.4	0.7	0.9	0.3
2	2	0.1	0.4	0.65	0.1	0.8	0.1
3	3	0.4	0.5	0.8	0.4	0.7	0.4
4	4	0.2	0.8	0.1	0.3	0.6	0.1
5	5	0.7	0.1	0.65	0.5	0.5	0.1
6	6	0.55	0.2	0.9	0.2	0.4	0.2
7	7	0.3	0.7	0.3	0.6	0.3	0.3
8	8	0.8	0.6	0.5	0.8	0.2	0.5
9	9	0.55	0.4	0.2	0.9	0.1	0.2

Figure 1: Fuzzy-sets embedded into the research model

Source: print-screen from fsQCA software

Based on the data stored in fsQCA software database, two types of analyses will be addressed in the following section of the paper: a visual representation of cases on a fuzzy-set XY plot and the truth table analysis, which will finally lead to the result of the model.

3. Fuzzy-sets analysis

First analysis by means of fuzzy-set XY plot outlines the consistency and coverage scores. The lower right box shows the degree to which the data plotted are consistent with $Y \text{ (ranking)} \leq X$ (socialmention computed variable) – equivalent with the assumption that Y is a subset of X. The upper left box shows the degree to which the data plotted are consistent with $X \leq Y$ (X is a subset of Y).

The results of the intermediate solution suggests that antecedent condition are sufficient for the outcome, due to the positioning of seven cases on the upper left quarter of the XY plot. Only two cases make the exception, being positioned on lower right quarter of the XY plot (Figure 2).

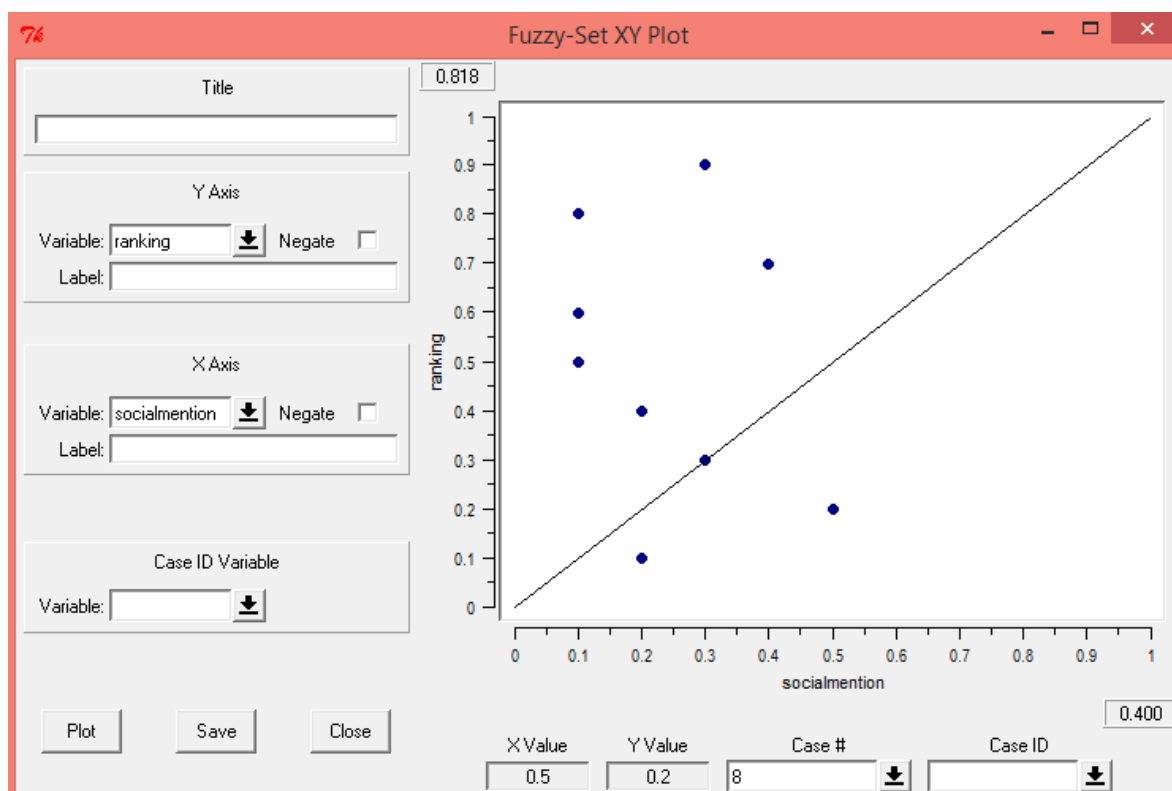
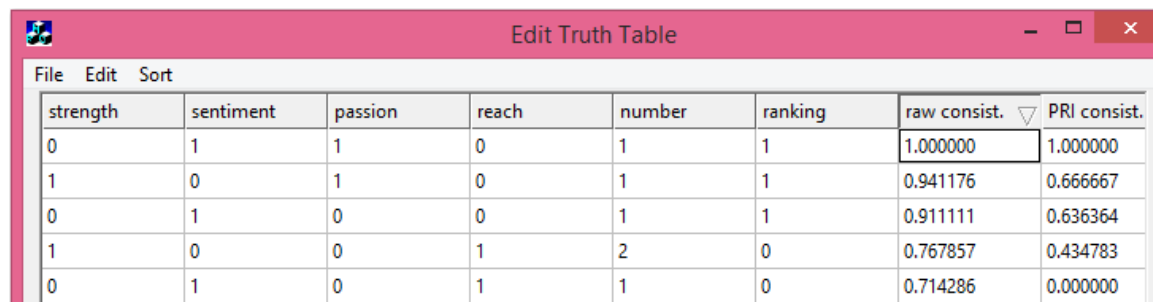


Figure 2: The distribution of the nine cases on a fuzzy-set XY plot graph (X – socialmention, considered target variable, while Y represents the outcome variable (ranking))

The value in the upper left corner is .818 (reflecting the consistency), while the value in the lower right corner is .400 (reflecting the coverage); these calculations indicate that the data are largely consistent with the argument that social mention computed variable is a subset of the outcome (ranking) and its coverage of ranking is 40%.

The truth table allows the examination of the kinds of cases that exist in a given set of data, listing all the different combinations of causally relevant conditions and treats each combination as a different kind of case (Ragin, 2008). The codification of cases in the truth table associated to this research model has deleted possible cases with no occurrences, and set the outcome value to 1 in three cases (Figure 3).



strength	sentiment	passion	reach	number	ranking	raw consist.	PRI consist.
0	1	1	0	1	1	1.000000	1.000000
1	0	1	0	1	1	0.941176	0.666667
0	1	0	0	1	1	0.911111	0.636364
1	0	0	1	2	0	0.767857	0.434783
0	1	0	1	1	0	0.714286	0.000000

Figure 3: The truth table related to the research model

The truth table lists all the logically-possible outcomes, while each case is considered as a configuration – a combination of the characteristics selected. This study produces instances of five configurations, as we can observe in Figure 3.

In order to find a complex solution, we have decided upon the level of consistency cut-off above 0.8, in which membership score on the outcome is consistently higher than the membership score of the causal configurations of social mention variables (strength, sentiment, passion and reach).

The truth table is used to interpret the solutions. The output table from the fsQCA software for the complex solution is shown in Figure 4.

```

Algorithm: Quine-McCluskey
True: 1

--- COMPLEX SOLUTION ---
frequency cutoff: 1.000000
consistency cutoff: 0.911111

              raw      unique
              coverage  coverage  consistency
-----
~strength*sentiment*~reach      0.644444      0.288889      0.906250
strength*~sentiment*passion*~reach 0.533333      0.177778      0.941176
solution coverage: 0.822222
solution consistency: 0.891566

```

Figure 4: The complex solution to the research model

The solution with the highest consistency (0.9411): strength*~sentiment *passion*~reach (where ~ indicates negation and* indicates logical AND) can be interpreted as follows: where there is a high level of strength and passion, combined with lower levels of sentiment and reach, there will be a successful recipe for a better ranking.

4. Conclusions, implications, limitations and further research

Social media interactions are crucial for achieving the highest ranking within organic targeted searches. The research reported in this paper is an attempt to represent causal configurations of social media mentions such that e-Tourism decision makers can understand their interactions from SEO point of view.

This study highlights the antecedent conditions that lead to the presence of the outcome condition: a better "ranking" for the hotel booking websites is not only the result of the SEO best practices, but also the result of social media mentions. In the particular case of hotel booking websites, if their administrators don't monitor their mentions in social networks, then they are missing out on valuable feedback and opportunities. Moreover, e-tourism operators' commitment to develop social media marketing strategies encourage communication and facilitate the sharing of useful information related to their brands.

The hotels' potential clients, looking for high quality and money value, have become more critically with regard to social mentions. In this context, the findings of this study help the e-tourism players to better understand the interactions between organic search results and social mentions.

The main limitation consists of the lack of "fully in" (1.00), respectively "fully out" (0.01) of the set. The further research will integrate two additional hotel booking websites, in order to assign the "fully in" and "fully out" memberships to the cases selected into the sample.

The next step is to improve the fuzzy-set QCA results robustness by adding new cases corresponding to "fully in" and "fully out" of the set. A longitudinal study is also envisaged to highlight the temporal evolution of complex fuzzy-sets like multi-dimensional conditions related to social mentions interactions, as well as their impact on organic results to targeted searches on hotel booking.

An excellent opportunity to present the further research results is the international conference "7th GIKA: Innovation, Knowledge, Judgment and Decision Making as Virtuos Cycles" that will be hosted by ISEG, University of Lisbon, Portugal in June 2017.

References

1. Al-Badi, A.H., Al-Majeeni, A.O., Mayhew, P.J. & Al-Rashdi, A.S. (2011) *Improving website ranking through search engine optimisation*, *Journal of Internet and e-business Studies*, DOI: 10.5171/2011.969476
2. Barger, V. A. and Labrecque, L. (2013), 'An integrated Marketing Communications Perspective on Social Media Metrics', *International Journal of Integrated Marketing Communications*, Spring 2013, Vol. 5 Issue 1, p64
3. Chen, Y., Fay, S. & Wang, Q. (2011) *The role of marketing in social media: How online consumer reviews evolve*, *Journal of Interactive Marketing*, 25 (2011): 85-94
4. Fiss, P. C. (2011). *Building better causal theories: A fuzzy set approach to typologies in organization research*. *Academy of Management Journal*, 54(2), 393-420.
5. Hanna, R., Rohm, A. & Crittenden, V.L. (2011) *We're all connected: The power of the social media ecosystem*, *Business Horizons*, 2011(54): 265-273
6. Hutton, J.G. (1996) 'Integrated marketing communications and the evolution of marketing thought', *Journal of Business Research*, Volume 37, Issue 3, November 1996, Pages 155–162.
7. Kaplan, A.M. & Haenlein, M. (2010) *Users of the world, unite! The challenges and opportunities of social media*, *Business Horizons*, 2010 (53): 59-68
8. Kim, A.J. & Ko, E. (2012) *Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand*, *Journal of Business Research*, 65 (2012): 1480-1485
9. Labrecque, L. L., (2015), 'Integrated Marketing Communication (IMC): Conceptual and Theoretical Lacunae, Foundational Premises, and Framework', *IJIMC*.
10. Lee, J, Park, D. H. & Han, I. (2008) *The effect of negative online consumer reviews on product attitude: An information processing view*, *Electronic Commerce Research and Applications*, 7 (2008): 341-352
11. Michaelidou, N., Theofania Siamagka, N. & Christodoulides, G. (2011) *Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands*, *Industrial Marketing Management*, 40 (2011): 1153-1159
12. Mihailescu, M. E. (2015). *Public Service in Age of Globalization. Annals of the University Dunarea de Jos of Galati: Fascicle: I, Economics & Applied Informatics*, 21(1).
13. Ngai, E.; Tao, S. C.; Moon, K. (2015), 'Social media research: Theories, constructs, and conceptual frameworks'. *International Journal of Information Management*. Feb 2015, Vol. 35 Issue 1, second p33-44. 12p.
14. Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond* (Vol. 240). Chicago: University of Chicago Press.
15. Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies*. University of California Press.
16. Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques*. Sage.
17. Vries, L.D, Gensler, S. & Leeftang, P.S.H. (2012) *Popularity of brand posts fan pages: An investigation of the effects of social media marketing*, *Journal of Interactive Marketing*, 26 (2012): 83-91
18. Woodcock, N.; Green, A. and Starkey, M. (2011), 'Social CRM as a Business Strategy', *Journal of Database Marketing & Customer Strategy Management* (2011) 18, 50–64. doi:10.1057/dbm.2011.7
19. Woodside, A. G. (2010). *Case study research: Theory, methods and practice: Theory, methods, practice*. Emerald Group Publishing.

Appendix

Table 1 - Hotel booking websites' ranking – according to organic search results

Case	Website	Ranking	Fuzzy-set value	Membership
1	www.booking.com	1	0.9	mostly but not fully in
2	www.hotels.com	2	0.8	
3	www.agoda.com	3	0.7	
4	www.trivago.com	4	0.6	more or less in
5	www.goibibo.com	5	0.5	cross-over: neither in nor out
6	www.makemytrip.com	6	0.4	more or less out
7	www.ebookers.com	7	0.3	
8	www.expedia.com	8	0.2	mostly but not fully out
9	www.travelocity.com	9	0.1	

Table 2 - Transforming strength percentage into fuzzy-set values

Case	Website	Strength percentage	Fuzzy-set value
1	www.booking.com	43%	0.9
2	www.hotels.com	3%	0.1
3	www.agoda.com	26%	0.4
4	www.trivago.com	4%	0.2
5	www.goibibo.com	38%	0.7
6	www.makemytrip.com	34%	0.55
7	www.ebookers.com	6%	0.3
8	www.expedia.com	41%	0.8
9	www.travelocity.com	34%	0.55

Table 3 - Transforming sentiment ratio into fuzzy-set values

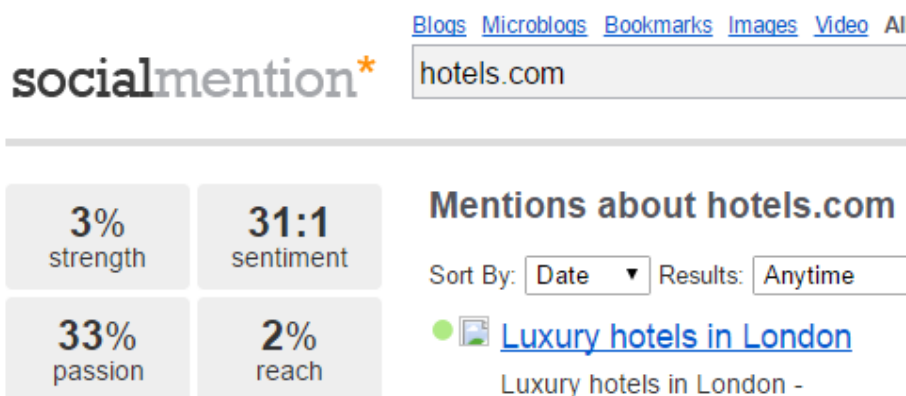
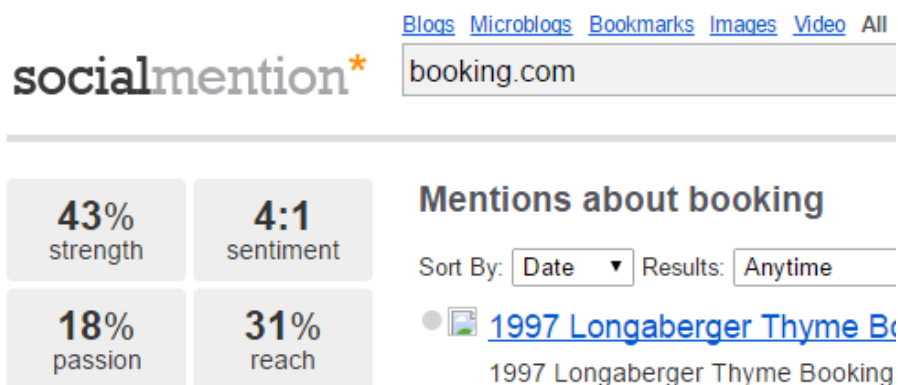
Case	Website	Sentiment ratio	Fuzzy-set value
1	www.booking.com	4:1	0.3
2	www.hotels.com	31:1	0.9
3	www.agoda.com	7:1	0.5
4	www.trivago.com	29:1	0.8
5	www.goibibo.com	2:1	0.1
6	www.makemytrip.com	3:1	0.2
7	www.ebookers.com	12:1	0.7
8	www.expedia.com	9:1	0.6
9	www.travelocity.com	6:1	0.4

Table 4 - Transforming passion percentage into fuzzy-set values

Case	Website	Passion percentage	Fuzzy-set value
1	www.booking.com	18%	0.4
2	www.hotels.com	33%	0.65
3	www.agoda.com	44%	0.8
4	www.trivago.com	9%	0.1
5	www.goibibo.com	33%	0.65
6	www.makemytrip.com	75%	0.9
7	www.ebookers.com	16%	0.3
8	www.expedia.com	26%	0.5
9	www.travelocity.com	14%	0.2

Table 5 - Transforming reach percentage into fuzzy-set values

Case	Website	Reach percentage	Fuzzy-set value
1	www.booking.com	31%	0.7
2	www.hotels.com	2%	0.1
3	www.agoda.com	18%	0.4
4	www.trivago.com	12%	0.3
5	www.goibibo.com	29%	0.5
6	www.makemytrip.com	10%	0.2
7	www.ebookers.com	30%	0.6
8	www.expedia.com	33%	0.8
9	www.travelocity.com	43%	0.9



socialmention*

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)

agoda

26%
strength

7:1
sentiment

44%
passion

18%
reach

Mentions about agoda

Sort By: Results:

 [Moksha Himalaya Spa Resort](#)

Moksha Himalaya Spa Resort Packag

socialmention*

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)

Trivago

4%
strength

29:1
sentiment

9%
passion

12%
reach

Mentions about Trivago

Sort By: Results:

 [FLORIDA: Cleveland, Miami](#)

FLORIDA: Cleveland, Miami Beach \

socialmention*

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)

Goibibo

38%
strength

2:1
sentiment

33%
passion

29%
reach

Mentions about Goibibo

Sort By: Results:

 [Hotel Deal Coupons](#)

Hotel Deal Coupons - banner16_ver3

socialmention*

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)

makemytrip

34%
strength

3:1
sentiment

75%
passion

10%
reach

Mentions about makemytrip

Sort By: Results:

 [A View inside Monolith Resort.](#)

A View inside Monolith Resort, Bhimta

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)



6%
strength

12:1
sentiment

16%
passion

30%
reach

Mentions about ebookers

Sort By: Results:

 [ebookers](#)
ebookers - ebookers.png

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)



41%
strength

9:1
sentiment

26%
passion

33%
reach

Mentions about Expedia

Sort By: Results:

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Expedia SummerFun - exp2.jpg

[Blogs](#) [Microblogs](#) [Bookmarks](#) [Images](#) [Video](#) [All](#)



34%
strength

6:1
sentiment

14%
passion

43%
reach

Mentions about Travelocity

Sort By: Results:

 [me and the travelocity gnome!](#)
me and the travelocity gnome! - 384.jpg

Promoting Mathematics by Software Techniques

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The paper presents a series of methods aimed at developing modern lessons aspiring to draw the attention of the participants within an educational process for teaching-learning-evaluation. It contains some references to the definitions given for formal and informal education, revealing also some characteristic features. Afterwards, we are going to try to describe what meant the innovation of some lessons that could be taught only traditionally, by using some student and group of students oriented teaching techniques, and also the GeoGebra educational software that is accessible for the entire "audience", students and teachers. Finally we make a brief presentation of the GeoGebra software.

1. Formal education

Etymologically, the term „*formal*” comes from the Latin word “*formalis*” that means “organized”, “official”. That is why the formal education represents the official education.

One definition of the *formal education* was given by Philip Coombs, according to which the formal education is “a hierarchical and chronologically graded educational system, starting from primary school up to university studies that includes in addition to the academic studies a variety of specialization programs and professional training institutions.” The formal education, in the official form is always socially evaluated. The evaluation made within the formal education must follow the development of self-evaluation capabilities of students.

The formal education is the deliberate, systematic and evaluated education entrusted to specialists from the institutional, juridical, state, social and educational systems (teachers, educators, lecturers, etc). This type of education includes all the influences and actions organized systematically, chronologically graded and developed within specialized institutions in order to shape up the human personality.

Characteristic features:

- Takes place in a determined pedagogical framework, with teaching – learning – evaluation means with precise pedagogical functions
- It is generalized, allowing the access of all individuals.
- It is institutionalized and takes place within the official education system.
- It is rigorously designed, conducted and evaluated by the official character school documents.
- Represents a priority in terms of national policies on human resources, being the main focus of educational policies
- It is evaluated socially, according to rigorous socio-pedagogical criteria and aims at knowing both the results of instructional and educational activity and of the educational process.
- It is organized as training and instructional-educational activities within the context of the education system.
- It is coordinated by a specialized professional body, specialists in the fields of study and persons entrusted with facilitating learning.

2. Non-formal education

Etymologically speaking, the term "*non-formal*" has its origin in the Latin "*nonformalis*", that means "outside of special forms/officially organized for a certain type of activity". Non-formal designates a less formalized educational reality, but always with normative and educational effects.

Non-formal education was defined by J. Lleis as "any intentional and systematic educational activity carried out usually outside traditional school, whose content is adapted to the needs of the

individual and specific situations in order to maximize learning and knowledge and minimize the problems the individual faces in the formal system (the stress of grading in the school register, the imposed discipline, doing homework)".

Non-formal education includes all systematically organized actions, but the ones outside the formal education. This form of education is seen as complementary to formal education in terms of finalizing the content and tangible achievement ways.

Characteristic features:

- Is varied and flexible, optional and elective
- Differentiates the content, working methods and tools based on the interests and abilities of the participants
- Highlights the whole learning experience of participants

These types of activities are carried out in the socio-cultural environment as a means of entertainment, leisure in a constructive way or active rest. They are for all ages: both children (pedagogy) and adults (andragogy).

The two forms of education contribute to the development of the personality of young people and can contribute to a sustainable development of the society through the interrelations. Thus, the formal education has the upper hand if it can creatively integrate the many influences of the specific non-formal and informal education. On the other hand, the accumulation of formal education can contribute to the development and effectiveness of the other two types: non-formal and informal. In conclusion, between the three types of education there should be continuous and permanent interdependence relationships.

3. Demonstrative lessons- with applicative nature, using methods of good practice in teaching - learning – evaluation process

Within an educational project, called ***„FROM THE PROMOTING OF MATHEMATICS TO THE PROMOTING OF THE SCHOOL"***, I realized an activity of marathon type of demonstrative lessons, made or accomplished with students of VIIIth grade from four secondary schools from Galati, at "Dumitru Motoc" C.T.A.T. Galati. The purpose started from the need of promoting schools and it has reached to the promoting of "mathematics", which is not quite a beloved object by students. The specifics of the lessons is a *workshop – mathematics*, which is achieved without grading, in an active-participative activity framework, where there are used in addition to traditional pedagogy elements, elements of modern pedagogy. I split the class into groups of 5 students (the class being of 30 students), the distribution of students being realized depending upon the learning styles, the multiple intelligences and the type of personality of each student.

We remind the fact that in terms of learning styles we have the following categories: visual, auditory and tactile -kinesthetic; in terms of multiple intelligences: mathematical logics, linguistic, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, naturalist; in terms of personality types we have the categories: introverted, extroverted, sensorial, intuitive, reflexive, affective, judge, perceptive.

I used all these theories mentioned above, because the lessons were based on teaching strategies with innovative character, based on modern methods, student-centered and the groups had to be formed of students with different traits or characteristics.

The lessons had as content the chapter ROUND SHAPES, chapter which was also given at the National Assessment Exam at the end of the VIIIth grade.

The student-centered methods were: teaching through questions, brainstorming, cooperative learning; materials distributed to students: wooden sticks used for barbecues, colorful paper cards, embroidered napkins of paper for cups, glue, markers for making the development use for round shapes such as the straight cylinder, the straight circular cone, the straight truncated cone and the sphere.

There were used objects used in the kitchen and laboratories with food destination, the college being of food and tourism specialization.

Each group of students had to make various themes for a particular round shape. The themes were the following: development, calculation and discovery for area formulas, volume starting from the basic notions of VIIth grade: circle, central angle, sector of a circle etc.

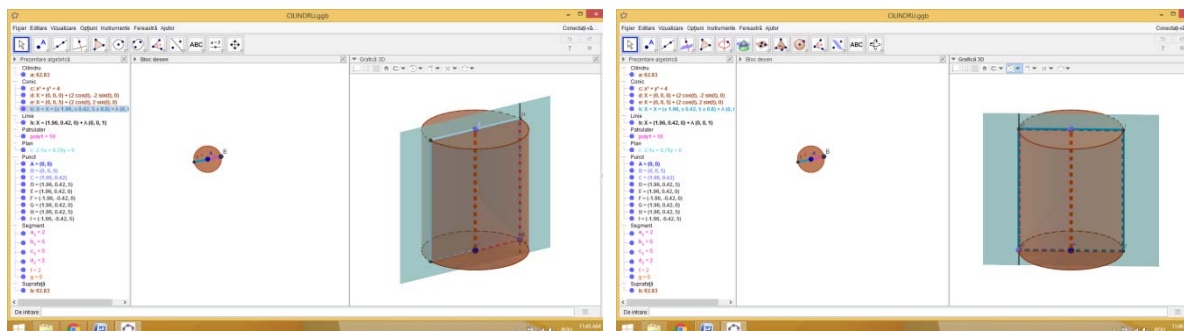
All the materials made or achieved by each group were exhibited on a flip-chart sheet and were presented and explained to the other groups.

Within the activity I used the beloved GeoGebra 3D soft, which brought a real focus of captivation of students' attention and not only this. The animation and the drawing and visualization

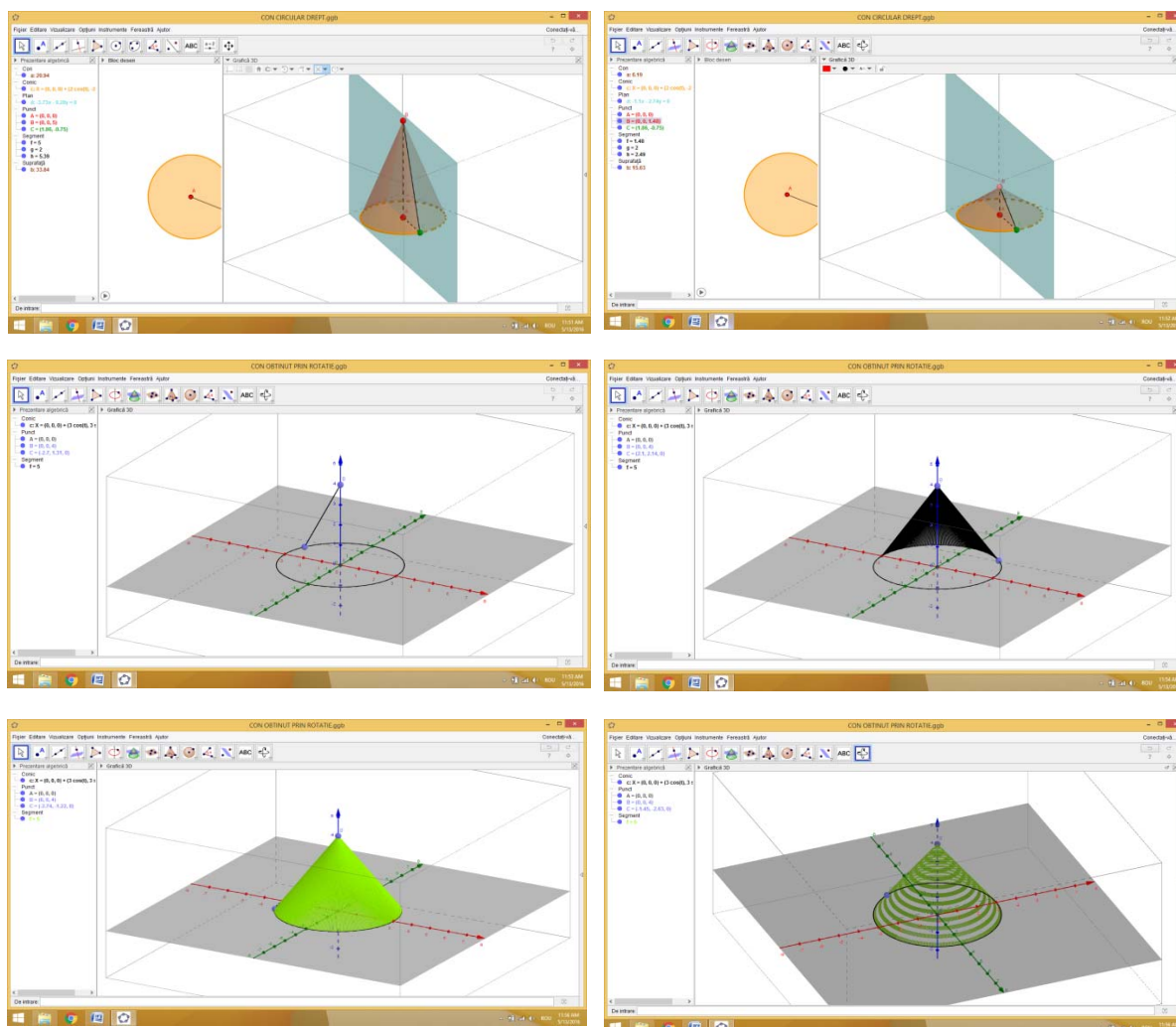
mode offered by this software led the lesson to a high degree of success, even for the teachers who attended the event. I mention that it was a success, because many of my colleagues, who had children of VIIIth class even invited them to participate or take part at at least one lesson.

We are going to give below a few demonstrative captures from the materials created with GeoGebra for the active-participative activities:

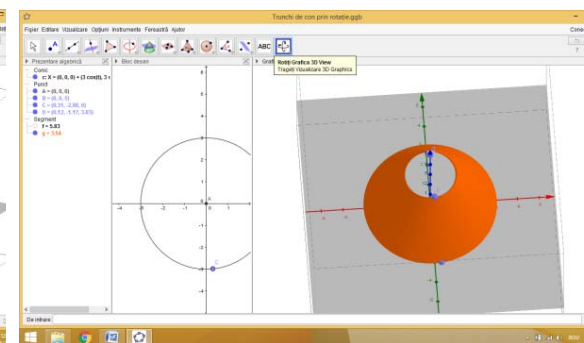
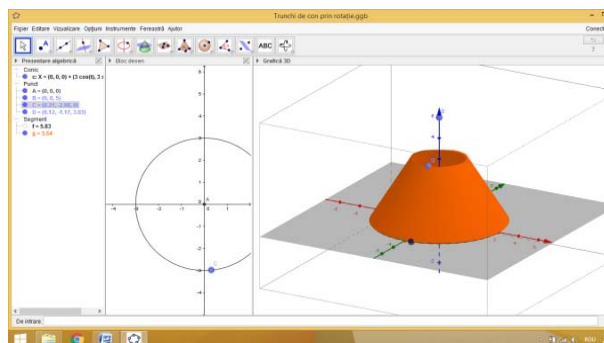
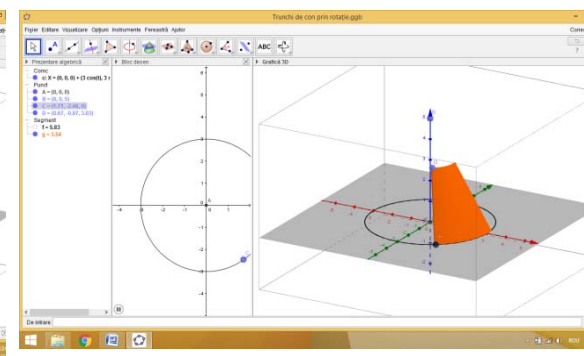
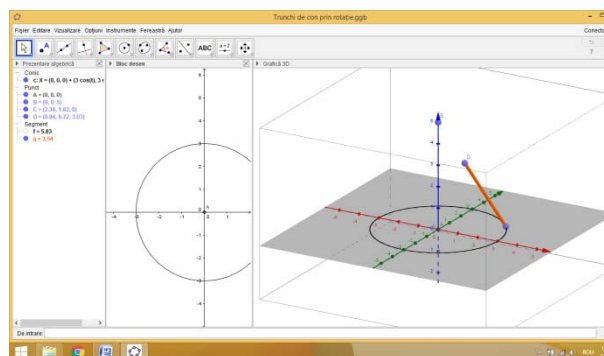
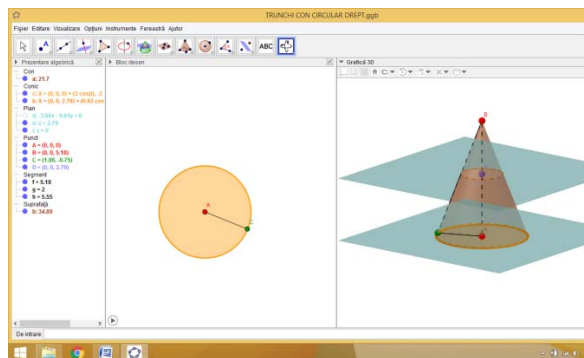
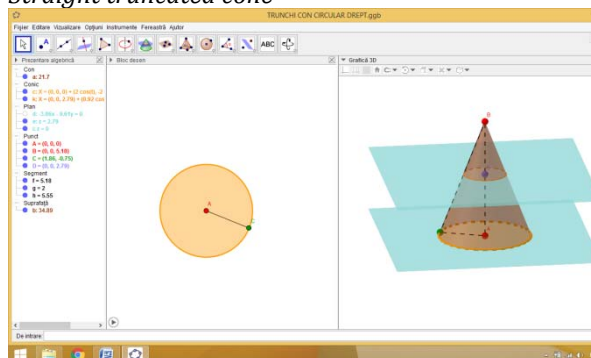
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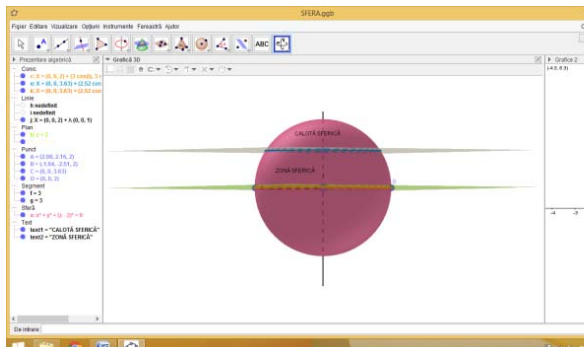
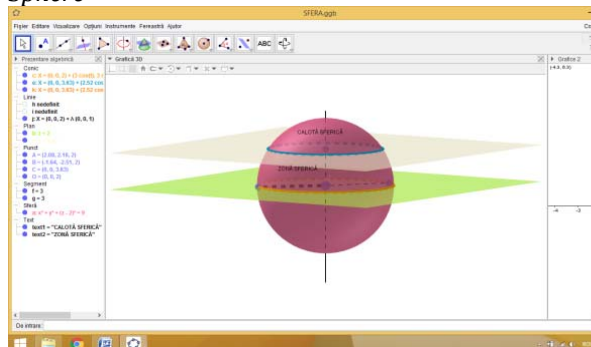
Straight circular cone

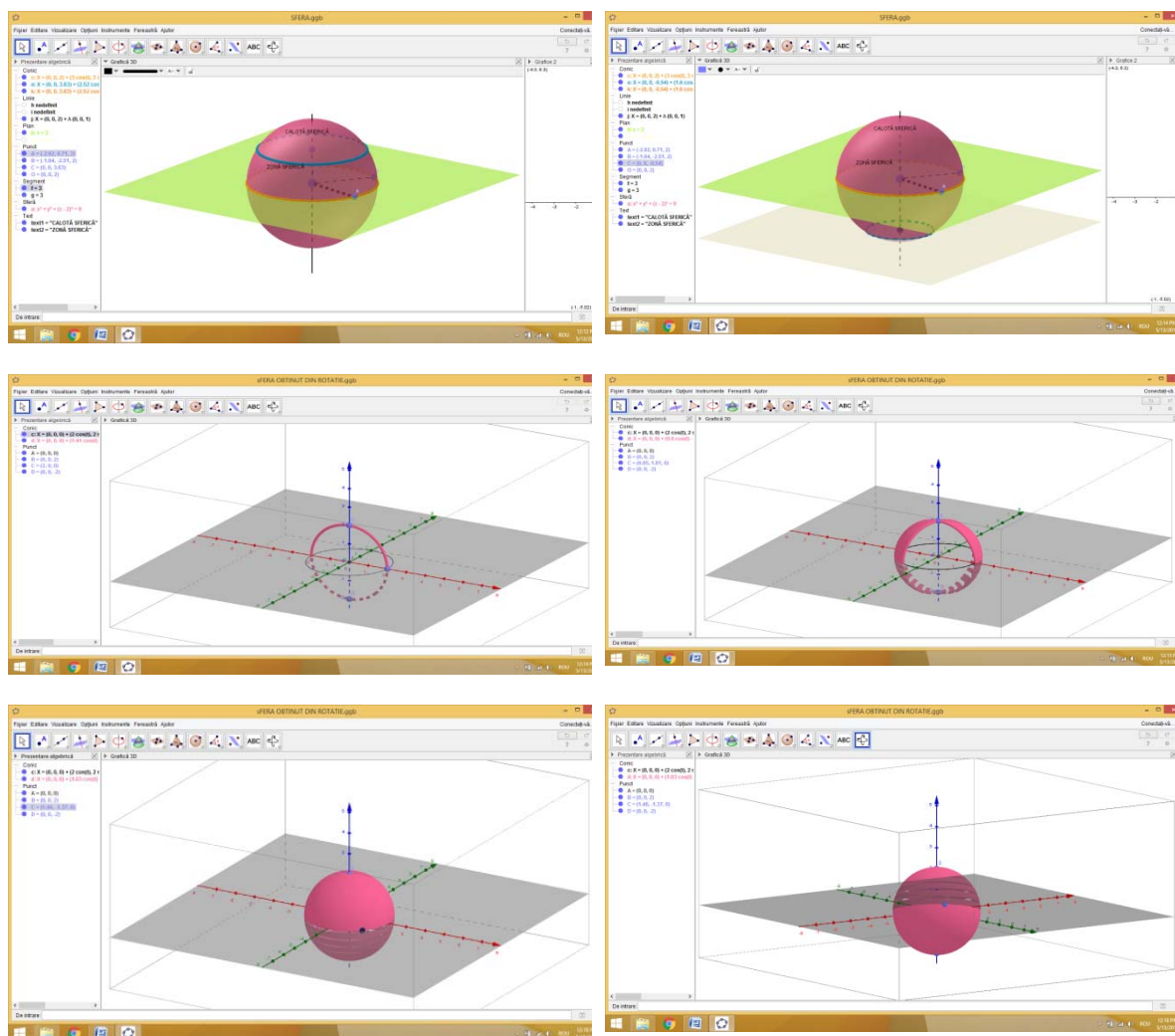


Straight truncated cone



Sphere





3. GeoGebra

GeoGebra is an interactive geometry application for students. The majority of the parts of GeoGebra are free. GeoGebra is written in the Java programming language.

The Geogebra multi-educational platform is destined for learning and teaching mathematics and science at elementary level up to university level; the elementary mathematics chapters approach is possible and easy, from arithmetic to statistics and mathematical analysis. The use of graphs, variables, tables, ..., animations are just some of the usual facilities or features of the GeoGebra application.

Bibliography

1. <http://trainermarianaiacob.weebly.com/blog/educatia-formala-nonformala-si-informala>
2. <https://ro.wikipedia.org/wiki/GeoGebra>
3. <https://edu.moodle.ro/mod/page/view.php?id=2001>

The Contribution of Education to the Insertion of Vulnerable Groups on the Labour Market

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Education helps man know the concept of liberty, which triggers not just benefits but also responsibilities. The teacher is the main actor of education, and his role is not just that of informing but also that of forming the pupil. This forming is viewed from several perspectives: personality, skills and aptitudes necessary to secure a position on the labour market. The work hypothesis of this article has started from the premise according to which there is interdependence between educational level and employment. The central problem pursued throughout this article is how to close the insertion gaps on the labour market for vulnerable groups, and the decisive factor is the education received in the organized environment (high schools, colleges and universities). The present article is structured into three parts. The first is dedicated to the state-of-the-art in this domain. In the second part are presented Roma evolution statistics, Roma representing the vulnerable group who is the subject of our study, since their slavery but also after they became free. The last part of this article presents the results of a direct questionnaire, an opinion survey, and the instrument used is a questionnaire applied on teachers from two high schools.

Key words: education, work, vulnerability, insertion, labour market

Jel: J 20

1. Education and work

Education causes the man to know the concept of freedom that attracts not only benefits but also responsibilities. Blakstone sees the lack of freedom as constraints, while freedom as seen by Hurmuz reflects the fact that slavery is the conviction of freedom. The teacher is not only part of the teaching staff who strictly fulfills the duties of the job, but he is a complex personality.

Being a teacher is not only to inform but also to form. In our country there was no emphasis on the contribution of education in preparing young people to take up work. Even if in the fourteenth and fifteenth centuries not everyone could benefit education there were activities that were called work, and those who had undertaken such activities were particularly Gypsies who were later converted into slaves (François J, 2009).

The period between the fourteenth and fifteenth centuries is one characterized by great economic prosperity for Romanian territories were transit trade between the East and the West, the Byzantine Empire, the German-Polish space. Large areas appeared and there was born the institution of slavery, Gypsies mostly became slaves. Romanian Gypsies have become an important economic value, being a class between landowners and peasants. To prevent their escape, noblemen turned into slaves (Costachie S, 2010).

Economic specifics of Romanian Gypsies were given by the crafts which were practiced either on land or for their master. Early nineteenth century craftsmen in town activities were regulated so they were enrolled in the guilds that were particular for that time (Dobrescu E, 2005). Documentation of that time showed that Gypsies were a vulnerable group in the labor market until the nineteenth century when they stopped being slaves. In the current time the entrepreneurs have displayed

reticence on their employment in the labor market(Achim V, 2009). Gypsies in the era of slavery was a fundamental violation of their rights, and not having equal treatment with other inhabitants of the Romania is a clear form of discrimination.

Roma historical division into subgroups is the direct result of slavery and how the Roma today are divided could also be a result of the organization by their owners since that time(Necula C, 2012). Even if now they are emancipated they continue to work in their own households or at their jobs. Some move to towns and an equal number of them leave Romania.

2. Statistics of vulnerable groups of Roma

A. Until civic emancipation

First census of the Romanian Country was held in 1831. 1838 census conducted by Iancu Manu was statistical in nature, and the main purpose consists in the knowledge of the economic, social and demographic of the Romanian Land. The results obtained by him as a result of the field research undertaken revealed the following: Romanians constituted the majority ethnic element, then the Serbs, Greek, Hebrew and Gypsies. According to statistics we see the Gypsies social status(Rețegan G, 2005): household, lăieși, rudari, Ciurari, ursari, goldsmiths, silversmiths, musicians, jimblari, farmers, masons. The distribution by ethnicity accomplished in 1876 is as follows(<http://www.iini-minorities.ro>):

- In Romania there are 17 thousand Roma
- In Muntenia 12 thousand,
- In Oltenia 4 thousand.

According to statistics from the time they represented 4.5% of total population(Kogălniceanu M, 1946). According to Mihail Kogalniceanu (in 1837 the 600,000 Gypsies in Europe, 200,000 lived in Moldova and Romanian (according to him, 200,000 were in Turkey, which included the Balkan Peninsula, 100,000 in Hungary, 40,000 in Spain, 10,000 England and Russia 40,000 in Germany, France and Italy combined).

B. In the XXI century- Stable population and population structure by ethnicity in the last three censuses

Table 1. Roma statistics

Ethnicity	census 1992	census2002	census2011
Roma	401087	535140	621573

Source: <http://www.insse.ro/>

Data obtained from the three censuses show an increase in the Roma population from 401 087 as of the year 1992 to 621573 according to data from 2011.

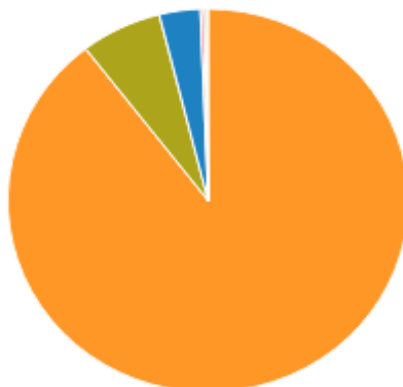


Figure 1. Tthnicity distribution in the year 2011

Source: ncont.stirileprotv.ro/infografice/evolutia-comunitatilor-etnice-in-romania-judetul-unde-sunt-cei-mai-putini-romani-12-6-din-populatia-totala.html

Ethnic distribution in Romania for 2011 shows that the Romanian community is first, the Hungarian community second and the Roma community third.

3. Study of the contribution of education in ensuring good labor market insertion of vulnerable groups

The field research, an opinion survey based on the questionnaire. The sample investigated - 34 high school teachers.

The questionnaire includes a total of eight statements, and respondents had to present their attitude towards them. It has used his scale Likert scale of agreement / disagreement.

The results obtained

We took every statement we interpreted it and we calculated the score.

1. Talk about professions and occupations

Table 2. Answer

Answer	Number	Percent
indifference	6	17.6
agree	17	50
Strongly agree	11	32.4
Total	34	100

Among the teachers who were part of the sample investigated 32.4% strongly agree and 50 % agree.

2. Provide advice based on physical and intellectual capacities of students

41.2% of respondents give advice to students according to their mental and physical capacities.

Table 3. Answer

	Number	Percent
Strongly disagree	6	17.6
dissagree	7	20.6
indifference	7	20.6
agree	9	26.5
Strongly agree	5	14.7
Total	34	100

3. Even if I'm not their class tutor nothing prevents me to guide them.

Table 4. Answer

Answer	Number	Percent
indifference	2	5.9
Agree	19	55.9
Strongly agree	13	38.2
Total	34	100

94% of teachers who responded to the questionnaire think that they can guide students even if they are not tutors of that class.

4. At the first job counseling the entrepreneurs are also participating

Table 5. Answer

Answer	Number	Percent
agree	19	55.9
Strongly agree	13	44.1
Total	34	100

According to the majority of teachers the entrepreneurs are also participating to career counseling the students.

5. There are agreements on cooperation between the education institution and the economic environment.

According to 73% of the respondents there is partnership between the educational institution and economic environment.

Table 6. Answer

Answer	Number	Percent
indifference	9	26.5
agree	14	41.2
Strongly agree	11	32.4
Total	34	100

6. I don't differentiate between students

Table 7. Answer

Answer	Number	Percent
indifference	3	8.8
agree	20	58.8
strongly agree	11	32.4
Total	34	100

91% of teachers who responded to the questionnaire don't differentiate between students.

7. I encourage the students from vulnerable groups to find a job

Table 8. Answer

Answer	Number	Percent
agree	15	44.1
indifference	15	44.1
strongly agree	4	11.8
Total	34	100

More than half of the teachers encourage students from vulnerable groups to find a job

8. There is close partnership between the school and parents of students from vulnerable groups

Table 9. Answer

Answer	Number	Percent
strongly agree	7	20.6
agree	18	52.9
indifference	7	20.6
disagree	2	5.9

70% of respondents think that there is partnership between the educational environment and parents of students from vulnerable group.

Table 10. Representation of the scores for each statement

Score	Result
1.talk to students about jobs and professions	1.32- agree
2.give advice based on the physical and intellectual capacities of students	0.30- indifference
3.i guide them even if I'm not their class tutor	0.79. agree
4.in job counseling entrepreneurs are also participating	1.06 agree
5.there are cooperation agreements between the education institution and the economic environment	1.24 agree
6. I don't differentiate between students	0.71 agree
7.I encourage students from vulnerable groups to find a job	0.76. agree
8. there is a close partnership between the school and parents of students from vulnerable groups	1.15. agree
Total score	0.91 agree

Conclusions

The ideal teacher is meant to convince the students that they are able, and can manage themselves and to show them that they can have performance, but they do not get away just by working. The ideal teacher is one that should encourage the student and show him that repetition makes perfect. Motivating his advice by not being resistant to change, convincing the students that they have an undeniable value that all people are important regardless of their socio-professional, religious and ethnic group.

The teacher works with the intellect, soul and conscience of the student and they will leave their mark on them becoming their best, having energy and not leaving their personal interest in the background. He prepares them to accomplish the function of education, ie the economic one - to work within an organization. The student obtains in the educational process skills needed for a job, and is

also advised on a career choice. Not only the head teacher give student's relevant advice, but also other teachers. Respondents of this research treat people equally regardless of their ethnicity and encourage them to take steps to find a job.

In conclusion education contributes to ensuring efficient insertion of students from vulnerable groups in the labor market.

References

1. Achim V, *Emanciparea Țiganilor și programul legislativ al guvernului provizoriu din 1848*, Revista istorică", tom XX, nr. 1–2, București, 2009;
2. Costachie S, Dieaconu D, Teodorescu C, *SEVERAL SOCIO-ECONOMIC AND DEMOGRAPHIC ASPECTS OF THE GYPSIES (ROMA) FROM THEIR FIRST PRESENCES IN THE ROMANIA AND UNTIL THE SECOND WORLD WAR*, Revista Română de Geografie Politică Year XII, no. 1, May 2010;
3. Dobrescu E, Mureșan N, Bodea G, Mureșan D, *Dicționar de istorie economică și istoria gândirii economice*, Ed. All Beck, București, 2005;
4. François J, *Tratat de drept european al omului*, Ed. Hamangiu, București, 2009;
5. Kogălniceanu M, *Esquisse sur l'histoire, les moeurs et la langue des Cigains connus en France sous le nom de Bohemiens*, în idem, *Opere*, I, ed. A. Oțetea, București, 1946;
6. Necula C, *The cost of Roma slavery*, Revista Perspective politice, Volum 5, Nr 2, București, 2012;
7. Retegan G, *Primul recensământ modern al populației și agriculturii Țării Românești: 1838*, în *Din istoria statisticii românești*, bucurești, 2005;
8. <http://www.iini-minorities.ro>;
9. ncont.stirileprotv.ro/infografice/evolutia-comunitatilor-etnice-in-romania-judetul-unde-sunt-cei-mai-putini-romani-12-6-din-populatia-totala.html.

The Impact of Brand Awareness on Companies' Marketing Strategies

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Within this paper, we will try to emphasize the importance of brand awareness and its significant role in brand-building, discussing how companies implementing brand-awareness marketing strategies will have a substantial role in creating brand image, strengthening brand equity and increase profitability. Firstly, we will conduct an empirical research based on previous published literature concerning brand awareness and will discuss the effectiveness of marketing strategies that incorporate in their objectives brand awareness increase, acknowledging its impact on significant factors such as brand image, sales increase, influencing customer behaviour and other important equity-related aspects. We will try to corroborate our statements by referring to a marketing strategy designed to enhance brand awareness and stimulate other brand-equity dimensions (brand association, brand loyalty, etc.), as well as generate higher sales revenues, namely sponsorship and we will discuss a particular category, respectively sponsorship in the sports industry. The study case will be concluded with an example of a successful partnership involving a sponsorship agreement between a reputable multinational food and beverage corporation, PepsiCo (known for famous products such as Pepsi soft drinks and foods such as Lay's Chips) and one of the most important events expected by football enthusiasts around the world, the UEFA Champions' League annual tournament.

Keywords: brand awareness, brand image, sponsorship, marketing strategies, sports industry

1. Introduction

Kotler (1991) defines the term „brand” as a name, term, sign, symbol, or design, or a combination of them which is intended to identify the goods and services of one seller or groups of sellers and to differentiate them from those of competitors. Consumers are likely to choose a well-known, familiar brand rather than an ordinary product, when it comes to making a purchase decision. Their reason may be determined by psychological factors, given that a recognisable brand has a strong brand image and is perceived as trustworthy; customers often rely on brands due to the fact that, mentally, they assume certain brands will guarantee them high standards of quality and services provided and the perceived purchasing risk will be reduced. Nowadays, due to higher than ever information accessibility and continuous technology innovations, accessibility to a wide range of products and services has increased. Therefore, brands facilitate consumers' decision making, signalling the source of the product and offering a fast, clear guidance to its characteristics and benefits it has to offer and measuring quality expectation.

2. Brief literature review

2.1 Brand awareness

Considered one of the fundamental dimensions of brand equity, brand awareness reflects consumer's ability to identify a certain brand under different circumstances—the likelihood that the brand name will come to mind and the ease with which it does so (Keller, 1993).

Brand awareness also involves linking the brand (the brand name, logo, symbol, etc) to certain associations held in the consumer's memory (that can be positive or negative), shaping their perception of the brand and creating brand image. The presence of strongly held, favourable associations that are unique to the brand and imply superiority over other brands is what makes a brand successful. Creating a strong brand within consumer's minds will result in a positive brand evaluation, as well as a consistent brand image.

Along with brand image, brand awareness distinguishes the brand knowledge system (defined as a brand node in memory with a variety of associations linked to it). **Brand awareness** is related to the strength of the brand node or trace in memory. (Keller, 1993).

Brand awareness consists of the following components:

- Firstly, brand recognition, reflected in the consumer's capacity to identify the brand, due to prior exposure, when given the brand as a cue. For instance, brand recognition answers to the question of whether or not can a consumer identify a cereal brand such as Kellogg's Corn Flakes in a supermarket, if they were previously exposed to it.
- Secondly, brand recall occurs when consumers are able to retrieve and place a brand from their own memory, when given as a cue aspects such as product category, needs fulfilled by the respective category or a purchase or usage situation. Therefore, recall of Ariel may happen when a consumer will think of what brand in the detergent category should he decide to purchase, or maybe, when thirsty, the first brand which comes to their mind will be Coca-Cola.

A representative scheme of the brand-knowledge system concept by Keller (2003) is represented in the following figure:

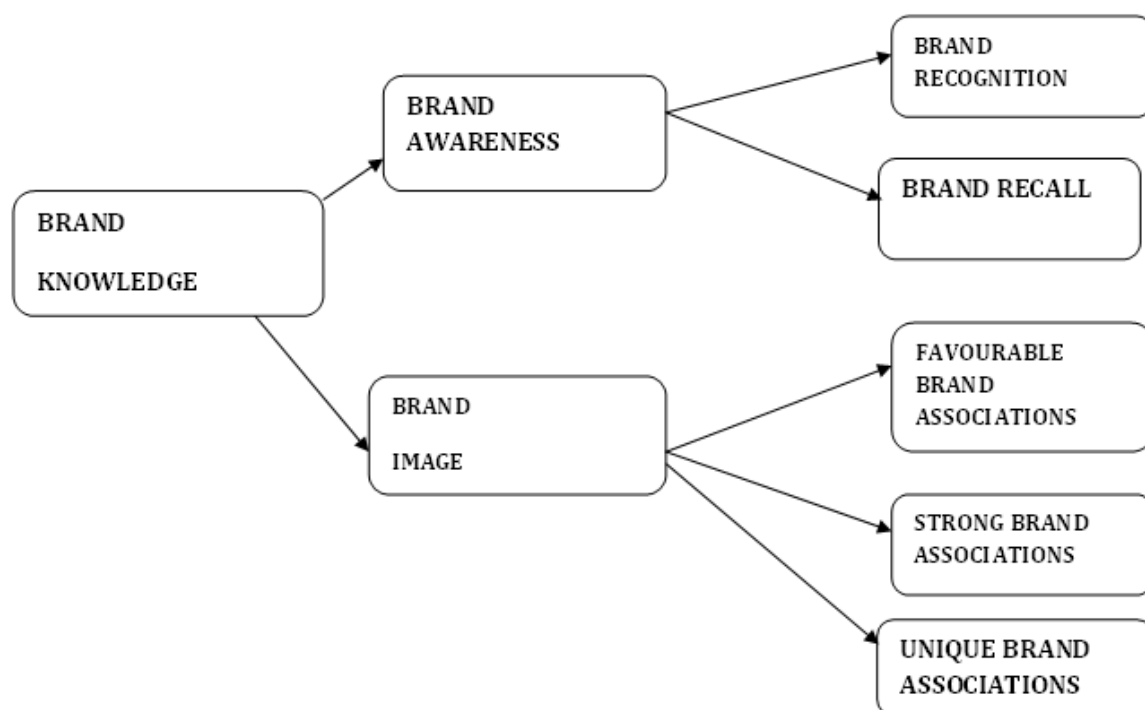


Figure 1: The brand knowledge system concept by Keller (2003)

Taking into consideration previous statements, we can assert that brand awareness represents the first stage in including a certain brand of products in the consideration set when making buying decisions.

Increasing brand awareness plays a pivotal role in building a strong brand image, and, consequently, of brand equity. High levels of brand awareness and a positive brand image increase the probability of brand choice, as well as produce greater consumer loyalty, protecting the production company against competitors' marketing strategies.

Therefore, it is significantly important that companies' marketing strategies should encompass methods designed to enhance brand awareness in order to establish favorable, strong and unique associations in consumer's memory. Through repeated exposures to a brand, people tend to become familiar with it, leading to a greater ability to recognize and recall the respective brand.

The appropriate marketing strategy to increase brand awareness should be through constant, repeated exposure of the brand and its defining elements through different channels;

frequent and prominent mentions in advertising and promotion vehicles can increase consumer exposure to the brand, as can events or sponsorship, campaigns, publicity, and other activities.

3. Sponsorship as a brand-building marketing tool

Sponsorship is considered one of the most powerful communication tools used in marketing activities, becoming widely used by companies as one of their main strategies (Grey et al., 2003).

There are various interpretations encountered in published literature, but, broadly, sponsorship is viewed as an investment, in cash, in an activity, a person or an event (sponsee), in return for access to an exploitable commercial potential associated with the sponsored activity, person or event by the investor (sponsor) in order to raise its profile, improve its image (corporate image of brand or product), enhance awareness, attract customers and possibly to increase sales (Meenaghan, 1998).

Sponsorship implies commercially associating a brand with properties such as cultural attractions, causes, sporting events, teams, the arts, etc., offering a unique advantage in brand-building, due to the fact that it can become a part of people's lives, differentiating itself from advertising, which can sometimes tend to be invasive, by attempting to convince and change perceptions (Aaker & Joachimsthaler, 2000). The process and result of the brand-building efforts implicating sponsorship can positively impact the employees (at an internal level), the other brand partners and the customers (external level).

Sponsorship has become a more popular communication instrument among customers, because, as it has been mentioned above, communication techniques such as advertising can sometimes be viewed as manipulative (Meenaghan, 1998). Thus, when channeling the brand by the sponsorship strategy can be more effective, taking into consideration that potential clients are sharing enjoyable moments in a favorable environment. For example, event sponsorship increases the opportunity to connect and interact with customers and establish long-term relationships, enhancing loyalty towards the brand.

The benefits can be regarded from an emotional point of view, considering that the parts involved in the sponsorship process tend to be more engaged and are working together to obtain a certain level of pride from the eventual outcome of the sponsorship agreement, generating a greater level of synergy among those participating in the project (Aaker & Joachimsthaler, 2000). Often, in team sponsorship, the emotional involvement is higher because there is a certain attachment to a goal and a winner. Relying upon particular interests towards a certain activity and channeling the brand's image through sponsorship is a strong marketing strategy, used internally and externally. Aaker and Joachimsthaler (2000) state that the dominant reason for sponsorship is to achieve „an association among a target segment”.

Publicity is the most effective way to introduce a new product, and sponsorship can be an excellent method to raise its awareness, enhance its visibility, and, implicitly, connect the brand to the event (Aaker & Joachimsthaler, 2000). The ways in which sponsorship can contribute to brand-building are represented below, in Figure 2:

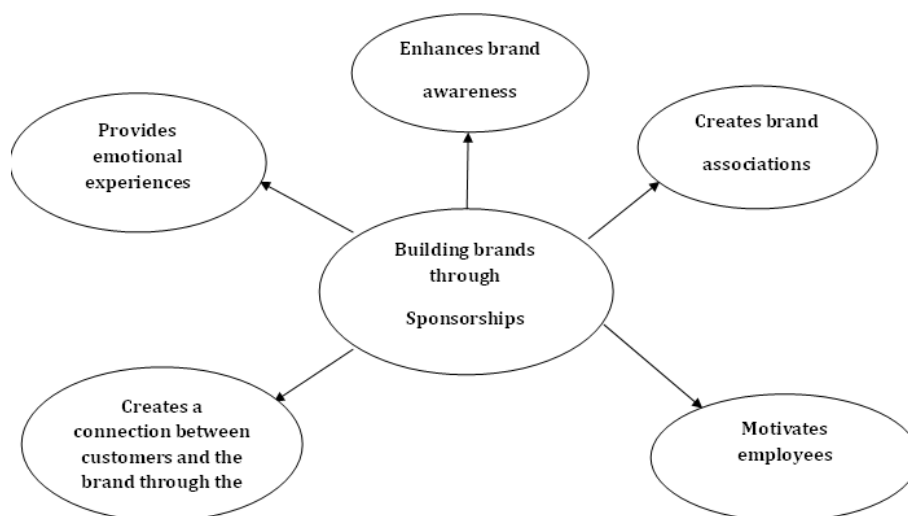


Figure 2: Building brands through sponsorships

3.1 The objectives of sport sponsorship

Numerous researchers have identified various objectives of sponsorships, but in this study we will enumerate the most important of them and briefly explain them, referring to several distinct authors.

The first set of objectives we will be discussing about are the ones according to Jobber(2007), which consist of five principals:

- *Creating promotional activities*-by sponsoring events, companies are given the opportunity to promote their brands, logos and products (examples include branded t-shirts, pens and all types of branded merchandise) which will lead to increased brand awareness and higher sales revenues;
- *Improving community relationships*-this involves the social responsibility factor, which gives the company a caring and socially responsible image to the customers (for example, The Body Shop cosmetics company's campaign involving environmental protection, animal rights by sponsoring posters in 1985 for Greenpeace and presenting a petition against animal testing)
- *Fostering favourable brand and company associations*-by associating a company with the positivity of the event and transferring the positive feelings towards the products as well.
- *Creating entertainment opportunities*-when a celebrity accepts to endorse the sponsored event, it will be a great publicity source, which will increase customer interest towards the event, and the branded product.
- *Gaining publicity*-through sponsorship, companies can reach a wide audience at a global level, by increasing their awareness due to publicity resulted from extensive media coverage, which will attract more customers.

An alternative study conducted by Dolphin(2003) lists the following sponsorship objectives:

- Enhancing corporate image by reaching out to customers from a specific market segment;
- Increase of brand awareness which positively impacts the brand's corporate image, thus building brand equity;
- Stimulate sales;
- Corporate reputation;
- Alter public perceptions-association with a sponsored event will influence the perception of customers regarding the company and its products; (better perceived quality)
- Building relationships
- Create goodwill
- Enhance employee motivation

Mullin et al(2007) have common perceptions regarding sports sponsorship as the ones belonging to the above-mentioned authors, adding a few additional objectives. We will list the entire set of objectives, including the ones that are similar to the ones of the other authors:

- Increasing public awareness of the company, the product, or both;
- Altering or reinforcing public perception of the company;
- Company identification with the particular market segments;
- Involving the company in the community;
- Building goodwill among decision makers;
- Generating media benefits;
- Achieving sales objectives;
- Showcasing unique product features, technologies or advantages;
- Creating an advantage over competitors, through association or exclusivity;
- Gaining unique opportunities in terms of hospitality and entertainment;
- Securing entitlement or naming rights.

As we can observe, the authors' views concerning the definition of sponsorship objectives share numerous similarities, but we can notice that brand awareness and brand association are mentioned in almost every set of objectives, playing a major role when implementing a sponsorship marketing strategy, due to the fact that these factors can influence customer behaviour, by attracting new customers because their perceived quality will be positively affected by associating the brand with the event or cause it sponsors, or it can strengthen loyalty among long-time consumers of the branded products or services, resulting in increase of sales.

This research will furtherly explore the benefits of a particular type of sponsorship,namely the one involving sponsoring sport events and will mention the association between one of the most popular international food and beverage brand in the world(PepsiCO) and one of the most anticipated,highly publicised sport event ,the UEFA Champions` League annual football championship.

3.2 Sports sponsorship and a succesful example of using it as a marketing strategy:The PepisCO-UEFA Champions` League contract

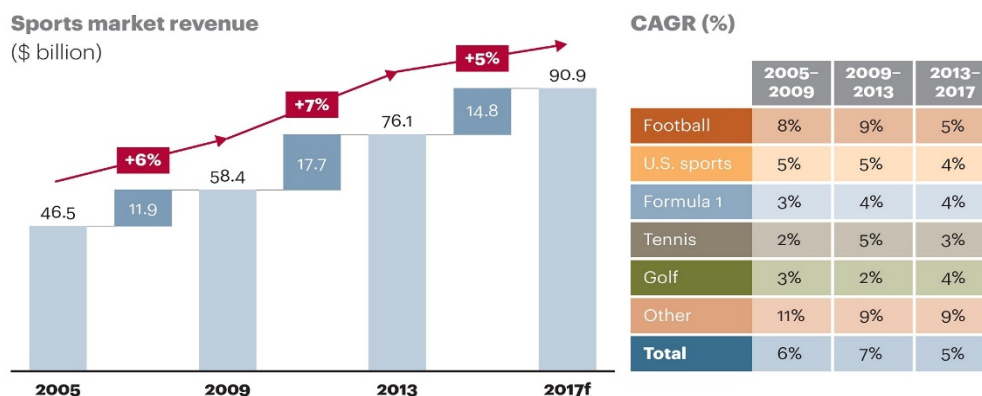
Over the last decades,sports have been evolving into a complex industry,evidenced by constant coverage by the media through every channel possible(TV,newspapers,magazines,social media,etc.)

The definition of sports marketing given by Mullin et al.(2007) defines sports marketing as „consisting of all activities designed to meet the needs and wants of sport consumers through exchange processes.”

It is also mentioned that sports marketing has developed into two major thrusts:the marketing of sports products and services directly to sport enthusiasts,and the marketing of other consumer and industrial products through the use of sport promotions(Mullin et al.2007).

Sport events can generate significant revenues for their respective organizers,that is why companies frequently use sport sponsorship as a marketing strategy,not only to make a higher profit margin,but also to reach a wide audience on a global basis,thus gaining competitive advantage,creating brand awareness and improving corporate image.The market for sporting events was woth \$80 billion in 2014 , and is expected to grow impressively in the near future. Between 2009 and 2013—a typical sports cycle that included the Winter Olympics and World Cup in 2010 and the Summer Olympics and the UEFA European Championships in 2012—sports market revenues increased almost \$18 billion (7 percent CAGR), with a peak of \$78.2 billion in 2012, when London hosted the Olympics and Poland and Ukraine hosted the European Championships. The revenues for yearly events are growing steadily too, from \$58.4 billion in 2009 to \$76.1 billion in 2013 .

Football is the leading sport when it comes to revenue growth ,experiencing an increase from \$25.1 billion in 2009 to \$35.3 billion in 2013, a CAGR of 9 %,and is expected to experience a 5% increase by 2017,as evidenced by the chart below.



Source: A.T. Kearney analysis

Multinational companies have a common belief that advertising is the core of building brand-awareness.It is often described as an investment in brands which generates sales revenue over time.

To approach the goals of this research ,we will conduct a study case,discussing advertising through sports sponsorship as part of companies`marketing strategy,resulting in increase of brand-awareness.

We will be reffering to multinational food ,snack and beverage corporation PepsiCo,best known for producing Pepsi,Mirinda,7up soft drinks ,as well as for snacks such as Lay`s and Doritos. Global brands have integrated sports sponsorship into their strategic marketing programmms because it represents a long term investment in creating dynamic relationship between brands and consumers(Santomier,2008).

The benefits of sponsorship include brand positioning in an effort to differentiate the value of a brand compared to other competitors(Davis,2002),reaching target markets,sustaining relationship with customers and increasing sales(Crompton,2004).Jobber(2007) alsto states that sponsorship of certain major events like football aids in drastically producing awareness shifts for various products.

These factors were probably taken into consideration by the Management-Marketing team of food and beverage giant PepsiCo, known to have closed various major sponsorship contracts, including with the NBA, NFL, NHL, Major League Baseball and, most recently, the contract which we shall be discussing, the three-year partnership contract with UEFA Champions League, closed in July 2015. The agreement is centered around products such as Pepsi, Pepsi Max, Lay's Chips, Gatorade, but will also involve Doritos, Lipton and 7up.

PepsiCo has a solid tradition in supporting young, talented football players, at an international level, so that is why it became the first supporter of project Next 11-Team of the Future, after signing a partnership in Romania with the „Gheorghe Hagi Football Academy”. This project aims to offer proper training conditions to future generations of gifted football players by investing in young men who display potential, thus improving its corporate image and reputation by engaging into socially-responsible actions.

As stated by the CEO of PepsiCo Europe, Ramon Laguarta, the UEFA Champions League is without a doubt one of the most prestigious football competitions in the world, reaching significantly high audiences on a regional and global level (over 1.1 billion viewers worldwide watch every live-broadcasted match). Last year's final which took place on the 6th June 2015 was broadcasted in over 200 countries, reaching over 400 millions of viewers, with an anticipated live audience of 180 millions of fans.

A very commonly used marketing strategy, which has been proven effective in sports partnership contracts, used by PepsiCo as well, has been initiated during this season's UEFA Champions League, the #gameready promotion relaunched by PepsiCo, which gives fans the opportunity to win hourly prizes of UEFA related merchandise plus entry to a draw to win tickets to the UEFA quarter final, semi final and final matches and a grand prize of a VIP trip for two to the Final in Milan. This will generate interest towards the brand, significantly enhancing awareness among new customers, mainly football enthusiasts.

PepsiCo's latest on-pack promotion will be supported with a major marketing campaign, including new high-profile TV advertising featuring football superstar Lionel Messi (which will create favourable associations in consumer's minds, Lionel Messi being considered one of the greatest football players of all time and a favourite of many supporters), strong levels of in-store activities, digital, social media and impactful POS materials (point of sales-ex: banners, posters, promotional stands, etc). Additionally, the campaign will be supported by stadium branding, interview backdrops and perimeter boards.

This year, the creative marketing of PepsiCo has reached a whole new level, by creating limited-edition Pepsi bottles and cans emblazoned with custom emojis (various smiley faces). The initiative is meant to encourage people to tell how they're feeling in a unique way. The campaign entitled #PepsiMoji, received a test run that was conducted last year in Russia, Canada and Thailand, and is intended to firstly be launched in the UK, and then extended in more European countries. This initiative will incorporate the UEFA Champions League 2016 sponsorship, giving customers a chance to win tickets by scanning the emojis on the Pepsi Max app for iPhone and Android. This strategy is meant to help customers interact and connect with the brand in a unique, personal way and will attract both new and loyal customers.

Due to the 17-week duration of the UEFA Champions League season, with more than 100.000 hours of TV content, which will feature numerous PepsiCo brands promos during the games, the image of the brand will constantly be visible on banners on the field, branded merchandise will be sold or will be offered PepsiCo's promotions as prizes, it is more than likely that the company's brand awareness will reach its highest level, and, consequently, will attract numerous customers and generate substantial revenues.

Throughout the years, there have been numerous examples of sport sponsorship contracts that led to substantial profit increase, which helps us predict the company's success in the foreseeable future following this contract.

Conclusions

Building a strong brand equity and a favourable brand image in consumers' minds is heavily influenced by the level of brand awareness. We can certify that brand awareness constitutes a determining factor for consumers when including a certain brand of products or services in the consideration set, during a purchase decision-making process.

Furthermore, increasing brand awareness should be included in every company's marketing plan, due to the fact that identifying, recognizing or recalling a brand represents the first step to

familiarisation with the brand, as most consumers are likely to prefer brands they are aware of and that can satisfy their expectations of quality and services provided.

Repeated exposure to a brand will generate interest towards a brand, attracting new customers and, if the client's needs are satisfied, they will recommend it to others, thus making the brand more powerful.

Sponsorship is one of the most effective strategies that can be incorporated in a company's marketing plan, fulfilling important objectives such as brand awareness increase, higher profit margins, gaining publicity, enhancing corporate image, reaching out to customers from various market segments and influencing their perception on the brand, attracting potentially new clients and creating stronger relationships with loyal ones.

References

1. Aaker, D. A. & Joachimsthaler, Erich (2000) *Brand Leadership*. Free Press, 2002.
2. Aaker, D. A. (1996) *Building Strong Brands*. Free Press, 2002.
3. Crompton, J.L (1993) *Understanding a business organisation's approach to entering a sponsoring partnership Festival management & Event Tourism*, p.98.
4. Davis, S. (2002) *Brand asset management*, San Francisco, CA, Jossey-Bass
5. Dolphin, R. (2003) *Sponsorship: Perspectives on its Strategic Role*, *An International Journal* Vol. 8 No.3 pp.173-186
6. Jobber, D. (2007) *Principles and Practice of Marketing*. 5th ed. McGraw-Hill 2007.
7. Keller, K.L. (1993) *Conceptualizing, Measuring and Managing Customer Based-Brand Equity*, *Journal of Marketing*
8. Keller, K.L. (1993) *Strategic Brand Management: Building, Measuring and Managing Brand Equity*, 2nd ed., Pearson 2003
9. Kotler, P. (1991) *Marketing Management: Analysis, Planning, Implementation and Control*, ed. Prentice-Hall
10. Meenaghan, T. (1991). *The Role of Sponsorship in the Marketing Communication Mix*. *International Journal of Advertising*
11. Meenaghan, T. (1996). *Ambush Marketing: A threat to corporate sponsorship*. *Sloan Management review*
12. Meenaghan, T. (1998). *Ambush Marketing: Corporate strategy and consumer reaction*. *Psychology and Marketing*
13. Meenaghan, T. (1998) *Current Developments and Future Directions in Sponsorship*. *International Journal of Advertising*
14. Mullin, B. J, Hardy, St & Sutton, W. A (2007) *Sport Marketing*. 3rd ed. Champaign: Human Kinetics, cop. 2007.
15. Oladunni, R. (2011) *The Significance of Sponsorship as a Marketing Tool in Sport Events*
16. Tribou, G. (2003). *Sponsoring: le retour symbolique sur investissement*. *Communication au 4ème congrès de la Société Française du Management du Sport*.
17. Tribou, G. (2002). *Sponsoring sportif*. Paris, Economica
18. <http://www.promomarketing.info/digital/pepsico-gameready-promo-returns/>
19. http://adevarul.ro/news/sport/pepsi-co-devenit-sponsor-oficial-ligii-campionilor-1_558004dfcfbe376e3555ec1f/index.html
20. http://pepsico.ca/fr/downloads/pepsico-2015-annual-report_final_s57dqszygmy22ggn.pdf
21. <http://www.campaignlive.co.uk/article/1388119/pepsi-puts-emojis-its-cans-expanded-pepsimoji-campaign>
22. <http://www.thegrocer.co.uk/>
23. <http://www.gsp.ro/gsp-special/diverse/pepsico-noul-sponsor-uefa-champions-league-451760.html>
24. <http://www.iaa.ro/Articole/Stiri/Pepsico-devine-sponsor-oficial-uefa-champions-league/Print-7772.html>
25. <https://www.atkearney.com/documents/10192/5258876/Winning+in+the+Business+of+Sports.pdf/ed85b644-7633-469d-8f7a-99e4a50aad8>
26. http://www.theseus.fi/bitstream/handle/10024/24945/Student_AbiOdun_Oladunni.pdf
27. Sports marketing - Wikipedia, the free encyclopedia
28. http://www.academia.edu/9005994/Sponsorship_effectiveness_in_professional_sport_an_examination_of_recall_and_recognition_among_football_fans

Impact of Socially Responsible Marketing on Consumers' Behaviour

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The present paper analyzes the impact of socially responsible marketing on consumers' behaviour. In this context, special attention was devoted both to certain aspects related to the previous ecological behaviour of consumers and to the consequences of this type of behaviour influenced by various external factors. Moreover, there has been assessed the intensity of the relationship between the following three dimensions: ecological behaviour, ecological sensibility and lifestyle of a well-defined segment of consumers, i.e. the LOHAS market segment (Lifestyles of Health and Sustainability).

Key words: socially responsible marketing, consumer behaviour, the LOHAS market segment

1. Introduction – from traditional marketing to holistic marketing

The concept of holistic marketing is a new approach in marketing, which involves the "designing, development and implementation of marketing programs, processes and activities of the company in their interdependence"¹¹³. This new approach suggests that companies need a new set of practices for business, more complete and coherent than the traditional marketing. According to Kotler and Keller, in the holistic approach of marketing, virtually "everything matters". Thus, the holistic marketing includes the following types of marketing (figure no. 1): internal marketing, integrated marketing, socially responsible marketing and relationship marketing.

Internal marketing is reflected in the company's management policy and aims at adopting the new marketing principles by company's staff. Basically, the company staff is trained and motivated to provide customers with top quality products.

Integrated marketing is a communicative approach in which the various ways of working together in harmony to create an experience for customers, are presented in a similar way and style in order to reinforce the core message of the company. To put it in other words, the target of the integrated marketing is to harmonize all aspects related to marketing communication and marketing communication mix respectively, i.e. to act as a united force, which will maximize the cost-effectiveness. Thus, the integrated marketing becomes increasingly important in companies' marketing policy, due to the low cost of mass media proliferation and audience fragmentation.

Since consumers spend increasingly more time online or on mobile electronic devices, the company's exposure should be reflected accordingly, thus increasing its messages' visibility and allowing customers to memorize them.

Communication strategies are based on designing an entire system of communication of a company, in which the communication techniques are customized for each and every customer and thus they are able to react as in a real-time conversation. The concept of integrated marketing shows a steady progress, from the simple coordination of promotional tools to a complex strategic process.

Relationship marketing aims at developing close and sustainable relationships with all stakeholders so that the company can exert its influence both directly and indirectly.

Through the *socially responsible marketing* companies are challenged to get involved in various social, ethical and ecological issues with great impact upon the entire society. Basically, the socially responsible marketing can be regarded as a new business card of the company.

¹¹³ Philip Kotler, Kevin Lane Keller - Framework for Marketing Management (6th Edition), Global Edition, Pearson Ed, London, UK, 2016, p. 35

Both marketing and corporate social responsibility CSR are fields that focus on the value provided to the public, the value created for the customer and for the community. On the marketing level, we can speak of a more complex approach in which the CSR concepts, programs and tools can be easily integrated. In this way, companies try to meet the consumers' current requirements and to make themselves visible at the community level with clear messages. This approach is included in the holistic marketing policy which overcomes the boundaries of the traditional marketing, while associations of new forces to provide value to products, brands and companies are constantly sought.

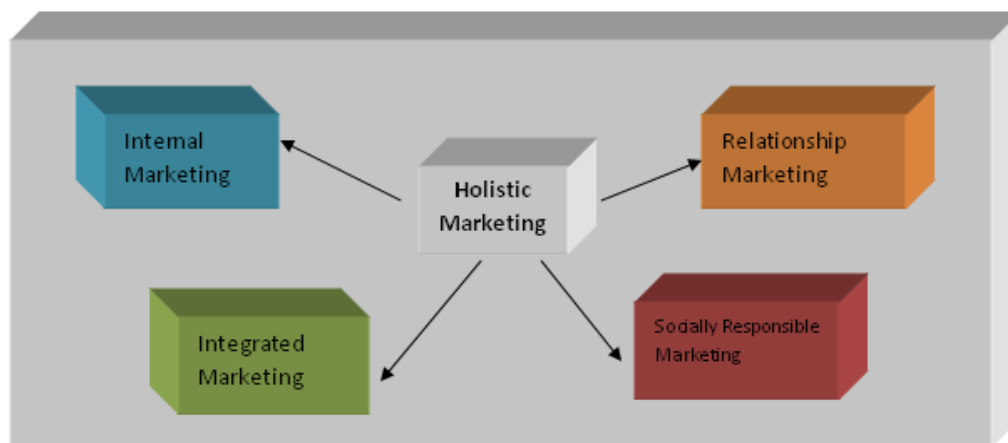


Figure no.1 – Components of integrated marketing

2. Socially responsible marketing and consumers' behaviour

In general, there is not a clear-cut delimitation for assuming the concept of social responsibility as a guarantee for the success of a company's affairs. Nevertheless it must be clear that it is not just a tool for maximizing value by increasing goodwill but an essential element on which long-term success depends, directly linked to the social and environmental performance of the community.

From the marketing perspective, the social responsibility increase becomes essential for the harmonized development of a company. In this respect, consumers are integrated in the socially responsible marketing process and must be constantly trained for the special role they play daily and in compliance with moral principles, without diminishing the intrinsic economic rationality of the act of purchasing, aiming at achieving the major objective of every company, i.e. that of building consumers loyalty.

We constantly witness that certain ranges of products become famous which trigger an increase in consumers' requirements.

Evolutionally speaking, companies constantly diversify their range of products, frequently launching both innovative products and extensions to the existing ranges. Thus for many categories of products there is a strong competition and not necessarily regarding the manufacturers but especially regarding the product portfolio. Moreover the new products are designed and created after a thorough market research in an attempt to identify the real needs of consumers.

It can be also noticed the significant influence in consumers' purchase and consumption behaviour of the social component, especially the consumer's contribution to solving social problems by purchasing certain items with a social impact. We can also mention here the modern consumer that adds the rational attributes to the emotional ones. This reveals the consumers' real interest in social and environmental issues and in the rational use of resources.

The success of the socially responsible marketing is ensured by the constant dialogue with the consumers in order to identify and anticipate their needs and desires, aiming to meet these requirements to a higher level through the goods and services provided or supplied by companies.

By confronting this type of consumer, the marketing professionals are challenged to identify new elements that can help them understand the mechanisms that influence consumers' behaviour and generate consumer profile. Thus the consumer constantly seeks new meanings that are not always compatible with the concept of rationality or usefulness.

3. New challenges for behavioural studies – the LOHAS segment of consumers

Based on the studies related to marking the consumptions tendencies evolution and diversification, certain types of factors were identified that motivate consumers to buy environmentally-friendly products: their concern for health, fear of toxic chemical substances in conventional products, interest in nutritional aspects, taste, food safety, concerns for the environment, source of origin (Hugner et al. 2007).

On the other hand, there were also identified several factors that limit the consumption of this type of products: prices, consumers distrust, unsatisfactory promotion, design, etc.

A closer look reveals that different types of consumers have different reactions to the above-mentioned factors. Thus three segmentation criteria can be identified, namely coherence between principles/lifestyle and consumption behaviour, regular or occasional consumption behaviour and share of green products in total consumption.

Taking into account the coherence between principles/lifestyle and consumption behaviour, the following types of consumers were identified (figure no.2):

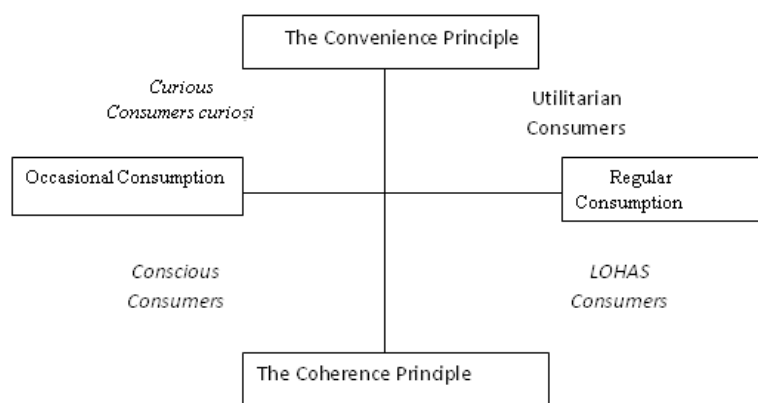


Figure no.2 – Types of Consumers – Principles versus Consumption Styles

Source: adapted from NMI Report - Natural Marketing Institute- 2015

The curious consumers are those willing to try new products in certain situations and at the same time to comply with the consumption rules that govern their existence.

Included in the category of consumers characterized by regular consumption, the utilitarian consumers are interested in their personal welfare.

The LOHAS consumers – are altruistic, advocating for regular consumption of environmentally-friendly products/green products.

The conscious consumers – are in favour of adopting a behaviour that ensures greater coherence between principles and consumption patterns and constant seek specific products

Based on the combination between the consumers' willingness to pay/price sensitivity and the altruistic/selfish behaviour, the following types of consumer segments were identified (figure no.3):

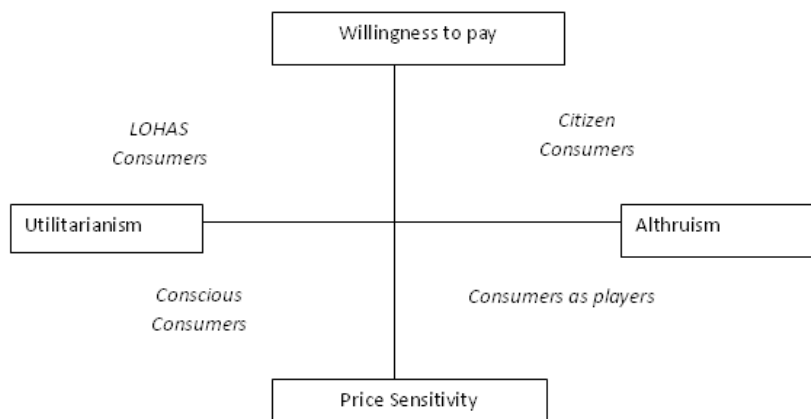


Figure no.3 – Consumers Typology – Willingness versus Consumption Behaviour

Source: adapted from NMI Report- Natural Marketing Institute- 2015

The consumers as players - are curious to know the opinions and reactions of others that share the same beliefs, are interested in receiving information related to their comments and evaluations. They always wish to get involved in a dialogue and display a positive attitude towards the companies that are open to collaboration.

The citizen consumers – are altruistic and always want to pay extra and they think that it is fair to pay a price difference when purchasing a product, which is related indirectly to their personal welfare.

4. The LOHAS consumers profile

The concept of LOHAS consumers (- an umbrella acronym standing for Lifestyles of Health and Sustainability) emerged in the US as a result of the increasing degree of consumers' awareness regarding certain aspects related to health, lifestyle and environment. From the marketing perspective, LOHAS is represented by that particular market segment oriented towards sustainability. Statistically speaking, this segment has witnessed significant increases in recent years, aspect which has drawn the attention of marketing specialists, who have already forecasted its potential as well as its opportunities.

According to the studies conducted by the Natural Marketing Institute¹¹⁴, there is a long list of characteristics that differentiate the LOHAS consumers from the other types of consumers, such as:

- their love for nature;
- willingness to pay extra for healthy and green products;
- make the best of their relationships with others;
- are interested in sustainable development;
- are interested in feminism and equal chances at workplace;
- are willing to work hard for the society;
- are interested in all aspects related to the self-centred life;
- do not exaggerate with luxuries;
- are eager for new political visions;
- share an optimistic opinion about the future and are against pessimism and cynicism;
- believe that spirituality is an integral part of daily life;
- are concerned about violence in society;
- are interested in those companies that promote CSR.

The LOHAS consumers are usually high income earners, who want "to make a social statement"¹¹⁵, when they purchase a "green" product, to show their beliefs, values and lifestyle. Generally speaking, their lifestyle is innovative; they are idealistic and can influence the other people through their recommendations, thus boosting the sale of green products.

Companies that wish to attract this segment of consumers must take into account all aspects that may draw the LOHAS consumers' attention such as curiosity and interest in complex and comprehensive information.

Communication itself with this segment of consumers is a challenge, as this type of consumers is critical in accepting the information. In this respect, the LOHAS consumers pay close attention to newspapers and magazines, documentary channels and social networks¹¹⁶.

5. Analysis of the LOHAS consumer segment behaviour

Green products are the best solution to ensure a good healthy both to the population with its beneficial effects on several levels: environmental, economic, social, technological, cultural, etc. In Romania the consumption of green products is relatively low, compared to the other states. Since on the institutional level proactive strategies are not active in the view of increasing the consumption of green products, companies let their customers choose whether to buy green products or not. In this respect, we must point out that on the one hand companies promote the consumption of green products with its great health contribution and on the other hand they promote the consumption of environmentally-friendly products. In order to provide a description of the LOHAS consumer profile

¹¹⁴ <http://www.nmisolutions.com/index.php/consumer-studies-information-opt>).

¹¹⁵ www.responsabilitatesociala.ro/editoriale/csr-in-marketing-noi-oportunitati-de-promovare-a-unui-brand.html#sthash.rik3pMZC.dpuf

¹¹⁶ <http://www.nmisolutions.com/index.php/consumer-studies-information-opt>).

archetype in Romania, we conducted some research that aimed at identifying the relevant aspects for the following three dimensions: ecological behaviour, ecological sensitivity and lifestyle.

The researched focussed on assessing the ecologic behaviour of the LOHAS consumers and on testing the effects of the ecological sensitivity upon their lifestyle. Within this research, we aimed at achieving the following types of objectives:

1. *Identifying the level of ecological behaviour, of ecological sensitivity and lifestyle;*
2. *Analysis of the intensity of the existing relationship between the variables of the LOHAS consumer model.*

The specific objectives of this research derive from its general objectives and are used to test the effects of the *ecological sensitivity* upon the LOHAS consumer lifestyle:

- *assessment of ecological behaviour;*
- *assessment of ecological sensitivity*
- *lifestyle assessment.*

The present research also aimed at describing the persons included in the study, at identifying their attitude towards the objectives of this research and at testing, statistically speaking, the significant relationships by taking into account the assessed variables.

The research method we chose, enabled the achievement of the objectives of the research, namely the assessment of the ecological behaviour, ecological sensitivity and lifestyle as well as the relationships among them.

Conceptual testing was carried out by empirical research conducted on a sample of green consumers in the south-east region of Romania. By formulating the research hypotheses, our study aimed at identifying the causality links among the variables included in the conceptual model of the LOHAS consumers' behaviour. These research hypotheses were developed to test the effects of ecological sensitivity on consumers' behaviour as well as on their lifestyle. As a result, two main hypotheses and a derived one were formulated:

H_1 : *The LOHAS consumer behaviour is influenced directly, positively and significantly by their ecological sensitivity;*

H_2 : *The LOHAS consumer behaviour is influenced directly, positively and significantly by their lifestyle.*

H_d : *There is a direct, positive and significant link, statistically-speaking, between the LOHAS consumers' ecological sensitivity and their lifestyle.*

The method for hypotheses testing uses the chi square test, that enables the determination of any significant differences between the expected and observed frequencies associated with the variables included in the present study. The use this statistical method involved the formulation of two hypotheses, namely the null hypothesis, according to which there are no significant differences between the expected and observed frequencies of the analysed variables and the alternative hypothesis, which represents the negation of the null hypothesis.

The main advantage of using the SPSS software in implementing chi square testing is the configuration of the cross-tabulation, based on the statistical information provided by the research conducted in the program database. Implementing chi square testing in H_1 hypothesis, involves the design of the contingency table with double entry, which enables the classification of the observed frequencies (table no.1).

Table no.1: Contingency table associated to H_1 hypothesis testing (observed frequencies)

LOHAS Stage Ecological Sensitivity	Early stage	Medium Stage	Extensive Stage	TOTAL
Weak	9	3	4	16
Medium	7	13	8	28
Strong	3	10	3	18
TOTAL	19	26	15	60

The null hypothesis associated with the first research hypothesis $H_{0(1)}$ is defined as follows: the LOHAS consumer behaviour stage is not significantly influenced by the level of ecological sensitivity, shown in their lifestyle. Thus the value associated with the asymptotic significance level (Asymp. Sig.= 0.011) is below the admitted level of significance (0.05), while the value of the Pearson's Chi-Square

indicator (12.130) is above the value associated with chi square, corresponding to the statistical table (9.49), in the context of four degrees of freedom. Under these circumstances, the null hypothesis is rejected, thus showing that there is an association between the two variables included in the H_1 hypothesis (LOHAS consumers' behaviour and ecological sensitivity, expressed through the manifestation stage and its effects on the consumers' behaviour).

The results corresponding to H_1 hypothesis testing using SPSS software, after the configuration of the contingency table using cross-tabs, are shown in the figure no. 4 below:

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
LOHAS Stage + Ecological Sensitivity	60	100,00%	0	,0%	60	100,0%

LOHAS Consumer Behaviour - Cross-tabulation

Count

		LOHAS Stage			
		Incipient	Medium	Advanced	Total
Ecological Sensitivity	Weak	9	3	4	16
	Medium	7	13	8	28
	Strong	3	10	3	16
Total		19	26	15	60

Chi-Square Tests

	Value	df	Asymp Sig (2-sided)
Pearson-Chi Square	12,130 ^a	5	,010
Likelihood Ratio	14,173	3	,010
Linear-by-Linear Association	1,294	1	,249
N of Valid Cases	60		

Figure no.4 – Result of H_1 hypothesis testing using SPSS - software

In this situation, the value associated with the asymptotic significance level (Asymp. Sig.=0.011) is below the admitted level of significance (0.05), while the value of the Pearson's Chi-Square indicator (12.130) is above the value associated with chi square, corresponding to the statistical table (9.49), in the context of four degrees of freedom. Under these circumstances, the null hypothesis is rejected, thus showing that there is an association between the two variables included in the H_1 hypothesis (LOHAS manifestation stage and ecological sensitivity, expressed through its manifestation stage).

The use of chi square testing in H_2 hypothesis involves the designing of a new contingency table with double entry, which enables the classification of the observed frequencies (table no.2).

Table no.2: Contingency table associated with H_2 hypothesis testing (observed frequencies)

LOHAS Stage Lifestyle	Incipient	Medium	Advanced	TOTAL
Innovator	8	5	3	16
Conservator	12	8	5	25
Idealist	6	7	6	19
TOTAL	26	20	14	60

The null hypothesis associated with the second hypothesis of this research $H_{0(2)}$ is defined as follows: the manifestation stage of the LOHAS consumers' behaviour is not affected significantly by their lifestyle.

The results corresponding to H_2 hypothesis testing using SPSS software, after the configuration of the contingency table using cross-tabs, are shown in the figure no. 5 below:

	<i>Cases</i>					
	<i>Valid</i>		<i>Missing</i>		<i>Total</i>	
	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>
LOHAS Stage +Lifestyle	60	100,00%	0	,0%	60	100,0%

LOHAS Consumers' behaviour - Cross-tabulation

<i>Count</i>		<i>LOHAS Stage</i>			
		<i>Incipient</i>	<i>Medium</i>	<i>Advanced</i>	<i>Total</i>
<i>Lifestyle</i>	<i>Innovator</i>	8	5	3	16
	<i>Conservator</i>	12	8	5	25
	<i>Idealist</i>	6	7	6	19
<i>Total</i>		26	20	14	60

Chi-Square Tests

	<i>Value</i>	<i>df</i>	<i>Asymp Sig (2-sided)</i>
<i>Pearson-Chi Square</i>	13,631 ^a	4	,008
<i>Likelihood Ratio</i>	14,045	4	,006
<i>Linear-by-Linear Association</i>	6,260	1	,013
<i>N of Valid Cases</i>	60		

a.3 cells (3,33%) have expected count less than 5. The minimum expected count is 1,42.

Figure no.5 – Result of H_2 hypothesis testing using SPSS - software

In this situation, the value associated with the asymptotic significance level (Asymp. Sig.=0.008) is below the admitted level of significance (0.05), while the value of the Pearson's Chi-Square indicator (13.631) is above the value associated with chi square, corresponding to the statistical table (9.49), in the context of four degrees of freedom. Under these circumstances, the null hypothesis is rejected, thus showing that there is an association between the two variables included in the H_2 hypothesis (LOHAS manifestation stage and lifestyle, expressed through its manifestation stage).

The use of chi square testing in H_d hypothesis involves the designing of a new contingency table with double entry, which enables the classification of the observed frequencies (table no.3).

Table no.3: Contingency table associated with H_d hypothesis testing (observed frequencies)

<i>Ecologic sensitivity</i> <i>Lifestyle</i>	Weak	Medium	Strong	TOTAL
Innovator	8	6	7	21
Conservator	6	5	3	14
Idealist	4	7	14	25
TOTAL	18	18	24	60

The null hypothesis associated with the derived hypothesis $H_{0(d)}$ is defined as follows: in the case of LOHAS consumers' behaviour, the level of ecological sensitivity is not significantly affected by their lifestyle.

The results corresponding to H_d hypothesis testing, using SPSS software, after the configuration of the contingency table using cross-tabs, are shown in the figure no. 6 below:

	<i>Cases</i>					
	<i>Valid</i>		<i>Missing</i>		<i>Total</i>	
	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>
<i>Ecologic sensitivity + Lifestyle</i>	60	100,00%	0	,0%	60	100,0%

LOHAS Consumers' behaviour - Cross-tabulation

Count

		<i>Ecologic sensitivity</i>			
		<i>Weak</i>	<i>Medium</i>	<i>Strong</i>	<i>Total</i>
<i>Lifestyle</i>	<i>Innovator</i>	8	6	7	21
	<i>Conservator</i>	6	5	3	14
	<i>Idealist</i>	4	7	14	25
<i>Total</i>		18	18	24	60

Chi-Square Tests

	<i>Value</i>	<i>df</i>	<i>Asymp Sig (2-sided)</i>
<i>Pearson-Chi Square</i>	13,521 ^a	4	,008
<i>Likelihood Ratio</i>	14,096	4	,006
<i>Linear-by-Linear Association</i>	6,260	1	,013
<i>N of Valid Cases</i>	60		

!!!a.3 cells (3,33%) have expected count less than 5. The minimum expected count is 1,42.

Figure no.6 – Result of H_d hypothesis testing using SPSS – software

In this situation, the value associated with the asymptotic significance level (Asymp. Sig.=0.008) is below the admitted level of significance (0.05), while the value of the Pearson's Chi-Square indicator (13.521) is above the value associated with chi square, corresponding to the statistical table (9.49), in the context of four degrees of freedom. Under these circumstances, the null hypothesis is rejected, thus showing that there is an association between the two variables included in the H_d hypothesis: the lifestyle of LOHAS consumer segment influences significantly the ecological sensitivity.

6. Conclusions

Due to globalization, more and more companies, regardless of their field of activity, will align their policies, activities, mission and values to the fair work practices, ecosystem protection, sustainable agriculture, reducing the amount of waste, sustainable activities, etc.

A high level of ecological sensitivity among individuals will determine the adoption of a healthy lifestyle. Thus, producers, manufacturers, traders and distributors should encourage the adoption of an ecological behaviour by the population and should promote its connection with the healthy lifestyle.

Being aware of the level of ecological sensitivity of the Romanian consumers, both marketing specialists and retailers can design business strategies that would make the best of the constantly increasing consumption tendencies. Moreover, communication strategies can be developed, aiming at making people aware of the environmental issues, encouraging responsible attitudes towards natural resources, learning how to reduce waste and how to adopt ecological behaviour.

References

1. Barone, M. J., Miyazaki, A. D., & Taylor, K. A. (2000). *The influence of cause-related marketing on consumer choice: Does one good turn deserve another?* *Journal of the Academy of Marketing Science*, 28(2), 248–263. doi:10.1177/0092070300282006.
2. Carrigan, M., & Attalla, A. (2001). *The myth of the ethical consumer— do ethics matter in purchase behaviour?* *Journal of Consumer Marketing*, 18(7), 560–577. doi:10.1108/07363760110410263.
3. Handelman, J. M., & Arnold, J. A. (1999). *The role of marketing actions with a social dimension: Appeals to the institutional environment.* *Journal of Marketing*, 63, 33–48. doi:10.2307/1251774.
4. Philip Kotler, Kevin Lane Keller - *Framework for Marketing Management (6th Edition)*, Global Edition, Pearson Ed, London, UK, 2016
5. Pavlos A. Vlachos & Argiris Tsamakos & Adam P. Vrechopoulos & Panagiotis K. Avramidis - *Corporate social responsibility: attributions, loyalty and the mediating role of trust*, *Journal of the Acad. Mark. Sci.* (2009), 37:170–180
6. Varadarajan, P. R., & Menon, A. (1988). *Cause-related marketing: A coalignment of marketing strategy and corporate philanthropy.* *Journal of Marketing*, 52, 58–74 (July) doi:10.2307/1251450.
7. Victor R. Preedy, Ronald Ross Watson, Colin R. Martin - *Handbook of Behavior, Food and Nutrition*, Springer Science & Business Media, 2011
8. <http://www.nmisolutions.com/index.php/consumer-studies-information-opt>).
9. www.responsabilitatesociala.ro/editoriale/csr-in-marketing-noi-oportunitati-de-promovare-a-unui-brand.html#sthash.rik3pMZC.dpuf

International Crisis Propagation

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Market globalization, namely the increasing integration of the countries in the world economic and financial flows has become the feature of the contemporary epoch. In this context of business mondialization, company survival and prosperity is conditioned by the requirements of the environment where the firms carry out their activity. Thus, in an environment where frequent and important changes have become a general rule, companies need to foresee and face the challenges that will affect the markets and their own position on these markets.

Keywords: country risk, commercial risk, sovereign risk, financial risk, banking risk, systemic risk, political risk.

JEL classification: G32, E30.

1.Introduction

The economic history of the last few years shows an extension of the risk factors on the emerging markets or the markets in transition, generated by the increased potential of international crisis propagation. The tough experience of the last few years confirms the fact that the countries' risk-related expertise can no longer content itself with a monograph type of approach of the country risk. Actually, country risk is a multidimensional concept comprising: sovereign risk, transfer risk and generalized country risk, and it interferes with foreign investment risk and political risk.

The present article defends the importance of a pluridisciplinary approach of the multidimensional topic of country risk. In their approach, the paper's authors rely on the experience of certain national/international institutions involved in promoting foreign trade, bringing into focus the need to publicize in our country, Romania, as well, – by means of a large dissemination – the importance and the place of country risk analysis, in the decisional act of any international trade transaction.

The concept of country risk, already evoked since the 1970s by the American economists, including Sargen (1977), returned on the economic arena as the financial crisis of the 1990s emerged, especially after the Asian crisis triggered in July by the fall of the Thai currency – bath. And although a series of economic, financial and political studies abound in references about country risk, the notion itself has never been really exhaustively explained from a conceptual perspective founded on a well-defined paradigm. The inexistence of a theory directly referring to country risk generated a multiplication of the definitions in the attempt to better reflect the set of inherent parameters, consequently making it difficult to harmonize them. This difficulty of harmonizing the definitions has to do with the fact that country risk is multidimensional and omnipresent in the set of international financial relations, regardless of their nature (trade, investment, loan).

In the present article we do not aim to go into the details of the set of dimensions attached to country risk by the various definitions delineated in the specialized literature. Our aim has been to promote the idea of opportuneness and topicality of an institutionalization in our country of a "product" comparable and compatible with, for example, the "Country Risk Guide", a work edited annually in France by the periodical Le MOCI – "International Trade Journal" – focused on the analysis of the economic and political risk based on an adequate methodology classifying the emerging countries or the countries in transition, of East and South Asia, North Africa, Subsaharan Africa and Middle East, Latin America, Central and Eastern Europe, depending on their risk degree. It is a work

elaborated in coparticipation with three entities under the tutorship of the French Government: the French Center of Foreign Trade, COFACE, International Credit Risk, meant for the potential French investors targeting foreign markets.

2. Country risk: a brief conceptual presentation

We have pondered on the definition given by Mikdashi (1998, p.97, cited in Gautrieaud, 2002, p. 2), which explicitly highlights the set of international operations concerned, in connexion with two phenomena lying at the origin of country risk: country risk *"is applied to the various forms of indebtment, non-negligible (banking or non banking) debts or investment or trade shares, and which come from the incapacity or the refusal of a country to provide the necessary foreign currency necessary to meet the financial commitments of the State or of the private economic agents operating in this country"*. This definition is a perspective of global approach to country risk, highlighting the need to present in detail its diverse components (dimensions of the notion), structured depending on: **(a) risk type; (b) risk nature; (c) crisis type** (Gautrieaud, 2002, p. 2).

a) In terms of risk type, namely according to the type of the economic actor taking on the risk, its definition consists in a positioning considering the national economic entity taking on the country risk:

- **Banks – banking risk**, namely *"the risk of payment incidents (deadline, non admission of certain external debts) resulting from acts or behaviours of the State in debt"* (Marois, 1990, p. 9, cited in Gautrieaud, 2002, p. 3). Banks are subjects of country risk when they are parties participating in an international funding operation. The credits granted need to be covered in own capitals according to the risk inherent to each country and this happens at the level of each bank. Own funds are defined as globally the entirety of the capitals, of the reserves and benefits of a bank. Debts are defined as doubtful *"when they are held by a client whose solvency appears compromised, or when a known event makes probable or uncertain a risk of partial or total non reimbursement of one or several of these debts"* (Banque des Règlements Internationaux, 2001, p. 1). This definition considers an a priori situation, namely concerns the qualification of the debts the moment the international contract has been signed, before the risk of non-payment may become effective. However, the classification of the operation as a loan into the category of doubtful debts can be realized a posteriori in relation to the funding contract. Actually, reimbursement delays can trigger the replacement of the qualification *"risk free"* into *"doubtful credits"*.
- **Investors – financial risk and industrial risk**. Marois (1990, p. 9, cited in Gautrieaud, 2002, p. 7) defines country risk taken on by investors as any *"sovereign act susceptible either of affecting the control exerted by a company on each of its branches, or of abnormally affecting the current management of its headquarters"*. Within this type of country risk, **one can distinguish industrial risk and financial risk**. In the case of **industrial risk**, when this is directly about a local implantation - total, under the form of branch opening, or partial, by taking over a participation share -, the correct management of a mother company regarding its branches does not occur normally. The normal reimbursement of the loan meant for investment is disturbed. The extreme case is that of a confiscation, of an expropriation. The **financial risk** – related to titles – can be evaluated by rating agencies, among which there are also the two great American agencies Standard & Poor's and Moody's and the French-British agency Fitch IBCA. The rating of the country risk takes place by the evaluation of a set of criteria of economic, political and social origin for each State titles emission.
- **Exporting companies – commercial risk**. Marois (1990, p. 10, cited in Gautrieaud, 2002, p. 8) defines export risk or commercial risk as *"on the one hand, a risk of non coverage (non reimbursement) of the commercial debts of an importer, due to the measures taken by the receiving State (interdiction of foreign currency transfer to non-residents, for example), and, on the other hand, an opportunity cost, in the case of a closure of a foreign market, out of political reasons"*. Both in the case of exporters, as well as in the case of industrial investors, ratings are established on commercial risk by agencies specialized in this sense. Exporters will be more sensitive to sovereign risks, as they reflect the payment behaviour of the State in relation to its foreign debts more than industrial investors. **Credit insurers** are another type of economic actors, providing country risk analyses. Their job is to propose - to the exporters - coverage (guarantees) against, among others, the risk of payment difficulty. Each country has a "great" national credit assurer. In France, for example, this is COFACE (The French Company of Foreign Trade), in our country, this is EXIMBANK. The insurances proposed are defined as *"a contract with deadline payment by which*

the insured commits to paying a bonus for performance to the insurer, in case of realization of the country risk" (Barral, 1987, p. 75, cited in Gautrieaud, 2002, p. 9). In the estimation of risk bonuses, credit assurers need to realize country risk analyses, using a methodology based on economic, political, social and financial criteria, permitting a classification of the countries according to the risk categories.

b) In point of risk nature, respectively according to the features of the economic entity generating country risk, two categories emerge (Gautrieaud, 2002, p. 10):

- **Traditional risk - sovereign and non transfer risk** – which can occur in international operations. Mathis (2001, p.235, cited in Gautrieaud, 2002, p. 10) defines **sovereign risk** as *"a risk of non-payment of a debt to the international funding companies by a Government for the latter's debt (it is understood that this also includes the debts guaranteed by the State for territorial collectivities, public enterprises)"*. **The non-transfer or transfer risk** is the *"risk, for international funding organisms, of seeing foreign public or private entities unable to honour their payment obligations assumed. In these precise cases, the good faith of the loan beneficiaries is not the cause. The risk origin is to be investigated in the causes, related to their Government, forbidding the transfer of funds outside the country or preventing to obtain the necessary foreign currency to pay their debt"* (Calverley, 1990, p.9, cited in Gautrieaud, 2002, p. 10).
- **Systemic risk**, a new country risk emerged along with the Asian crisis occurred in the summer of the year 1997. The term *systemic risk* is not new (let us remember the trigger effects of the stock crash of the year 1929 in the USA). Patat (1993, cited in Gautrieaud, 2002, p. 12) defines systemic risk as *"something likely to emerge in States where the agents' answers to the risks they perceive, far from leading to a better repartition of individual risks, lead to a deepening of the general insecurity"*. Beginning with the 1990s, national balances of payments have experienced a trend of "financialization". Capital flows have progressed and financial deintermediation has resulted in the diminution of bank credits flows. Credits, bonds, and investments in local currency held by private economic agents have intensified. Thus, economies have become topics closely analyzed by the investors, who may lose their trust in case of degradation of the international banking systems. The mondialization of the economies has multiplied the transmission belts of crises and has intensified their international echoes.

c) From the perspective of the crisis-generating actions there appear:

- **Political risk**. A more global definition of political risk was given by Habib-Deloncle (1991, cited in Gautrieaud, 2002, p. 15) according to whom this is *"all the events or political or administrative decisions, national or international, which can trigger economic, commercial or financial losses for a company - importer, exporter or investor abroad - titular of these contracts"*.
- **Economic-financial risk**. Often called simply economic risk; the adding of the supplementary qualificative "financial" has reinforced the idea that the financial dimension has become more important in the 1990s. The economic **country risk** is defined as the volatility of the National Gross Product or the real GDP (Clark, Marois and Cernes, 2001, p.52, cited in Gautrieaud, 2002, p. 16). **The financial country risk** refers to the capacity of the national economy to generate sufficient international exchanges to face the payment of the external debt (Clark, Marois and Cernes, 2001, p.56, cited in Gautrieaud, 2002, p. 16).

3. International crisis propagation

Since the summer of the year 1997 until the autumn of 1998, successive waves of financial crises spread from Thailand in Asia in the summer of '97, then, in the autumn of '97, from Asia to the rest of the world and, finally, starting with September 1998, from Russia to the rest of the world. Emergng markets were more seriously affected then mature markets. Out of the latter, the bond markets of the USA and those of the "tough core" of the EU benefited even of a return to quality. Later on, the economic history of the recent years, especially the crisis of the year 2008, has shown that an extension of the investment opportunities in the emerging countries and in the developing countries has actually been accompanied by an increase of the country risk, mainly by means of an increased potential of international crisis propagation. This was the result of the increased vulnerability of the developing countries and of the persistence of structural imbalances.

❖ **The increased vulnerability of the developing countries to the investors and speculators' decisions comes from the combination of three factors (Longueville, 1999, pp. 10-11):**

- ✓ **Liberalization of the foreign exchange markets**. Beginning with the 1990s, leaving aside the operations with merchandises and services, constantly liberalized have been the capital account operations in Latin America, in Asia and in Eastern Europe. Foreign exchange markets with

deadline payment have developed in Brazil, in Thailand and in South Africa, sometimes starting from offshore markets. These evolutions have been led by maintaining exchange rates related to one or two reference foreign currencies, which has facilitated speculative hedging transactions, especially on the markets with deadline payment.

✓ **The strong evolution of the volatile capital stocks with short-term payment, easily delocalizable.** For non residents, this has meant acquisitions of certificates in local currency (public stocks and shares, in the context of the development of the exchange markets and of the internal public debt markets, of the securities market) and generously rewarded deposits in local banks. For residents, the potential of delocalizable capitals increased. The enlargement of the monetary mass and of the credit focused, in part, in the residents' portfolios, whose financial components highlight rather a strategy of international allotment of the assets, than a habit of capital investments on the internal market. Principally, this is about: the branches of the foreign companies, the large local (banking and industrial) groups, the individuals who easily internationalize their savings, and sometimes the pension funds.

✓ **The use of non-intermediated private capitals, by their nature sensitive to the changing market course** – emissions of stocks and shares, acquisition of securities in local currency by non residents – to cover the foreign funding deficit. In the course of the last two decennia, the deficits of the current balances of payment have grown and the burden of the external debts installments payment has worsened.

❖ **The persistence of structural imbalances**, in financial crises propagation, has a double role (Longueville, 1999, p. 11):

✓ they can constitute the efficient links of a chain propagation of the recession; thus, they will erode the fragile banking systems, which amplify the economic and financial crises, whereas, inversely, healthy banking systems attenuate them;

✓ for financial markets, they can constitute elements of suspicion, as soon as they identify and localize analogies with the countries already in crisis; financial investors put the blame on the countries with structural difficulties, which are similar to the countries already affected by a crisis.

We need to remember that in the context of the crisis propagation potential, it is no longer enough to examine the traditional macro-economic imbalances (prices, budgetary balance, external payments balance). For this reason, we also need to take into account the following aspects (Longueville, 1999, p. 11):

✓ imbalances in the evolution of structural reforms; a too fast opening towards the outside, compared to the speed of the internal structural reforms can generate a considerable deficit of the current balance of payments;

✓ the frailty of the banking systems: the strong endebtmnt in foreign currency, the too high degree of transformation, the important weight of bad debts;

✓ imbalances of annual accounting balances of the private companies: excessive debt, compared to their own funds;

✓ absence of exports diversification, correlated to a very strong dependence on some raw matters.

4. Conclusion

While international crises have undergone evident mutations in their form, they are accompanied in parallel by a modification of the risk materializations. The negative repercussions on the national economies, increasingly more submitted to the effects of mondialization, and the amplexness of the burdens related to loans at the international financial organisms have made it necessary and even indispensable to make use of the specialized organisms able to evaluate the new crises that hypothetically can be triggered by country risk analyses, as strategic instruments for the economic agents. The market risk studies present advantages for all the parties involved in contracts concluded by two economic entities from different countries. The informational content included in these analyses highlights an interest in those who can be the subject of the country risk, but also for those who can be at the origin of the risk.

Actually, the evaluation of country risk is one of the parameters supporting the calculation of the insurance paid by the insured. According to the logic of the insurance, the insurance needs to cover, leaving aside the management costs (and the eventual margin, if this is about a commercial activity), also the cost of the risk, namely the probable compensation. The aim of country risk analysis is, therefore, to classify the countries into risk categories, so that the insurance, on average, may cover the "disasters" that will affect the countries in the respective category.

References

1. Banque des Règlements internationaux (2001), *Profil*, juin, www.bri.org.
2. Barrall G. (1987), *L'assurance crédit à l'exportation*, Nathan, COFACE, Paris.
3. Clark E., Marois B., Cernes J. (2001), *Le management des risques internationaux*, Collection Gestion, Série: Politique générale, Finance et Marketing, Economica, Paris.
4. Gautrieaud Stéphanie (2002), *Le risque pays: approche conceptuelle et approche pratique*, Document de Travail, nr. 72, Centre d'Economie du Développement, Université de Bordeaux IV.
5. Longueville G. (1999), *Propagarea internationala a crizelor*, in *Riscul de tara 1999*, Romanian version of the guide "Risque pays 1999", Le MOCI, nr. 1374, 28 Jan. 1999, edited by Centrul Roman de Comert Exterior, Bucuresti.
6. Marois B. (1990), *Le risque pays*, Que sais-je?, PUF, Paris.
7. Mathis J. (2001), *Marchés internationaux des capitaux et gestion d'actifs*, Collection Connaissance de la gestion, 3-ème édition, Economica, Paris.
8. Mikdashi K. (1998), *Les banques à l'ère de la mondialisation*, Economica, Paris.
9. Sargen N. (1977), *Country risk*, Business Financial Letter, Research Department, Federal Reserve Bank of San Francisco, 18 mars, 1977, pp 1-3.

Risk Management related to Privacy Policies of an Online Store

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This paper seeks to explore the early warning alerts that NORSE system proposes to e-commerce merchants. The real time visibility to cyber-attacks empowers this intelligence tool with high capabilities to detect the threats that companies confront with. The fight against cyber-criminality should be reinforced globally, in the attempt to mitigate the risks and losses determined by attackers. By analysing two case studies, the article proposes a framework which can guide e-commerce merchants to integrate intelligent systems for threat detection. The managerial implications are obvious, equipping the leaders with tools to prevent both financial and knowledge loss.

Keywords: cyber-attack, risk management, privacy, e-commerce

JEL Code: K23, L43

1. Theoretical background: cyber-attacks and e-Commerce

E-commerce security strategies deal with two issues: protecting the integrity of the online business model and its internal systems; accomplishing transaction security between the customer and the e-commerce merchant (Marchany and Tront, 2002).

Security concern is one of the main reasons customers give for not purchasing over Internet. Consumer reluctance to e-commerce is partly due to the fact that the security issues related to shopping on the Internet are considerably high (Udo, 2001).

To the extent that e-commerce is novel to a consumer, disposition to trust will influence trust in the vendor (Harrison McKnight, 2001), but for repetitive buyers the online trust is approached differently. Whether the perceived risks were higher or lower in e-commerce differ from a customer to another, the real threat of third-party intrusion of personal information or financial information is actually less of a threat online than via the more traditional means (Miyazaki and Fernandez, 2001). In examining consumer trust in E-commerce, literature reveals two levels of treating overall online client trust: cognition-based trust (a low level of trust) and affect-based trust (a high level of trust) (Chen and Dhillon, 2003).

Creating procedures to deal with downtime, power outages, cyber attacks, and failure of technology assure competitive advantages for e-commerce merchants (Yasin et al., 2006). No organization connected to the Internet can assume it is safe from a cyber-attack or a criminal act against its business network, including its clients ().

The devastating impact of cyber-attacks to today's e-commerce environment has involved enormous interest in intrusion detection research, both from academic and e-commerce practitioners. In order to guarantee the requirement for continuous availability of products and services bought online, it is also important to consider how the system reacts once the intrusion is detected (Foo et al., 2005).

Hackers' power is constantly increasing and there are more attacks in the last years. Secure web applications for e-commerce stores are only possible when a Secure SDLC (Software Development Life Cycle) is applied (Kaur, 2016).

2. Peculiarities of cyber-attacks in E-Commerce – a case study on NORSE

As E-commerce sales continue to grow in the last decade, the rise in the sophistication of fraud represents a warning alert. Fraudsters have evolved their efforts by increasing automation and creating innovative solutions. With their immense distributed power due to collaborative fraud networks, they pose a significant threat to e-Commerce. Leveraging these technologies, fraudsters are able to instantly change IP locations to avoid being traced and initiate transactions from locations that seem to be legitimate or may even be the cardholder's actual compromised computer – a type of fraud

known as Clean Fraud. Thus, many fraudulent e-Commerce transactions might appear as being legitimate and are not identified by traditional anti-fraud methods.

Validation tools available through the Internet sites are not as effective for mobile devices and most e-commerce merchants have not yet established anti-fraud user-authentication for their customers on mobile devices. Because they involve less personal information, which can be analysed to ensure they correlate with a genuine customer, mobile devices can be an easier channel for fraudsters to be further exploit.

Determining if a transaction is legitimate or not and deciding whether to approve or reject it is a critical milestone in e-Commerce operations. There are envisaged measures that may trap fraudulent transactions, but may also block genuine customers, who will make complaints. Merchants use a variety of automated fraud management techniques, such as fraud-scoring calculators, device fingerprinting, order velocity, multi-merchant data, and analysis of anonymous or free email accounts. In addition, there are still many e-commerce merchants who review their orders in a personalized way. Despite these efforts, they remain challenged in their abilities to protect against fraud attacks, maintain a positive customer experience, and keep costs in line.

Cyber-criminals rapidly change the origin of their attacks and hide their true location and identity using virtualized servers, public cloud infrastructure, and anonymizing proxies. In short time, fraudsters set up connections for online shopping and place orders, and just as quickly bring them down — making it nearly impossible to accurately trace the activity back to its actual source. Detecting and stopping e-commerce fraud therefore requires an effective threat intelligence-based approach, which empowers online merchants to assess the risk level of any transaction in real time.

While existing technologies are in many cases a good pillar for a fraud prevention program, one critical element is missing: live attack intelligence. The most effective way to reduce e-Commerce fraud is to leverage a specialized tool - Norse live attack intelligence. Using a custom integration via a customized API, online merchants obtain a highly accurate live risk assessment of any e-Commerce transaction. Norse's ability to identify and block anonymized IP addresses and other fraud risk factors protects e-commerce merchants from the most advanced online fraud techniques, which quickly evolve.

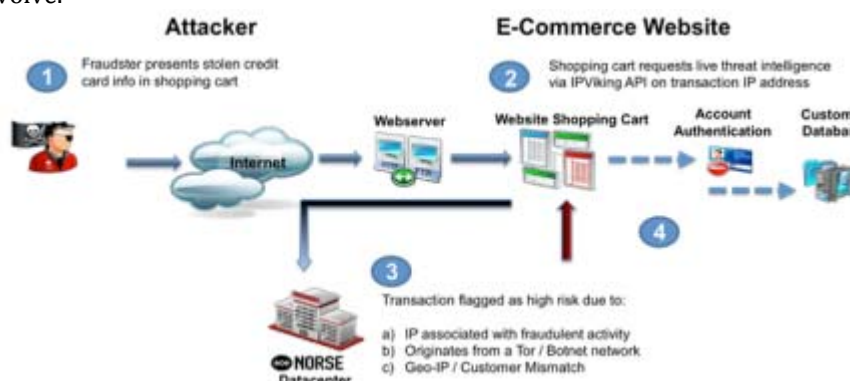


Figure 1 – Interconnections between attackers and e-commerce websites

Source: http://www.norse-corp.com/wp-content/uploads/2015/04/Norse-SB-eCommerce_Fraud1.pdf

For many enterprises, the website is the primary channel for communicating and transacting with prospects, customers, partners, suppliers, etc. Consequently, it is also one of the primary attack vectors used by cyber criminals when targeting an organization for ecommerce fraud as well as security compromise and breach. For companies that engage in ecommerce and store confidential personally identifiable customer information, the website represents an even greater source of potential business risk. Tor is a public peer-to-peer network, but unlike other peer-to-peer networks, its main function is anonymization of network traffic. With the rise in ecommerce over the past decade, fraudsters have evolved their efforts by increasing automation.

With their immense distributed power, attackers pose an increasing threat on the ecommerce landscape. In addition, the increasing use and popularity of Tor and other Internet anonymizing services has created a new security and fraud challenge for businesses and organizations that conduct business and process transactions online. Leveraging these technologies, fraudsters are able to rapidly change locations to avoid being traced and initiate transactions from locations that seem to be legitimate or may even be the cardholder's actual compromised computer. The result is that

many fraudulent ecommerce transactions appear to be legitimate and circumvent traditional anti-fraud methods.

The attack against the political fund raising site used sophisticated, automated scripts that were specifically designed to work with the target site's financial system. The attack was distinguished by the use of credit card account information that looked legitimate enough to spoof some typical forms of fraud detection. It also used 109 unique and undocumented Tor exit nodes to provide attack launch points from which the attackers could not be traced. Finally, the attackers use strategically placed botnet command and control points. While specific points of origin were obfuscated with Tor anonymization, the pattern of attack required a distributed, orchestrated effort.

E-commerce has changed the way people shop from the comfort of their place, in just a few clicks. Customers expect a more personalized experience which brought e-commerce retailers to develop their own apps and give them a highly convenient experience of shopping on the go.

With the proliferation of mobile apps, cyber threats have also increased, primarily because of the vulnerabilities found in these apps due to the inadequate technical controls and also due to the poor security practices of the mobile app owners.

Cybercrimes have posed a serious concern for e-commerce retailers leading to significant business implications and bad PR. E-commerce retailers should take proactive measures to protect their mobile apps from these malicious hackers and safeguard their customers' personal information that they leave while shopping on the app.

Here are two companies that got hacked:

1. **eBay** – The breach at eBay Inc was poised to be one of the biggest data breaches in history, based on the number of accounts compromised. Around 145 million records were accessed by hackers that contained passwords as well as email addresses, birth dates, mailing addresses and other personal information. The hackers got the login credentials of a small number of employees that allowed them to gain access to eBay's corporate network.
2. **Starbucks** – Last year Starbucks app was hacked twice in a gap of few months, where in hackers stole money from several Starbucks customers by gaining access to their credit card information through the app and using the auto-load function. Criminals were using Starbucks accounts to access consumers' linked credit cards. Taking advantage of the Starbucks auto-reload function, they could steal hundreds of dollars in a matter of minutes.

There are many threats to e-commerce security, such as acts of human error or failure, forces of nature, deliberate acts of theft or extortion, etc. Because technology and the internet at that are still such a new phenomenon there are many issues with websites and there is still no way to make your e-commerce site completely secure without certain threats always looming. With technology continually changing and new e-commerce sites entering the market using new and improved technology other e-commerce sites are always looking for a way to improve and become better than the next, creating a competitive advantage. With all this continuous change, this makes it hard to continually keep the current threats away while also staying relevant, keeping employees up to date and trained, keeping cost down, etc.

Below are some of the biggest and most current threats to e-commerce, divided into 2 categories: deliberate acts and human error.

Fraud-- E-commerce websites are vulnerable to fraud from external and internal sources. These incidents include credit card fraud, anything being entered into the system by rogue employees, hackers, trojan horses, etc.

Security-- These issues relate to internal business networks and interface between transactions done by the customer and the network. Hackers can gain access to internal systems via the e-commerce website.

Viruses-- Malicious software and computer viruses are two of the biggest threats. Viruses are normally from external sources and can corrupt files on website if introduced into the internal network. Viruses can completely destroy a computer system and disrupt the operations of the website. Trojan Horse is a malicious software that has the ability to capture the clients information, before any encryption software can take effect. They can also impersonate a customer and pass over bad and malicious codes into the server running the website.

E-commerce hackers are the main threat to the e-commerce environment, however they are responsible for unleashing potential sub-threats such as Man-in-the-Mobile(MITMO), Man-in-the-Browser(MITB) through Trojans(Zeus, Silion, Torpig, and Yaludle), and Man-in-the-Middle(MITM).

Phishing attacks can be used as part of the process with the previously mentioned attacks to steal financial information from consumers. The Man-in-the-Middle attack, also known as session hijacking is used by hackers to intrude into an existing connection to intercept the exchanged data and inject false information. It involves eavesdropping on a connection, intruding into a connection, intercepting messages, and modifying data. If a hacker were to capture the cookie that is used to maintain the session state between a consumer's browser and the genuine website they are logging into, the hacker could present that cookie to the web server and impersonate the connection. The consumer's financial information is now at risk of being compromised. Below is an example of a normal transmission and MITM attack: A normal transmission where the user logs on to an e-commerce website where the user's credentials are verified and user gains access to website.

The following security controls are recommended solutions for e-commerce companies as additional security to thwart any cyber-attacks. The recommended security controls are offered by Trusteer, a private held corporation. The security software offered by Trusteer such as Pinpoint, Mobile and Rapport will assist e-commerce companies in mitigating the discussed threats to ensure a safe online environment. According to Trusteer, Trusteer Cybercrime Prevention Architecture "is the technology foundation of Trusteer's sustainable security solution, enabling organizations to protect their employees and customers against malware and phishing attacks. It prevents credential theft, account takeover, and sensitive information theft. Trusteer Intelligence Center experts extract emerging Crime Logic from threat information gathered by tens of millions of protected endpoints. Trusteer's clientless and endpoint protection layers are constantly updated to secure users against the evolving threat landscape.

3. Conclusions

Today's cybercriminals have automated tools, new attack vectors, and a seemingly never-ending supply of zeroday vulnerabilities to exploit. Despite a wide range of available security and antifraud solutions, the fundamental architectures of traditional signature and policy-based solutions lack the intelligence and proactive adaptability needed to effectively protect against today's advanced attacks, APTs, and zero-day exploits. Given today's elevated threat environment, "businesses can no longer afford to play a game of chance.

They must prepare to play a new game, one that requires advanced levels of skill and strategy to win."5 The time is now for security vendors and IT security professionals to rise to this challenge together with new intelligence-based solutions and deployment strategies. Fortunately, innovative cloud-based solutions like Norse Live attack intelligence are available to enable organizations to quickly and cost effectively integrate live actionable threat intelligence at virtually any point in the IT infrastructure and web-based business processes. Integration via flexible RESTful API, enables organizations to transition to an intelligence-based strategy incrementally, prioritizing resources and efforts based on the organization's specific risk profile and attack surface, thereby raising their overall security posture and lowering business risk.

Norse Live attack intelligence opens up new possibilities for organizations in designing effective cyber security and fraud reduction strategies. With direct integrations to third-party solutions or simple integration via the flexible RESTful API, organizations can now add actionable threat intelligence virtually anywhere within their IT infrastructure and online business processes, enabling more informed and accurate decisions about what to block, what to allow, and what should be routed for additional analysis or verification.

Designed to support the requirements of high volume network infrastructure such as routers, firewalls, and load balancers, and to enable easy integration into critical business processes, websites, customer login forms, and ecommerce systems, the Norse Live attack Intelligence platform is features a highly redundant and scalable global high-speed delivery infrastructure that ensures extremely fast and reliable delivery of data with no latency from calculations. Response time against the Norse delivery platform is measured in microseconds with the ability to support hundreds of thousands of queries per second. Dynamic DNS ensures that customers connect to the geographically closest resource to minimize network latency.

And the end of this interesting and very captivating subject, I realised that the entire world is exposed to a very major threat and besides nuclear attacks, armed attacks, wars and so on, those cyberattacks are silent, imminent, precise and very harmful for every person that use a smartphone, a bank account, personal computer or laptop or everything that have a direct connection to internet.

References

1. Chen, S. C., & Dhillon, G. S. (2003). *Interpreting dimensions of consumer trust in e-commerce*. *Information Technology and Management*, 4(2-3), 303-318.
2. D Harrison McKnight, N. L. C. (2001). *What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology*. *International journal of electronic commerce*, 6(2), 35-59.
3. Foo, B., Wu, Y. S., Mao, Y. C., Bagchi, S., & Spafford, E. (2005, June). *ADEPTS: adaptive intrusion response using attack graphs in an e-commerce environment*. In *2005 International Conference on Dependable Systems and Networks (DSN'05)* (pp. 508-517). IEEE.
4. Kaur, D., & Kaur, P. (2016). *Empirical Analysis of Web Attacks*. *Procedia Computer Science*, 78, 298-306.
5. Marchany, R. C., & Tront, J. G. (2002, January). *E-commerce security issues*. In *System Sciences, 2002. HICSS. Proceedings of the 35th Annual Hawaii International Conference on System Sciences* (pp. 2500-2508). IEEE.
6. Miyazaki, A. D., & Fernandez, A. (2001). *Consumer perceptions of privacy and security risks for online shopping*. *Journal of Consumer affairs*, 35(1), 27-44.
7. Smith, G. S. (2004). *Recognizing and preparing loss estimates from cyber-attacks*. *Information Systems Security*, 12(6), 46-57.
8. Udo, G. J. (2001). *Privacy and security concerns as major barriers for e-commerce: a survey study*. *Information Management & Computer Security*, 9(4), 165-174.
9. Yasin, M. M., Czuchry, A. J., Gonzales, M., & Bayes, P. E. (2006). *E-commerce implementation challenges: small to medium-sized versus large organisations*. *International Journal of Business Information Systems*, 1(3), 256-275.

The Visual Image in Managerial Communication

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The increasing proliferation and diversification of artificial languages have become a prerequisite for an efficient managerial discourse. The inclusion of language in a philosophy of management is justified by at least three reasons: language becomes the condition, the model and the object of scientific management. Implementing one's management plan is consistent with the ability to send easily decipherable messages. It is a fact that one of the most important qualities of a leader is his or her ability to communicate. Career success is conditioned by facilitating the ease of communication between employees and superiors. Communication skills can launch or ruin a career. Advances in messaging technology have a profound impact on our psychology. Communication through image, especially nowadays, is of particular importance. Included among the expressive behaviors, nonverbal communication is characterized by several aspects.

Key words

Management, visual image, nonverbal communication, artificial language,

Introduction

Management today is characterized by the need to communicate. The tremendous evolution of technology, especially with regard to the means of communication, requires a change in our approach to management in all targeted areas. Nowadays, communication, in general, and image communication in particular, largely determine the success or failure of a business. The manager's ability to communicate with people at all levels of an organization helps the former to coordinate effectively the various activities of the business. The pace of technology development has reached a level that requires the acceleration of the entire evolution of our contemporary culture and civilization. These changes in pace induce further changes at the level of human ability to adapt to the new circumstances of living. The context of the perceptual experiences that the contemporary man senses requires, first and foremost, a change in our mental attitude so as to facilitate the formation of new concepts for understanding the newly-emerging phenomena or those that are about to occur.

In its turn, management can no longer ignore the effects that nature imprints on image communication, the atmosphere built in the business environment through the insertion of these factors (scientific and technical discoveries, scientific and philosophical syntheses, scientific and political ideologies, etc.), and, within the latter, the evolution of concept of "business" itself, i.e. how man perceives the business environment. Consequently, the management act accrues new meanings and dimensions, as well as new ideological and ethical values, establishing a new relationship between the constructive virtualities internal to management and the whole array of structures and external economic phenomena. In this context, image is the strongest currency of globalization.

The increasing proliferation and diversification of artificial languages have become a prerequisite for an efficient managerial discourse. The inclusion of language in a philosophy of management is justified by at least three reasons: language becomes the condition, the model and the object of scientific management.

2. Management Culture and Communication

Management culture cannot be conceived outside its communicative instance, because its creation itself necessarily implies that perpetual exchange between manager and the various human groups involved in an economic activity, between the values thus created and their socialization on a wide scale.

Positioned within a new economic and social environment, the individual receives information from his original social and economic environment. The economic environment manifests itself through the transference of messages from the larger economic picture to the individual

microuniverse, and from the latter to other members of the community. Communication is needed to establish relationships and set structures, as well as to modify and strengthen such relationships. The problem we primarily face in the context of communication related to our attitude, behavior or action which results from communication. As has been demonstrated, 70% of a day's work is spent in talking and listening; 75% of what we hear, we hear vaguely; we forget 78% of what we hear in the next 20 days. Approximately 65% of a manager's working time is spent on allotted to communication, of which 10% to reading, 15% to writing; 32% to speaking; 43% to listening.

The way in which we receive messages differs if we employ a natural channel (direct contact with the transmitter), an artificial channel (cinema, radio, television, press); a physical presence (visual or audible), or both at the same time; we can also use a symbolic artificial channel, or a mechanical artificial one, like that of radio or television. The advances in messaging technology profoundly impact on our psychology. Communication through image, especially nowadays, is of particular importance. Included among the expressive behaviors, nonverbal communication is characterized by several aspects.

Nonverbal communication is emotional. Image communication is part of nonverbal communication and adheres to all its rules. Words may be transmitted one by one, while icons and symbols are characterised by simultaneity. Ideas that are highly abstract are not included in this category. Nonverbal communication is not controlled by reason. One should take into account the fact that the nonverbal communicative acts are characterised by ambiguity. Not one nonverbal sign may be interpreted correctly apart from the context of the other signs (verbal or nonverbal), of the history of the relationships with the communication partners (friendship, indifference, hostility, etc.), and that of our psychic state.

Similarly, nonverbal signs should be decoded only by reference to the cultural community that has established them. All these principles should be taken into account when establishing management strategies aimed at increasing the economic performance of a given company.

Implementing one's management plan is consistent with the ability to send easily decipherable messages. It is a fact that one of the most important qualities of a leader is his or her ability to communicate. Career success is conditioned by facilitating the ease of communication between employees and superiors. Communication skills can launch or ruin a career. Mention must be made of the fact that 70% of business communication fails to achieve its intended purpose.

Communication and its importance have been stressed by a series of different management schools and trends, in particular by the proponents of human relation approach to management and by those of system approach to management. The former, for example, stress the importance of the human problems arising in the context of communication, focusing on the identification of various barriers endangering efficient communication, with a special interest on interpersonal relations.

3. Image as an element of communication

Images have a greater impact on emotions than on reason. They influence the human psyche because they represent the raw matter of our mental images, with a powerful emotional impact on the imaginary and affective realms of the psychic personality at the level of the unconsciousness and pre-determines the conscious relations of an individual with his or her environment. We live in a civilisation of the image. The development of technology and the mass-media create new concepts, like the one of the society of the spectacle, in the main that of the visual spectacle in all its forms. The analysis may eliminate the errors caused by a defective perception. Emotions act as a filter that disrupts communication. The personality and mood of the individual subjected to communication are the ones that determine a greater or a lesser success.

When the real world transforms itself into mere images, the latter become real beings, determining a new behaviour in keeping with the new reality that determines it. The show, as a means of approaching reality through different specialised mediations, privileges sight over touch. Sight is the most abstract sense, at the same time at which it is easiest to mistify, thus perfectly corresponding to the generalised abstraction of contemporary society. Semiotic and semiological theories no longer inquire into the ontological status of the image, but into the ways through which the latter carries meaning. Considering that the icon corresponds to a sign where the signifier finds itself in an analogous relationship with the signified, Peirce introduces image as a subcategory of the icon, developing a conceptual triad consisting of image, diagram and metaphor, as subtypes of the icon.

Images entail a qualitative relation between signifier and its signified, by assuming some attributes of the referent: shapes, colours, proportions. On the other hand, diagrams presuppose comparisons, reproducing internal organisations of the referent (e.g. the architectural design of a

building). The metaphorical image results from a transfer of signification. Mention should be duly made of the fact that not only Peirce, but most authors agree with the proposition that images carry visual messages, hence images are interdependent with visual representations.

4. Image as a physical object and means of communication

A visual image may be defined as any two-dimensional graphical representation which is transposed on a flat surface located within our field of vision. The two-dimensional visual image has its own internal organisation, which is hard to detect, with several overlapping levels. These are separate but interrelated entities with distinct tasks and objectives. When more images vie for primacy, they should be approached differently, function of their individual characteristics. We may speak about three visual entities: - *image as a physical object* refers to the substance that makes up an image and, in some cases, the image shows us both the material and its base of its formation, just like any other objects do. Not being solely restricted to the arts, the visual language is present in the economic and technical fields as well, with immediate practical attributes which are highly different from the ideal objectives of art. Nevertheless, a manager's communication with his or her partners resembles that of artists, because it presupposes similar skills used for the production of images. There are no strict boundaries between its different functions depending on the various areas in which communication occurs. An artistic image can bring practical, sometimes documented information to be used in economics, management, science or medicine. It goes without saying that images produced in scientific or technical purposes may create aesthetic emotions as well, through color, harmony, balance, complex composition, or, through the unexpected meaning that they can transmit.

A manager's success clearly related to his ability to communicate, to transmit various data in details in a persuasive manner. In this context, image communication plays an important part. As facts of life have demonstrated, the ability to communicate is an important asset for a leader. At the same time, professional advancement from less important managerial positions is based on good communication with one's superiors. The ability to communicate efficiently may have positive or negative consequences on one's career building. Many important issues run into great difficulties due to deficiencies in communication - it is certified that 67% of all communication in economic and managerial fields fails to obtain its desired effect, which leads to the unattainability of one's goals. Various management schools or trends outline the important part played by communication. A case in point are the theories put forth both by the proponents of human relation or system approaches to management. The former, for example, stress the importance of the human problems arising in the context of communication, focusing on the identification of various barriers endangering efficient communication, with a special interest on interpersonal relations.

One should also discuss the artificial electronic image and its source. In the case of cinema, film stores image in its iconic visual form, while other embodiments are stored only in an electronic version. In the latter case, the original achieves new characteristics due to the qualities of the new medium, where image loses its material form; digital recordings may be multiplied without distortion, since no differences exist between the original file and its copy, the two are virtually identical. In this context, the 'original' loses its uniqueness as neither the quality nor the visual aspect of an electronic recording remain singular, both of them changing function of the performance or the settings of the given equipment; under these circumstances, the notion of an 'original' image no longer exists, being replaced with that of a "first" or initial file. The attribute of 'original' changes thus under the pressure of the new media. What remains intact is the notion of the prototype, produced on a given media and by using a certain technique. Thus, there occurs a change of meaning, whereby the 'original' no longer refers to a given image, but to the symbiosis of technology and information, both of which are indispensable conditions for the visual image to exist. The TV, the computer monitor, the tablet, the mobile phone, are examples of image-related media; though they do not archive images, they help visualise them. Although the term 'visual / iconic sign' disregards the nature of its media, the latter cannot be overlooked when image is concerned, because this is instrumental to its understanding.

Perception is a 'semantic' obstacle that interposes itself between reading the codes of our visual perception and choosing the meaning attributed to a symbol, leading thus to a misinterpretation of the message. Our system of values and life experiences influence the decoding of the message. It is therefore necessary for the transmitter to codify and adapt the message in order to simplify its decoding by the receiver.

The credibility of the message transmitter is connected to and depends on the knowledge and recognized experience that the message provides. When transmitting a message, an experienced

manager is certainly more listened to and respected by his or her audience than it would be the case with a novice.

To be functional, any society requires a certain integration of its members around a set of fundamental values that they all accept. This is, for most of its part, a reflection of a Cartesian-type of culture, which is based on fundamental concepts and is organized into specialized networks of knowledge assimilated through schools, colleges, faculties, professional courses.

Even if lacking a unitary structure, all information received through various sources, particularly through the media, is decoded by the receiver by being related to the set of values of his or her reference group, and to his or her already acquired skills.

It remains a moot point whether the abundance of information coming through the media could be explained in terms of the "mosaic culture" predicted by Abraham Moles, or we should agree with Paul Caravia, who claims that "a mosaic structure occurs when the informational bombardment meets a poorly equipped receiver, insufficiently prepared for processing and rationally handling messages, due to the lack of appropriate behavior patterns."

This observation seems judicious, because it alerts us to the fact that the mosaic structure does not characterise a culture in its objective structure. To put it in other words, the mosaic structure does not belong to any culture through its objective composition, but is ascribed to the reception phenomenon, highlighting the importance of strategies at the cultural and educational levels, and the imperative corrections to be taken in action and cultural offer planning, given its dependence on the economic structures and the political decisions characterising different types of societies.

Such amendments brought to Moles's concepts are also valid for similar ideas put forth by Western theoreticians of contemporary culture. "The universe amalgam" theorized by Rene Berger is viewed as a variant of the mosaic culture, but a culture in which we find the specter of an amalgam structure, derived from the proliferation of mass media, counterposed to a traditional culture, based on universal concepts that regulate our existence. Berger's doctrine underscores the truth according to which the traditional model of culture where the cultivated consciousness becomes the cultivating one is gradually replaced by the system that technology provides under the form of 'technoculture'.

This would be essentially characterized by a generalized principle of reproduction and the multiplicity of the means of transmitting culture, both phenomena that underscore the deepest mutation found to date, namely the entrance of mankind into the age of "multi-reality". Technoculture is linked to the myriad means of transmitting culture, including that of management, and to generalized reproduction, which causes a mutation of utmost importance for the human civilization, which signals the latter's entrance into the age of the "multi-real".

Reproductions compete verbal messages, establishing new links between society and receiver.

"Transforming communication, reproduction establishes a new field of knowledge, simultaneously transforming human consciousness and the feeling of existence, which ceases to be solely or primarily linked to the perception of the original or its verbal report."

Regarding the role played by imagination in solving problems arising in relation to human adaptability to present-day reality, it can be noted that there exists the possibility that imagination, evolving outside the established structures, should provide to us reference points outside the system, which, as they evolve, create new mechanisms that we can use.

Yet, this phenomenon becomes the harder to perceive the more it develops outside or between structures.

- *The image of the object (the image of the signified, or the object as visual image)*: due to its analogical representation, it is considered a more or less successful representation of something, whether that something is situated in the visible world or beyond its limits. In this context, the object as a visual image may be taken as a more or less subjective representation of an object or of a human being, of 'something', even if that something is placed in the visible world or outside its limits. This type of image is 'authored', but the author cannot be considered to have a creative role, but rather a causal one, ensuring the necessary conditions for an image to be able to "reproduce" as accurately as possible a particular subject. Thus, we may assume that there are several categories of images. A first group is formed by those images authored by engravers, photographers, painters, designers, drawers, characterised by human intentionality and the manifestation of different sets of rules in the creation of the image.

Another group is formed by the 'un-authored' images – images that are simply 'caused', without having a creator, such as the images recorded on security cameras, or the X-ray pictures that transmit to us just 'facts', function of the performance and characteristics of the equipment or the technical procedures that are used.

The next group we bring into discussion refers to images formed by chance, which are rarer. Note that the first two categories make the difference between the images which are produced and those which are recorded. The former attempt to imitate a model as accurately as possible in order to provide the illusion of reality. The latter resemble the object they represent, due to the fact that they provide a record of its 'traces'.

It follows that their importance stems from the fact that, prior to being *icons*, such images are *indices*

It should be also noted that the importance of image rests with its referential value. We are dealing with the representation of a concrete reality that can be placed in time and in space, and which existed for real only once at one time. This type of image gives us information about its real subject and has the character of an implicit assertion. Image as ideal object is structured within an autonomous reality, although it illustrates situations or things that exist in reality. It expresses more than it shows. It cannot be used in the fields of science or technology, but is primarily used in art, journalism, advertising, having a great evocative power. These images use the visual language and carry a message, a general meaning.

Visualising the 'represented' reality is influenced by the meaning and location of lines, by composition rules, by the balance of the perceived forms. Where an image is placed, or how an image is framed cannot be neutral or amorphous. Here one finds structural elements that are interdependent on the actual content of the image. Endowed with generally accepted embedded codes, the image takes on new meanings and significations, which distance it from its 'natural' character, from that basic iconicity that underpins the easy recognition of that which is familiar to us.

References

1. *Arnheim, Rudolf, Artă și percepția vizuală, Editura Meridiane, București, 1979*
2. *Bauman Z., Globalizarea și efectele ei sociale, Ed. Antet, 1999*
3. *Francastel Pierre, Realitatea figurativă, Editura Meridiane, București, 1972*
4. *Jeffrey C. Alexander, Steven Seidman, Cultură și societate: dezbateri contemporane, Institutul European, Iași, 2001*
5. *Moles Abraham A., Artă și ordinator, Editura Meridiane, București, 1974*
6. *Moles Abraham A., Sociodinamica culturii, Editura Științifică, București, 1974*
7. *Ricoeur P., Despre interpretare. Eseu asupra lui Freud, Editura Trei, București, 1998*
8. *Paul Caravia, Prologomene la opera lui Moles A., în A. Moles, Sociodinamica culturii, Editura Științifică, București, 1974*
9. *René Berger, Artă și comunicare, Editura Meridiane, București, 1978*

Next manager. Academic Background versus Labor Market Requirements

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The employability of graduates is today one of the major problems both of universities and economical environment. Also, employability, inserting optimum professional and social life is a problem of each graduate. It finds today, that a large part of are young drop out of school and thus possibility of qualify at a high level or have difficulty entering the labor market. European Commission recommends for member states reforming education, especially of the university so as to ensure the professionalization of the young people, developing their professional skills and transversal, harnessing their potential, enhance the relevance of education for youth and the labor market. Bologna Declaration shows that employability (ability to engage, to maintain the service and mobility in the labor market) is defining higher education, whose role is to familiarize students with the skills and competencies that individuals need to place on the job. (Bologna, 1999) This paper addresses the issue of employability of higher economic studies graduates, and analyzes a positive experience resulting from the provision of complex information, guidance, advice and orientation to students in POSDRU "Practice today to become manager of tomorrow". The paper presents the results of a complex study conducted on the impact that these services have had on the students involved, from three perspectives: students, employers, who guided activity students at the university level. The results show that there is a direct relationship between the increase in the number of students who have benefited from guidance, counseling and professional development appropriate to their needs and the number who have developed personal skills to substantiate decisions regarding their career paths and educational because of of information, advice, guidance provided in the project. These services have helped students to develop, to know better, know their own skills and abilities and to focus better on the labor market and / or educational services market. The conclusions have great relevance as a model of best practice in the development of complex programs of partnership between universities and businesses so that employability of graduates to grow and develop.

Keywords: employability, professional skills, transversal competences

JEL code: M10, I23, I25.

1. Introduction

The economic and social transformations which Romania is experiencing have left their mark, in particular, also on the educational system. Whether we are talking about substantive changes, caused by the admission to the European Union, or by those specific to the Bologna process, or by the reactions to the signals of the economic or industrial environment, all these represented influence and conditioning factors in determining the level of performance, but especially in how it is being quantified and monitored.

The university education in Romania, represented in a first phase by the public universities in Romania, was forced to switch, in a relatively short period of time, from a centralized system, that was planned in all directions and component processes, to a competitive globalized system, collaborated with other two extreme phenomena, namely the demographic decline and the modification of the structure of access to all types of resources.

Extended in a first phase from a quantitative point of view due to the emergence and diversification of the educational institutions at the local level, and later by the appearance of the private universities, the training of the young graduates from high schools, but also of other categories

of adults, benefitted from the contribution of a teaching staff anchored in a set of classic principles, scientifically valuable, but less flexible in terms of connection with other systems. Decentralization of the educational system and introducing a new model of reform was a priority for all central public authorities, but the degree of independence assigned resources management and administration forms were permanently changed. (Enachescu, 2011)

That fact that the issues related to the necessary resources for the training process have been neglected a good period of time, as well as because of the way the labor market has absorbed the more increasingly number of university graduates gave rise to distortions in the management of the system with less unexpected effects on the medium and long term.

2. Literature review

Once the euphoria of the quantitative expansion has passed, the higher education has faced other challenges with regard to globalization in education, liberalization of the movement and transfer of information, both for the pupils, students but also for the professors, changes in the national / international legislative frame and the limitation of access to resources, especially to the financial ones. A first reaction, justified, however, by the context, was concerning the orientation towards decentralization and individualized approach depending on the expected or wanted level of performance.

The external competitive pressure and the transition to objectives and projects oriented management brought the higher education institutions face to face with some organizational maturity stages, meaning that it was needed to create and stimulate a collaborative environment, able to respond to the new challenges of the external environment.

Assuming a proactive or reactive position to the multiple transformations has also determined a different positioning, both from a strategic point of view, but also from an operational one, in the sense of adopting a particular type of training of some concerned categories of resources and objectives and performance indicators.

When referring to the performance of the higher education institutions in the current context, it can be characterized by at least the following relevant issues. Firstly, we are talking about the international character of all performance assessments, the use of these assessment criteria generally acknowledged, about the fact that the assessment is done by independent organizations and institutions, but also about the fact that in the assessment are taken into account also the relationships with the external environment and with the key stakeholders from the institutions.

The process of education and its performance are not directly evaluated only in terms of direct contact between people of different categories, information technologies and virtual collaborations being more responsible. (Nastase, 2009)

As part of the whole the criteria and indicators used to assess the level of institutional performance, both in national and international context, the employability of the graduates with specific elements occupies a priority place.

Proactive attitude in the performance of universities must be oriented towards the creation and consolidation of joint structures between universities and the business environment on subject matters related to research, development and innovation, based on efficient and flexible communication mechanisms. (Serbanica, 2011)

The Bologna Declaration defines employability (the ability to be employed, to maintain the job and the mobility in the labor market) as being defining for the higher education, whose role is to train students in the field of skills and abilities, which the individuals need at the workplace and which are requested by the employers.

The analysis of the degree in which the employability of the graduates is ensured represents a complex process, in whose development are involved, on one hand, the internal institutional factors, but also the external factors, those of the environment, whose identification and quantification sometimes raises difficulties, on medium and long term.

We refer in a first analysis on how consistency is ensured between the bachelor or the master studies and the field in which the graduates find a job. Additionally, here there can be defined tasks, competencies and responsibilities that are not directly related to the graduate specialization but their names and their specifics can be interpreted in a more extensive integrated approach.

Another difficulty in assessing the level of employability of students is related to the ratio between the skills gained by the graduates before they are accepted to the university compared to those obtained during the university studies, and compared to the cross ones. A justified question here is related to the contribution of each category of those mentioned to the employment of the students in

their field of their studies. In the same direction of analysis of the degree of employability of the graduates must be also analyzed and defined the reference time interval, for which a person can be considered relevant, namely the time needed for the graduates to find a job that is compatible with the specialization of their university studies. It is known that the economic systems are functioning sometimes based on certain cycles that ensure the alternation of periods of time with very good results and thus high employability compared to periods of time of recessions and economic degradation.

With regard to these features of the macroeconomic area that are influencing the employability of graduates a series of questions can be raised. Do the universities, the main actor of the process, everything they can to increase this level of employability? Do they have the institutional capacity and the related resources for such a complex process? Are they permanently connected to the evolution of the labor market? Do they own the tools needed to manage such a process?

Studies have shown that development of entrepreneurship in a particular area or region is linked to the preparation of students for theoretical and practical capabilities accumulated by them during their academic studies. (Peptenatu et al., 2012)

The initiatives in this regard at the level of universities were supported by institutional steps that were taking into account, on the one hand, the diversification and the fact of completing the services offered to students and graduates, the creation and development of specialized centers, the design of information systems having a role in the collection, management and the analysis of the information related to student employability.

3. Research methodology

A main role in the development of such initiatives was also held by the European funding that has allowed, through the Operational Programme for the Development of Human Resources 2007 - 2013 universities to apply and to financially support activities exactly for increasing the level of employability of the graduates.

The main objective of this work was to identify the impact of the vocational counseling and guidance services, conducted under a European project on the employability of graduates of higher studies in economics, namely the graduates of the Academy of Economic Studies in Bucharest.

"Practice today to become a manager tomorrow!" is a project financed under the Operational Programme for the Development of Human Resources 2007 - 2014, developed in partnership by the Academy of Economic Studies, the Management Consultants Association in Romania, AMCOR, SC Development Consulting Group DCG SRL (Structural Consulting group) and the Association of IT&C-ASPI Students and Professionals.

The overall objective of the project was to facilitate the transition to the active life for 353 students at the masters in economic sciences programme by providing an integrated package of guidance, counseling and personal development services, career mentoring and internships at potential employers. Out of all the specific objectives of the project, the one that is of interest for the research carried out is the one that takes into account the improvement of the guidance, counseling and personal development services and support activities for 353 students in order for them to base their decisions regarding careers / education. The project dealt with an important issue for the graduates of higher education - master of economic sciences, namely that of their employability in accordance with the specialization of their studies. The target group was 353 students in economic sciences - Master cycle.

The European Commission's Strategy for Higher Education mentions the need to reform the university education so as to ensure the professionalization of the youth with the necessary skills for the exploitation of the potential in terms of employability and professional insertion. The project addressed these priorities by providing a package of guidance and counseling services (which allow the defining of a personal profile and the identification of those skills that exploit the intellectual / professional potential) and by providing internships in different organizations. (COM, 2013).

The causes of the level of employability of graduates are also based on the reduced relevance of the education to the labor market, namely the underdevelopment of labor skills at the level of the graduates. Through internships, guidance and counseling services for the students (defining personal profile, educational route, career plan) and support activities for counseling (workshops for the development of personal skills), we felt that the project has acted on the causes that affect the students' ability to integrate into the labor market, including initiation and management of their careers.

The analysis of the impact of the performance of internships and of the activities of guidance and counseling on the performance of the students that benefited from the project is very important

given the fact that it aims to facilitate the transition from school to the active life of the graduates and to empower them with transversal skills related to the exercise of professional and social roles.

Motivated by this situation, we developed an *empirical sociological research* for the direct observation of the studied reality by applying specific methods and techniques for the collection of information (in our case - the survey based on a questionnaire and the analysis of social documents) in order to process them and to obtain information about the phenomenon studied.

For this research we have established the following two hypotheses:

I1. There is a direct dependence between the increase in the number of students who have benefited from the guidance, counseling and professional development services appropriate to their needs and the number who have developed personal skills for the substantiation of the decisions regarding their career and educational paths;

I2. There is a direct dependence between the increase in the number of students who were involved in internships corresponding to the training and the skills and the ease of the transition from school to active life, reflected in the employment time of the students in the field;

Correlated with the established hypotheses, we have set the following objectives through which we planned to assess the impact of the project, namely how the project:

O1. Has helped ease the transition from school to the active life of the benefitting students;

O2. Has developed the ability of the benefitting students to adapt to the workplace;

O3. Has developed guidance, counseling and professional development services appropriate to the needs of the benefitting students.

The questionnaire-based survey was conducted among the persons involved in the project: master students from the Academy of Economic Studies in Bucharest. "Omnibus" questionnaires were used, which address several topics, have a low cost of implementation in relation to the volume of information obtained and have led to the possibility of obtaining a larger amount of information that can be subject of further analyzes (primary and secondary).

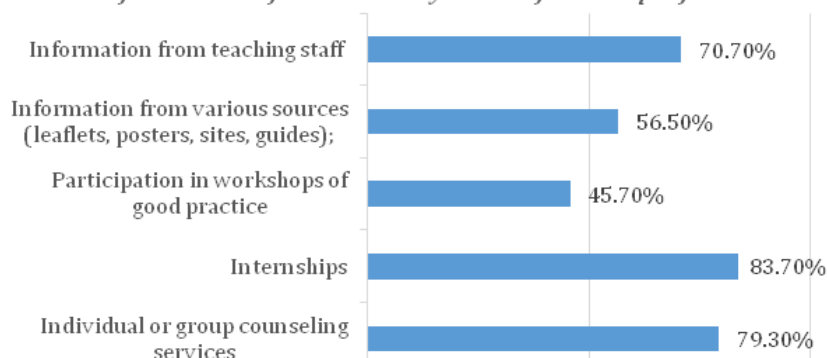
How the questionnaires were applied: direct, online, in self-managed system and the invitation to participate in the research was addressed individually to each person, a member of the target group of the project.

3. Discussion of the research results.

The questionnaire was answered by a total of 92 students from the target group; here are taken into account only the complete questionnaires, the duplicates are being removed and they are verified in terms of belonging to the targeted group.

The questionnaire was composed of 18 questions, which were targeting: the identification and affiliation of the persons, the way in which they have been involved in the activities of the project, the way in which the offered services were perceived, the preference for certain categories of services, the level of appreciation and assessment of certain activities, the assessment of the performance in the provision of services, the establishment of priority actions for universities but also for the business representatives. In relation to the assumptions and objectives of the research, we selected for this paper and analyzed the responses offered by those involved in a number of questions considered relevant in terms of quantity and quality.

Picture No. 1: Statistics for the answers to the question
Of what kind of services did you benefit in the project?

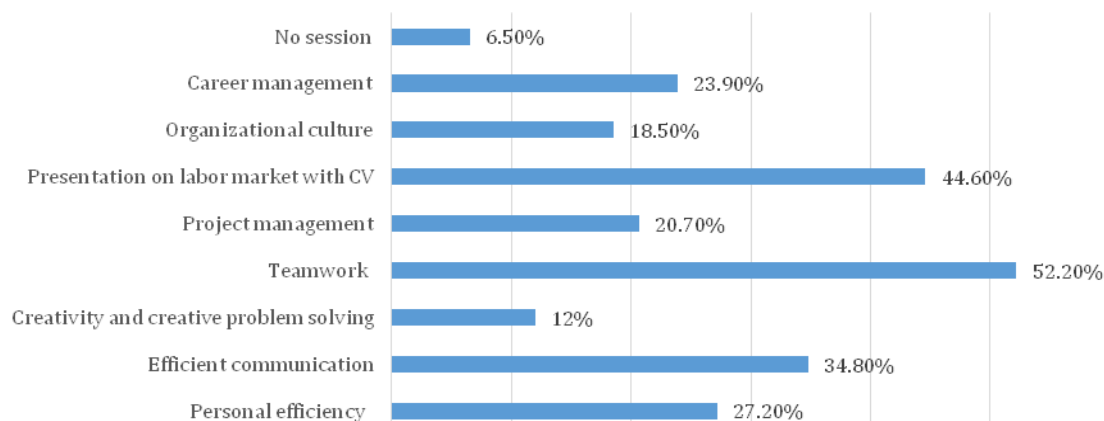


The first question selected for analysis was related to the respondents' participation in all the services provided by the project or only to some of them. In the graph from Picture 1, we can observe

the significant shares of the students who opted to perform internships and of those who benefited from individual and group counseling. From the obtained results, we can observe the preference of the students from the master cycle for the information provided by professors, compared to the information from other sources, which recorded a much lower percentage. The participation in the workshops of good practice was limited in terms of the number stipulated in the funding application and the budget of the project.

Given the importance of the counseling services in the project, we wanted to know the priority options of the students for certain topics and their congruence with the prospects of career management. The statistical analysis of the answers provided by the participants is shown in Picture 2.

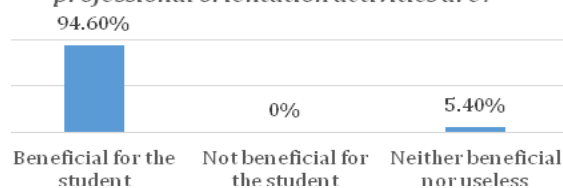
Picture No. 2. Statistics for the answers to the question:
Which of the group counseling session from the project did you attend?



From the statistics of the answers provided by those surveyed, we observed the major share of the participation in the counseling sessions dedicated to teamwork and presentation on the labor market (CV, cover letter), which ensures the development of those competencies of soft skills type. It should be noted that career management was a favorite theme in a small percentage, which highlights a limited concern for the professional future or a limited degree of knowledge of the potential of this area. The results are in compliance with the preferences of employers who mentioned in top 10 skills needed for new graduates in the employment process, communication and teamwork ability. (The Council for Industry and Higher Education, 2008)

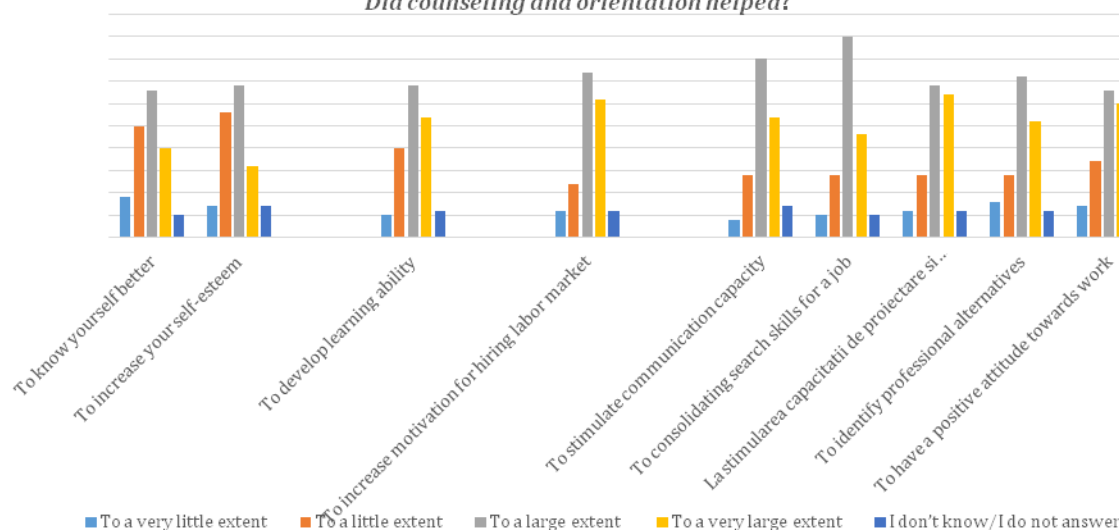
Picture No. 3. Statistics for the answers to the question:

Do you think that the counseling and professional orientation activities are?

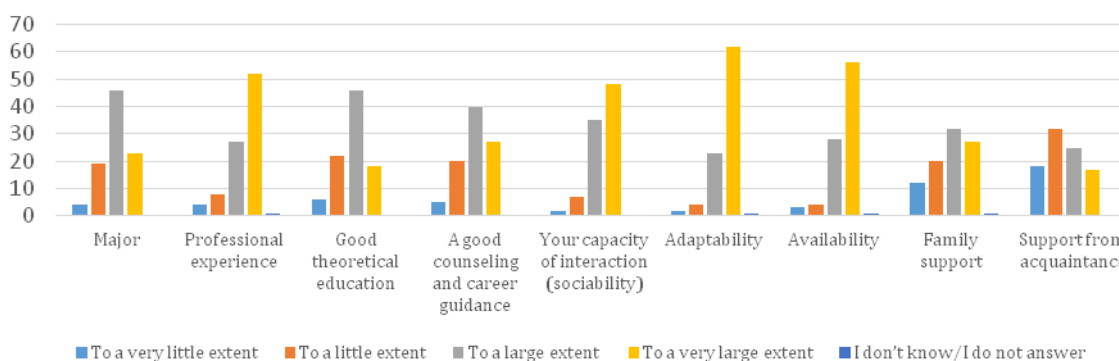


Regarding the participation in various services offered by the project, we wanted in the research conducted to investigate how graduates perceive the need for such services. The significant share of those who consider the counseling services as beneficial for the professional career, as shown in Picture No. 3, highlights the fact that the classical education program, of university type does not offer a lot of alternatives.

In order to highlight the impact of the counseling services and professional guidance we interviewed the respondents about the benefits of these services, differentiated from a qualitative point of view on elements specific for the personal development but also quantitatively, in the sense of quantifying the impact on four different categories, namely: to a very little extent, to a little extent, to a large extent, to a very large extent and I do not know / I do not answer.

Picture no. 4. Statistics for the answers to the question:
Did counseling and orientation helped?

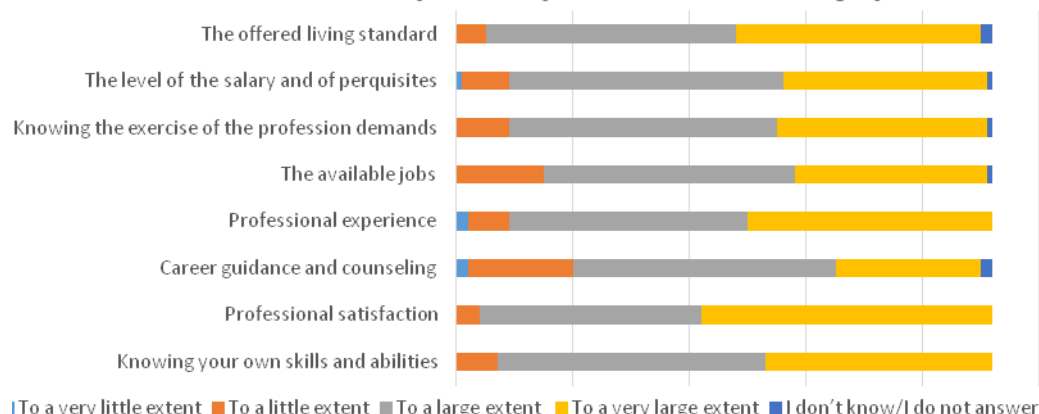
From a quantitative point of view, the answers were mainly in the area of an impact to a large extent, reflecting on the one hand, the need of the students to be involved in various counseling and guidance activities, and on the other hand, that these services have a multidimensional contribution to the proposed subject matters. The highest values are recorded for the criterion regarding the enhancing of the skills for the search of a job, respectively for the stimulation of the communication ability. Interesting is the fact that of all respondents, there is a relatively small number of those who do not know or do not respond, which denotes that the activities were not sufficiently disseminated or the communication policy was insufficiently adapted to the students' profile.

Picture No.5 Statistics for the answer to the question:
Which are the factors that you consider that will contribute to your professional succes?

Relevant to the proposed research and for the assumptions that were set, we considered also the manner in which the students know and perceive the factors that can contribute to the professional success. In this regard, we have proposed a set of features, learned from the previous experience of the collaborations, for which we have also requested an evaluation in terms of quantity. On the first three positions in the standings of the answers offered by the students, were the features that were taken into consideration: adaptability, availability and professional experience. It is to be noted that these three features are not strictly related to the educational process, in which students are involved, which contradicts the expressed desire of students to participate in as many educational activities and projects as possible.

To the other end, we found the features that are related to the support of the family and acquaintances, which is gladdening in light of the fact that the respondents are trying to build their careers without external support.

Fig. nr. 6. Statistics for the answers to the question:
Which factors contribute when you found your decision to seek employment?

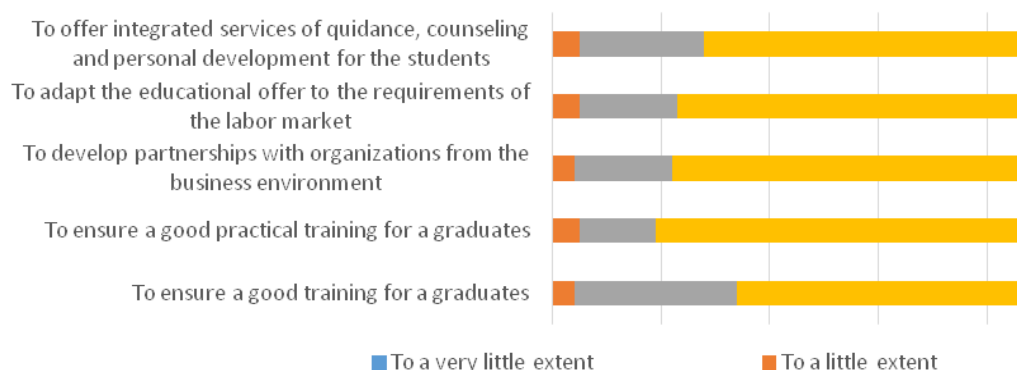


In order to complete the proposed research approach, we selected as relevant also the answers given to the question **"Which factors contribute when you found your decision to seek employment?"** The respondents rated as major factors that influence to a very large extent of the job satisfaction and of the standard of living ensured by the job. Also, to a large extent, the students also are influenced by the fact of knowing their own abilities, the career guidance and counseling, as well as by the salary levels and perquisites.

Based on these preliminary findings, we can identify the directions of improvement of the services offered in the educational programs of universities.

To meet these requirements of the students better, we have also researched the respondents' opinion about the services that should be offered to students. The question took into account **"What should the universities do for a better insertion of the graduates on the labor market?"** And the answers were distributed as shown in Picture No. 7.

Picture no.7. Statistics for the answer of the question: **"What should the universities do for a better insertion of the graduates on the labor market?"**



For all the features shown, the answers were concentrated on the significant impact, which confirms that the offer of the types of services offered by the university is in line with the expectations of the students. The practical training is on the first place in the preferences of the students, and from this point of view, the European projects that have funded these activities were considered beneficial for everyone involved. The summary of the results obtained after processing the information gathered through the conducted research highlights some particularities in addressing employability, for the students in the master programmes of the University Of Economic Studies Of Bucharest.

5. Conclusions and proposals

We believe that all the project assumptions were confirmed, as follows:

- The research findings show that there is a direct dependence between the increase in the number of students who have benefited from guidance, counseling and professional development services appropriate to their needs and the number who have developed personal skills to found the decisions regarding their career and educational paths. The advisory services offered through the project have helped students to develop, to know themselves better, to know their own skills and abilities and to orientate themselves better on the labor market and / or educational services market;

The study results also show that there is a direct dependence between the increase in the number of students who were involved in internships appropriate to the training, skills and facilitation of the transition from school to active life, reflected by the duration until the students in the field found employment. Most employed students that were surveyed said they have found a job before three months of search (42.5% searched for less than a month, 28.8% searched for up to 3 months). The analysis of the employability domain shows that the largest share is held by the employees with jobs that have a specific economic and financial nature (35.06%).

We believe that there is a direct dependence between the increase of the degree of complexity of the information, guidance, counseling and monitoring services offered to the students as part of the community of practice and the degree of consolidation of the partnership university - business environment, reflected by the number of partnerships made in a certain time (the first two years after the services were provided). The services offered under the project were complex: advice, guidance and personal development in individual and group counseling sessions, internships, exchange of good practices, job fairs. Everyone involved in the project: students tutors, members of the project team, said that the project had an impact on them; the students have appreciated the offered opportunities, the tutors and the team members expressed their desire to be involved in future activities starting from the good experiences of the project.

The employability of the students from the master's program has become a constant concern in their activity, on the one hand, due to financial constraints, the recommendations and pressure from family or acquaintances but also due to the fast desire of professional success.

Orientation of universities to the needs of the labor market reflects an approach more on the demand while addressing in terms of increasing the level of skills of graduates reflect on the offer's concentration institutions. (COM, 2014)

That's why the students are willing to try and to broaden their activities in order to complement the theoretical knowledge with the practical ones, but this is done in a random manner without being established the main landmarks of the future careers. This highlights the need for a rapid intervention, at university level, in the supply plan, with specialized counseling services, able to help the students to establish better what they want, depending on the stage of training in which they are. The results of data processing in the questionnaire are consistent with trends recognized in other studies, which show that with increasing age children in the education system, they want to spend increasingly less time at school and the rest to be dedicated to the other extracurricular activities. (OECD, 2012)

Most of those surveyed want to get a job, but they do not know very well in which field and what they should do about it. The internships, the counseling services and the discussions with the professors are most accessed activities by the students for career orientation, and as part of the whole counseling themes that are considered of crucial interest, the teamwork and presentation on the labor market also occupy the main places among the preferences.

The employability of higher education graduates, as revealed in studies, is influenced by the ratio of soft skills (communication, relationships interpersonal etc.) are combined with the hard type, such as technical or technological. (Andrews & Higson, 2008)

Another important conclusion of the research targets the key elements appreciated by students as having the greatest contribution to professional success, and here we refer to adaptability, availability and professional experience. Therefore, we consider that, as part of the whole cross competences offered by university studies, for the three highlighted aspects, that it should be created, either individually or complementary, specialized training modules.

The decision in career is influenced mainly by job satisfaction and by the ensured standard of living, options that highlight the fact that they are not necessarily interested in working in the field of their studies, but in any area that provides greater satisfaction or a higher living standard. Basically, the occupational mobility degree increased significantly, and the graduates are willing to change any job easier in order to achieve their objectives.

Last but not least, we remind that the practical training and the encouraging of partnerships with the business environment constitutes the main directions in which the universities should orient their activities. Although the majority of them took important steps in this direction, however, it should also be considered the effectiveness of these practical activities in accordance with the professional training and skills offered and the defining of an optimal relation between theoretical and practical activities, depending on the studies program and the analyzed specialization.

References

1. Comisia Europeana/ EACEA/ Eurydice. (2014). *Modernizarea Învatamântului Superior în Europa: Acces, Retentie și Angajabilitate 2014*. Luxemburg, Oficiul pentru Publicatii al Uniunii Europene.
2. Comisia Europeana. (2013). *Comunicare a comisiei catre Parlamentul European, Consiliul, Comitetul Economic si Social si Comitetul Regiunilor. Invatamantul superior european in lume*. Bruxelles.
3. Enăchescu, V. (2011). *Managing Decentralization of the Romanian Educational System*, *Review of International Comparative Management*, 12(2), 293-300.
4. Andrews, J., Higson, H. (2008) *Graduate Employability, 'Soft Skills' Versus 'Hard' Business Knowledge: A European Study*, *Higher Education in Europe*, 33:4, 411-422, doi: 10.1080/03797720802522627
5. Nastase, M. (2009). *Leadership in the Time of Change*, *Review of International Comparative Management*, 10(1), 77 – 84.
6. Peptanatu, D., Draghici, C., Merciu, C. (2012). *Characteristics of entrepreneurial profile in some emergent territorial structures in Romania*. *Actual Problems of Economics/Aktual'ni Problemi Ekonomiki* 138 (12), 448 – 458.
7. Serbanica, C. (2011). *O analiza de tip cauza – efect a cooperarii universitate – mediu de afaceri pentru inovarea regional în România*, *Economie teoretica si aplicata*, XVIII (10), 27-43.
8. *The Council for Industry and Higher Education Graduate Employability*. (2008), *What do employers think and want?*. London.
9. *Organisation for Economic Co-operation and Development*. (2012). *Education at a Glance 2012: OECD Indicators*, OECD Publishing. <http://dx.doi.org/10.1787/eag-2012-en>
10. *The Bologna Declaration*. (1999). Retrieved February 20, 2016, from <http://www.magna-charta.org/resources/files/text-of-the-bologna-declaration>

The Impact of Motivation on Employees' Performance and Satisfaction

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The employees' motivation in the workplace was and still is present for many specialists in from the organizational psychology which continues to explore how we relate to our work and what really motivates us. Although literature offers a wide range of definitions in the process of motivation in the end they all converge on the same content. In everyday language, by reasoning it is understood "the why" for which an action is performed. The cause is a compulsion, desire, energy, envy. Meeting the needs will be done in a certain priority, specific to each individual. To be motivated it must be: a goal to be achieved, a direction of action, an excitement state, feelings that will generate efforts to achieve the goal. The most plausible explanation regarding the motivation is given by Anthony Bagshawe said that "motivation is something that drives us to do what we do." Motivation has always been a complex and delicate issue of great subtlety. It consists in discovering and exploitation of the internal resources of people and identification ways to make them work better and to spend energy more efficiently.

Keywords: Employees performance, motivation, satisfaction, relationship

JEL Code: J24, J28

Introduction

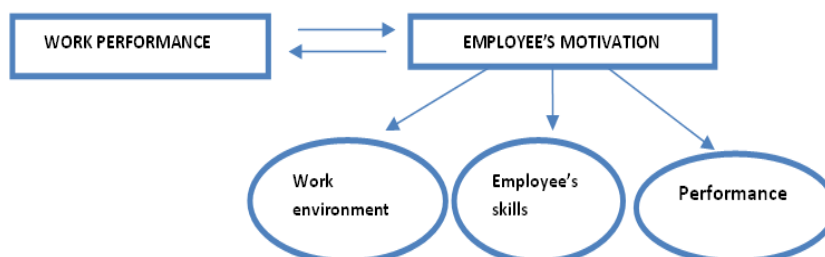
1. Motivation within the organization - the key to success in business, happiness elixir of the employees.

1.1. Relationship between motivation, satisfaction and performance.

In an organization, a manager can not ask his/her employees to be motivated, but he/she can create a climate in the organization to motivate, and so the employees will be more productive. The employees have different motivations, but they must be satisfied in one way or another.

"Motivation is a key factor of performance and the beliefs and needs stay at the basis of motivations." Moreover, motivation is not just a theoretical concept, an aim itself, it is and should be an important tool that should be used frequently by all managers in order to achieve superior results. The relationship between job performance and employee's motivation is that performance depends on: the work environment (better or worse job conditions), employee's skills (skills, qualifications and experience), employee's motivation to achieve a certain performance.

Figure 1. Interdependence job performance, employee's motivation.



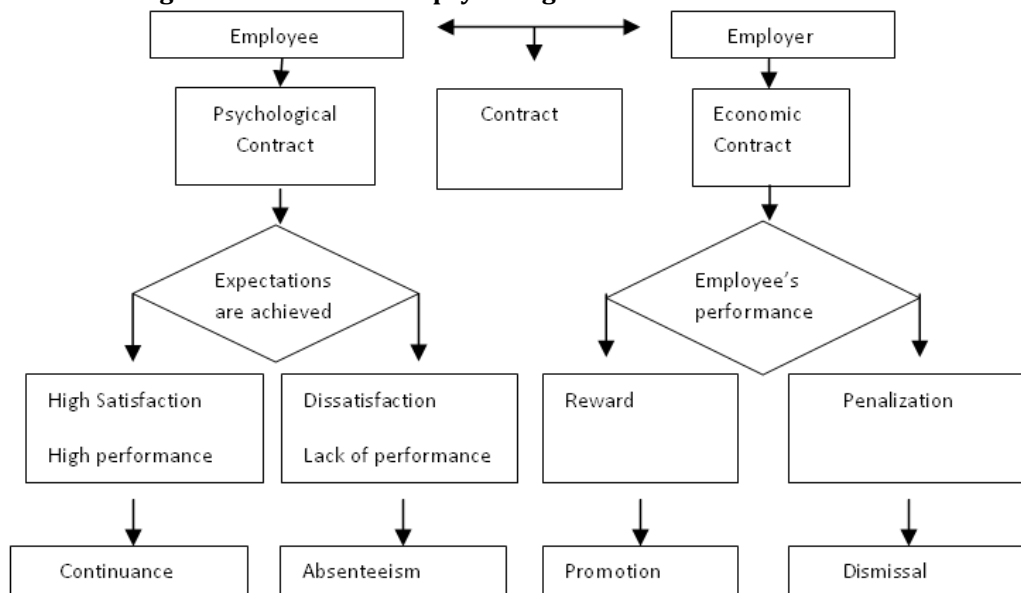
Source: Own contribution

Satisfaction and performance, are normally the result of a favourable social environment and rests on several basic elements: quality of management act; the level of confidence gained within the organization; the level of communication between the organization structure; the feeling of the work utility that is performed; equity in granting awards; involvement and participation of the employees in terms of a career development.

From a conceptual perspective, satisfaction represents the state of materializing some expectations acknowledged or not. According to K. Davis and J. Newstrom, satisfaction represents a set of favourable or unfavourable feelings of the employees towards the work they perform.

Analysis of the extent to which people acquire the desired level of satisfaction was and still is one of the constant preoccupations of work psychology. "What happens to people during a working day profoundly affects both their lives and the society as a whole". The source of satisfaction directly relies on the established report between the level of reward that the employee believes he should receive and the way they perceive the presented level of the reward. When these two are equal, then the employee will be satisfied. When the reward level that the employee believes that he deserves is less than the received reward, then it will be raised the feeling of unfairness or discomfort. On the basis of the expectations of each employee to obtain satisfactions from the performed work is economic employment contract between the employee and the employer. In addition, there is an unwritten "psychological" contract, and which exists in the individual unconsciousness as a benchmark for his/her expectations.

Figure 2. Economic and psychological elements of the contract



Source: after Davis K., Newstrom J.W., *Human Resources Management*, pag 46

1.2. Motivation, an important pillar in the relationship between the emotional state and performance of the employees.

There is a direct correlation between the emotional state of the employees and the company's revenues, which were revealed by numerous studies over time. Simply said, a happy employee is a productive employee.

In other words, a happy employee is represented by that person who firstly has full self-confidence and then has the ability to convey to the others the trust regarding the organization they represent and the products / services they perform.

One of the main criteria that motivate the employees in an organization is to have **clear objectives**, adequately paid. If the objectives either do not exist or are expressed so that the performer does not understand them correctly, it is likely that he be satisfied or to meet his targets.

According to a study performed by **MindTools.com** it is shown that "the majority who say that they feel happy at work, at the same time, exhibit a strong feeling of attachment to the organization."

Lately, there is a tendency of the employees' wishes towards the acknowledgement of merits and a stronger attachment to the organization where they work. Whether in the past the employees

placed the benefits represented by money on the first place in the top of work rewards, currently the wellbeing within the workplace is determined by non-financial rewards.

Non-financial motivation means stimulating the employees to work better, more efficiently, with pleasure, with satisfaction, without financial incentives!

The best non-financial method would consist of letting the employees free. Freedom is a matter almost magical and it is assiduously sought by those who want to be winners, and in this way they can be considered fulfilled and happy at the same time.

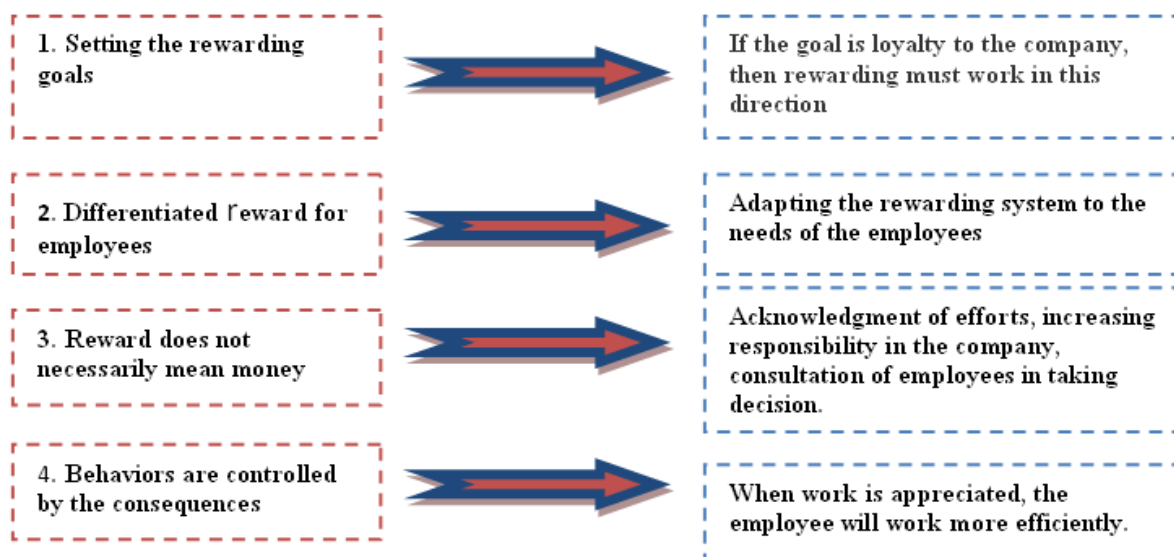
The **purpose** of non-financial motivation is to increase the productivity of the company, to improve its quality, to have satisfied employees, which leads directly to the employees' increased performance.

In point of view of the employee, the factors of non-financial motivation (after H. Ibarra from Harvard Business School) can be divided into three categories:

- Factors related to the oneself;
- Factors related to the company;
- Factors related to the performed work.

Depending on these factors there can be determined a number of principles of the non-financial reward.

Figure 3. The principles of non-financial reward



Source: Own contribution

2. Features of the banking system on the relationship: Motivation – Performance Transilvania Bank –The Bank of Enterprising People

2.1. Organization Presentation

Transilvania Bank (TB) is one of the three largest banks in Romania. The Bank was founded in 1993 in Cluj-Napoca, by a group of local businessmen, with 79% Romanian capital and 21% foreign capital. This year, Transilvania Bank celebrates 20 years since it became operational, together with the opening of the branch in Cluj.

Its activity is organized into four main business lines, namely: corporates, SME, retail and Medics Division. Transilvania Bank has about 1.76 million customers, 550 branches and over 6,000 employees. Since June 2013, the general manager of TB has been Ömer Tetik. Aged 40, he is one of the youngest bankers in Romania.

Transilvania Bank features a performing computer system, centralized, offering the customers, as the main advantage, the possibility of accessing current account from any unit in the country. Transilvania Bank now has three sub-brands: BT Caf [™], BT Golf Cup and TB Academy. From these, the project that has enjoyed the greatest success is BT Caf [™], the first bank café in Romania. The Bank has two such places - in Bucharest, respectively in Constanta, and extending of this concept in some of the most important cities in the country will continue. Transilvania Bank team consists of more than 6,000 employees who share the organizational culture and values of TB, their efforts being directed around the same objective: the quality of their work for customer's satisfaction. In the 20

years of activity, Transilvania Bank has shown that, with the support of the shareholders and by the developed ambitious plans, has become a strong bank, open, flexible and modern.

2.2 Correlation motivation - performance within the banking system: presentation and processing of the results

In pursuit of the case study within the company Transilvania Bank, I applied a self-administered questionnaire among the employees from the organization. Not having the possibility to question all the employees, I have taken a sample of 100 employees, which were distributed evenly, so that 50% of the employees were represented by masculine ones and 50% belonging to the female gender. The questionnaire consists of 10 closed questions with fixed answers.

Using the applied questionnaire, I analysed the following aspects of the company: the existence or not of a positive relationship between the level of wage remuneration and the performance of the outcomes, the work environment and its impact on the employees, opportunities for promotion as part of the non-financial motivation, vision of the employees on a career training within the organization.

Before the questionnaire, the employees were trained on how to fill it in, that they were mentioned that this questionnaire is not a test, there are no correct or wrong answers, respectively that the results of the questionnaire will have no effect on them, remaining confidential. The subjects were asked to answer these questions, in accordance with reality.

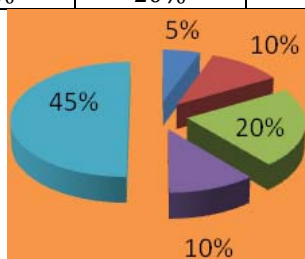
The way of answering the questions consisted in marking with an X the box appropriate to the answer closest to the employee's preferences.

2.3 Analysis of the collected answers:

First, there are gathered the answers to each question, and then these answers will turn into percentage answers.

1. Do you think that the level of your remuneration is in direct proportional relationship with the level of performance of the outcomes?

yes	little	very little	I don't know	no
5%	10%	20%	10%	45%



It can be said that the higher salary requirement is in line with reality taking into consideration the high level performance of the employees. This is based on the positive correlation between the dimensions which lead to the performance of the outcomes: efficiency and cost control and cost operations and safety in fulfilling responsibilities; safety and operability.

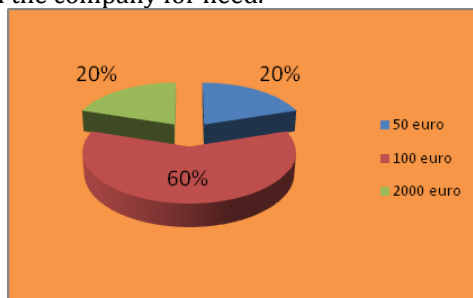
It can be seen from the graph that the majority of those surveyed think that the level of remuneration is not directly proportional to the results performance, leading to an intense demotivation.

5% of the respondents confirmed that the level of remuneration is in the same direction with the resulted performance. It seems that those who have confirmed this aspect are part of the employees whose training is not superior, and the variant that they could leave the organization and recommit elsewhere is not taken into account due to some factors such as: age, reduced professional training, and reluctance to the idea of adaptation to another organization.

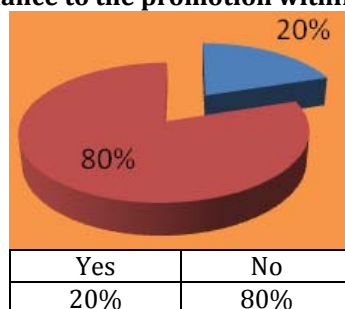
2. For what amount in addition to the salary would you change the current job if you were made an offer by another employer?

It seems that most of those enrolled to the questionnaire answered about the amount that they would be willing to leave their current job, that even for the sum of 100 euros they would be willing to leave their current job.

Thus 60% of the respondents stated that for an extra 100 euros they would be willing to leave the organization, while 20% said that for less than 50 euros and respectively 2,000 euros would not leave the organization. This aspect confirms that within the company there are employees with ideals and employees who are still in the company for need.



3. Do you think you have the chance to the promotion within the organization?



Following this question, I found that the promotion of the employees within the organization is quite slow and that it is possible only for those holding located positions on the lower steps of the organizational structure. Employees who possess managerial positions can advance very hard, and this chance is rarely given to them.

From the survey, 80% of the respondents confirmed that they have no opportunities for promotion and 20% of them claimed that the opportunities exist even though the possibility of promotion in position is heavier.

4. Do you think the promotion in the organization is deserved?

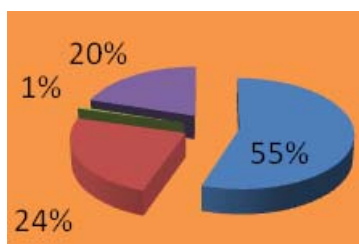


no	I don't know	partially convinced	convinced
10%	30%	40%	15%

The employees have doubts regarding the modality and fairness of promotion within the organization. 5% of the respondents say they are convinced that the promotion is correct and takes into account the ethics, while a 10% claims that promotion in position ignores the rules to be taken and that it also depends on other considerations which are less loyal.

5. How do you feel for the work that you do?

It is noticed that most employees of the organization feel a bad feeling when it comes to job satisfaction. The majority (55%) report that they are not satisfied, which is disappointing. A rate of only 1% considered that the work they perform satisfy them and makes them happy.



Not satisfy	I don't know	Very satisfied	Partial satisfied
55%	24%	1%	20%

These negative things happen because of the extremely big responsibilities that they assume and the low level of motivation.

I believe that there is a positive correlation between the working conditions (professional working environment) and the increase of the overall performance of the employees. From the psychological point of view we can conclude that in achieving high level performance, it is very important to ensure professional working conditions, a relaxed work environment and not tense.

6. What attracts you the most to work in this organization?

The employees are attracted to the current job in a very small proportion by the material compensation (1%). High responsibilities and increased stress within the work environment are felt this time also, as only 10% of the respondents think that what attracts them in the organization is the relaxing environment.

It is noticed, however, the employees' tendency to motivate themselves with the thought that staying for long in the organization is sustained and the possibility of a career is quite high (20%). Some employees are excited about the possibility of upgrading at the trainings offered by the company, even if the Director General stated that they are reduced and the percentage they help the employees is rather low, stating that those courses that truly may help them are not supported by the management and the costs are quite high

7. To achieve the set targets do you need to work individually or in a team?

One thing that distinguishes the organization's employees from other organizations is the fact that the whole work, which is also represented by a huge amount of work and responsibilities and tasks of various degrees of high enough difficulty, is that almost everything is done in team. Employees are advised to work in team and the overall activity makes them to depend on one another at all times. No task can be fulfilled without receiving information from other departments, offices or colleagues from the organization.

The respondents stated that the teamwork is almost imposed (90%) and 1% of them rely on themselves when they have to fulfil difficult tasks. Some employees, precisely 9%, consider that in order to be efficient and to meet the organization's goals, they should combine individual work with the one of cooperation in team.

8. Where do you see yourself in 5 years?

In terms of the employees' future from the analyzed organization, 50% of them tend to switch to other activities.

This is because the restriction of the freedom within the organization and the high stress levels cause them to want to change their field of activity. A percentage of 30% want to continue work in banking, but in another organization, considering that they will find better conditions and thus they can identify themselves in a large proportion with that organization

9. The criteria for performance evaluation and wage setting are:

As far as it concerns the information at the level of organization and more exactly the mentioning of the criteria of performance evaluation and setting of the wage compensation, the situation is very clear. The employees are informed accurately and precisely about the methodology for evaluation that takes place annually within the organization.

Through the evaluation process there are aimed two major objectives: development and employee motivation and organizational culture coverage.

The respondents confirmed a 60% that all information on the issues mentioned above circulate concisely. 30% of the respondents claimed that these evaluation criteria and wage setting are quite clear, confirming that they are satisfied of these aspects and only 10% answered that these information are transmitted in an acceptable manner.

10. To what extent are you satisfied with your current job?

The final opinion on satisfaction / dissatisfaction of the employees regarding their current job showed that 45% of them are somewhere in the middle in terms of satisfaction / dissatisfaction with the working conditions.

Worrying is the percentage of the respondents who strongly answered (30%) that they are unhappy with their current job.

The conclusion is represented by the fact that all employees have some dissatisfaction with work place, more obvious or more restricted, but there is a risk that at any moment they can leave the organization as such.

3. Conclusions and Proposals

In order to highlight the main aspects of the employees' motivation within the organization Transilvania Bank, the following conclusions will be issued:

1. The employees are motivated in a very limited extent, both as regards the financial motivation and non-financial one. Remuneration is based on achievements, and its level is quite low.
2. The responsibilities and the tasks that are assumed by the employees of the organization are quite difficult and they do not have and are not motivated as they expect.
3. Freedom of decision and freedom at work are compromised, and this aspect demotivates its employees and creates the feeling of sadness. The employees of the organization are most often stressed.
4. The tasks as well as the information on the methods and evaluation criteria are clearly transmitted to the employees so that they know in advance what to expect and what the requirements that must be met in order to access performance are. Also the employees are very familiar with the payment system related to the performed work. They receive a fixed salary plus bonuses and additions based on the targets achieved.

Concluding, the employees of Transilvania Bank are not at all happy. They show a high level of stress and feel a high degree of restriction of freedom. Unfortunately, lacking some motivational practices, they can anytime leave the company, heading towards those organizations where salaries correspond with the difficulty and responsibility of the performed work.

Recommendations: Managers are increasingly concerned about the motivation in their work, especially since the employees want acknowledgement and involvement in meeting their needs without the external control and authority to have a negative result. It can be concluded that the importance of motivation for achieving performance at high level should not be neglected. Motivation in work leads to performance increase, but also to the decrease of staff turnover, to lower absenteeism. Under these conditions there must be established: a payroll system according to some clearly defined criteria, the possibilities for promoting based on performance, the system of bonuses and rewards for the quality and quantity of work performed. Another aspect that should be improved is represented by the internal control on the employees. This aspect makes them tense and work under constant stress. Motivation and performance are in a controversial relationship that needs to be studied considering the multitude of variables that may arise in the relation between them and beyond.

References

1. Romanian Academy, "Explanatory Dictionary of the Romanian language", Univers Enciclopedic Gold Publishing House, Bucharest, 2009.
2. Anthony Bagshawe, "How to improve motivation", Ventus Publishing House, 2011, pag. 14
3. Camelia Frățilă, Mircea Constantin Duică, "Managementul Resurselor Umane", Bibliotheca Publishing House, Bucharest, 2014, pag.10
4. Davis K., Newstrom J.W., Human Resources Management, pag 46
5. Dumitrescu L., "Management of commercial enterprises", Univ. Lucian Blaga Publishing House, Sibiu, 2003, pag. 316
6. Extreme Training, "Non-financial motivation", Bucharest, pag 5.
7. Moman Sokhna Diop, "Management of human resource. New approaches", CH Beck Publishing House, Bucharest, 2012, pag. 20

8. Paraschiv Vagu, Ion Stegăroiu,, *"Motivation in work. From theory to practice"*, Bibliotheca Publishing House, Bucharest, 2007, pag. 18
9. P. Pastor, R. Breard, *"Motiver"*, Liaisons Edition, Paris, 2005, pag 14
10. www.portalhr.ro
11. www.revista-de-hr
12. www.rasfoiesc.com/business/management
13. www.ziare.com/afaceri
14. <http://htdi.ro>
15. www.portalhr.ro
16. www.revista-de-hr.blogspot.ro/2014
17. www.afacerilacheie.net
18. www.bancatransilvania.ro

The Utilisation of Marketing to Support the Strategic Development of Educational Institutions and the Continue Training of Adults

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In order to decide on an education necessity one has to answer the question "What and who do we organize a certain educational process or system for and why do we organize it in a certain way and not otherwise?". In order to decide on an education necessity one must also answer the question "What social problems does the educational process or system we devised solve?". The problem of lifelong in-service training is important for supporting the workforce change, being the main instrument it uses in order to adjust to the new requirements, this enabling its nobility among different fields of activity.

Key words : lifelong learning, globalization, network.

JEL classification: M53.

In the last decade of 20's and the first of the 21's, the educational systems and training, the policies in this area suffered many and usually converged changes. European Council directives and/or the European Commission of the European Parliament, their recommendation, generations of programmes for education and training put into practice, focalized, or certain subsystems of education and training, or some focus groups – under normal circumstances the most underprivileged on the labor market – the forced promotion of new mechanisms and instruments adequacy of educational systems demands of life have generated some progress in educational plan. In consequence the education and training have simultaneously become aspects of some strategies, programmes and respectively major instruments of accomplishing their objectives¹¹⁷.

The ambitious goal, the one in the 2010, the European Union will become the most competitive and dynamical economy based on the worldwide knowledge, capable of a sustained growth with more and better jobs and greater social cohesion situated in the center of EU lifelong learning, to each Member.

Substantiation marketing policy is a complex process, where we should beneficiary interests (first of all), alongside those of the holders of the workforce. In our country the educational policy is developed differently, according to the level the educational process that is taking place, but all of them must to keep in mind that the educational policy of the ministry. Considering the economic social dynamism lately, competition in the education market through the establishment of private education and the need to adjust to the European education, it requires a decentralized approach to education enabling the creation of specialized structures and the integration of educational marketing profile of the institutions.

For schools, the marketing policy is made in consultation partial school inspectorates (on school plan profiles, specializations and professions), but in terms of curricula, syllabi and specific activities, the foundation and the adoption was done at the ministry level.

¹¹⁷ Not accidentally, the frontier between the two centuries, in 2000, in the preface of "Key Data on Education in Europe" is: quality of education and lifelong learning is at the heart of the debate in the community and is one of the priorities of EU action for half of Europe's citizens. At the beginning of the third millennium, education and training are intended to become an essential investment for the future of societies and a key area for cooperation between European countries. The EU firmly believes that such cooperation will be further enhanced and enriched, and the existence of credible indicators and comparability of education systems is of vital importance (Vivianne Reading, Pedro Solbo Mira, 2000, s.n.).

A real policy of educational marketing can be established only if analyzed correctly: market dynamics (increase, maintain or decrease); market structure (indefinite differentiated or concentrated); market changes (active, adoptive or positive); market requirements (high, medium or low); competitive level (affective defensive differentiated or tolerant).

The results achieved through marketing such a policy can constitute a database for control and self-regulation of education or initiation of reforms that would be necessary. Marketing policy objectives set by the school organization aims to:

- Attracting the target group;
- Fundraising;
- Improving the image of the institution;
- Awareness of the importance of education in shaping human personality in training.

Regarding strategic alternatives¹¹⁸ that school organization envisaged, they may cover:

- Conversion application in the situation when the target group denied his involvement in the educational activity (such as the Roma minority who through social programs promoted by the state is urged to attend school);
- Stimulate demand if the desired orientation of a particular group to different qualifications / specializations (desirable for the purpose of education to be qualified and specialization required in the labor market);
- Application development where demand is latent and can be satisfied only by the emergence of new courses or new specializations;
- Remarketing site, where demand for specific skills / specializations is declining (eg, because of change in the name of specialization of "merchant-merchandise" in "technician in procurement and contracting" is a decrease in demand for these types classes);
- sincromarketing, where demand is fluctuating, which was not encountered in the education market;
- Maintenance of the application when it is complete (where appropriate schools and high schools for admission seats out pretty fair high school is filled quickly, in which case the school actions maintaining or increasing quality of education);
- Demand reduction - demarketing, where demand is excessive. It can be achieved if the school is considered an elite and thus will promote and stimulate demand only for students who meet the requirements great intellectual;
- Request undesirable - antimarketing, and aimed at the "destruction" of an application that could prejudice the school situation unmet Romanian education system, as state policy aimed at accession and the right to education for all citizens.

Chosen strategies may take into account the:

- Determined attitude of competitors, similar organizations (schools of the same profile or organizations that organize training), owned by highlighting strengths relative to their,
- Or the type of image you want to promote (elite school - highlighting the educational outcomes of students, school innovation - promoting new methods in the educational activity, school applications - where self pilot within National Reform Programmes etc.)

Of all the strategic options that the organization could adopt, one related to promoting the image of my educational institute its harder and its results less quantifiable.

The concept of social marketing involves customer satisfaction in line with those of the organization, but also those of society as a whole. "This concept compels marketers that when developing a policy on the market, consider the following three reasons: company profits, consumer satisfaction and public interest."¹¹⁹ If the general concept of marketing aims customer satisfaction and profit, social marketing objectives to ensure both consumers and producers in the long term. Practice has shown that organizations that have adopted social marketing have been successful in business, by increasing social responsibilities, ethical and professional.

If educational marketing, education sector specificities their mark even once the foundation is marketing policy. This is the cause that gave rise to the concept of "societal marketing". Sica Stanciu¹²⁰ believes that this new alternative marketing was driven by the need to avoid conflicts that may arise following the implementation of the concept of marketing between consumer demands, interests of organizations producing goods and services and long-term welfare of society. Kotler says,

¹¹⁸ Ph. Kotler – The Major Task of Marketing Management – Journal of Marketing, vol. 37, october 1973, p. 42-49 în A. Jolibert; P.L. Dubois – Marketing. Teorie și practică – vol.1, Imprimeria Ardealul, Cluj Napoca, 1994, p.39

¹¹⁹ Kotler, Philip, Principles of Marketing, 3rd Edition, Prentice – Hall, Inc. Englewood Cliffs, New Jersey, 1986, p. 61

¹²⁰ Stanciu, Sica, Bazele generale ale marketingului, Universitatea București, 2002, p. 8.

when speaking orientation societal marketing, that "the main task here is to determine the needs, desires and interests of its customers and adapt institutions to give them the satisfaction desired or to enhance consumer welfare and society-term long."¹²¹

Formation of educational marketing is based on some specific characteristics determined by content and services, its object, concepts, techniques and methods, the complex relationships that occur in consumer and provider and system for the creation and delivery of services.

Education broadly, and training, in particular¹²² has several features that lead to the need to address to educational marketing from their perspective:

- Education is the intangible nature - educational services can not be seen, tasted. Equally hard to do it and the marketing mix. Intangible nature makes it difficult to estimate the price and quality of the educational services.

- Education is inseparable character - educational services can not be separated from the person they render. It personal touch and the sale can not be done only by teachers, trainers, instructors practice or service.

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Heterogeneity makes it difficult to ensure quality of education even though they have made progress in this area.

- Perishable - educational services can not be stored and stored. Education is of value only when the formability is present.

- Property - customer has access to the educational activity, but does not have ownership. The beneficiary will walk away with a diploma / certificate of qualification but not with the right to redeem (sell) in their own knowledge, information acquired.

Beneficiaries at central and local level.

Continuing education system in Romania has benefited from a rigorous assessment, opportunity and efficiency programs developed to date. That is why most programs were left without a completion field and had to be abandoned or, at best, to be held in reserve. Among the methods recommended in order to achieve this task in good conditions are available at regional level specifications that organizations complement and study requests from firms and individual requests.

The main categories of beneficiaries are organizations, disadvantaged groups and individuals. If the category of organizations and disadvantaged people (unemployed, disabled, minorities prone to illiteracy, etc.) were undertaken several studies to determine the extent to which they are looking to continue training system, for the third category does not exist no evaluation. It also analyzes conducted so far mainly take into account formal training, skills, and for other classes of training methods there is little or no data. For these reasons, the development on a sound system, it may be advisable in the future to conduct an analysis on the basis of a real situation, so that decisions can be based.

The resources available at each institution.

An accurate and realistic assessment of the resources available to educational institutions and training organizations of human resources is a necessary but not sufficient for success. Resources are recommended to be evaluated at the level of the material available or perspective, as well as the teaching staff. Assessment of the capacity of the latter is not necessary to achieve the level of skills, because they are not questioned, but the level of availability, openness to new. To achieve continuous training programs, with all its peculiarities, the use of teaching materials and new methods, leading to a significant effort.

Financial resources can only come from the public sector. In fact, this is only a fraction of the need. The main source of funding for continuing education system are individuals, followed by organizations and donations, sponsorships, loans and grants. For them there is a coherent and centralized evaluation. Each body evaluates its financial resources, but not yet nationally consistent approaches have been taken to coordinate research and development of a centralized situation of all categories of funds available. Such action is extremely broad, and in turn requires the involvement of significant financial and human resources, especially since the funds come from different industry

¹²¹ Kotler, Philip, Fox, Karen, Strategic Marketing for Educational Institutions, Englewood Cliffs, New Jersey: Prentice Hall, 1995, p. 11.

¹²² Kotler, Philip, Managementul marketingului, Editura Teora, 1997, p. 585-593.

sectors in different weights and with different legal regimes. However, in order to develop a coherent strategy is needed existence of even a forecast.

Link to other bidders in the field

Thanks to the measures that should be adopted to achieve the quality standards required, contrary to competition law, be cooperation between the institutions involved in the training. From the supply side can mention other educational institutions, public or private, professional organizations and foundations involved in the field, specialized structures within central administration organizations, private not have the object of training, and other external organizations. The beneficial cooperation at present is that those firms with universities and specialized foreign, with the advantage of providing an extra level of quality and recognition of training offered and received. Currently steps are taken to strengthen the special links with social partners and external organizations assess their progress being made through various reports submitted to the competent institutions of the European Union.

Structural and institutional adjustments necessary developments. From this point of view, advantaged educational institutions tradition. These and other large institutions have created a specialized structure for training as a department, directorate or center. A weakness is that sometimes are created structural parallels even in the same institution, creating internal competition and doubling effort to ensure resources.

Among the strategic objectives of the training programs in Romania can be remembered¹²³:
Update knowledge and professional skills - Individualization is recommended continue to conduct training programs by restructuring organizational forms, the selection, volume and activity of updating the knowledge of pedagogy. Among the ways of achieving this goal may include: observing the new content of trades occurring on the labor market and those who required significant changes and adjusting programs accordingly, determining certain regional needs and program punctual to answer as better their performance so creareade laboratories to benefit from workforce acquisition techniques and leading-edge etc.

Retraining - The role of professional conversion, as has been noted, is to prepare employees whose employment contract was terminated to obtain jobs, which often requires a different skill. In this case, we recommend a different approach to those jobs that require higher education or environment, changing between occupational qualification within the same family and one that requires placement in another. If a job requires higher level studies or the need to change the family occupational training indicated that ends with a recognized award, preceded by a prior knowledge validation. In other cases, simply follow internships completed, possibly with a certificate stating the level of knowledge that was enough. A useful tool in the conversion work can be closely tracking the restructuring of organizations. Knowledge of a plan or even the main lines of the process can be useful and allow appropriate adjustment of the conversion stages.

Preventing the effects of technological change - The target population of these internships is the employees of organizations operating with leading technology (eg the computer industry), and those whose companies are undergoing a massive refurbishment. To these should be undertaken very flexible training programs, to adapt their pace of life and work.

Promotion - This training is for employees, and those who are not yet employed in the work, so to be given the opportunity to obtain a higher qualification, which in turn allows them easier acceding to a job.

Conclusion

Implementation and development of strategies for lifelong learning remains a major challenge. Strategies are coherent and comprehensive only in certain cases and some still focus on specific sectors or target groups rather than the full life cycle. To be effective, these strategies need to cover sufficiently long time periods, provide opportunities for all ages and be constantly reviewed and developed. To enhance their relevance and impact, and to motivate individuals to participate in learning, it is necessary a more active involvement of stakeholders and better cooperation with policy sectors other than education and training. A key issue in the current economic crisis is the lack of adequate mechanisms to enable strategic allocation of scarce resources, and consideration of new requirements and skills¹²⁴.

¹²³ Bîrzea, Cezar (coordonator), Dezvoltarea Educației Permanente În România, Ministerul Educației Naționale, Consiliul Național de Finanțare a Învățământului Superior, Editura Alternativa, București, 1998, pag.6-60

¹²⁴ Jurnalul Oficial al Uniunii Europene, C 117/1, 2010;

References

1. *** *Strategia pe termen scurt și mediu pentru formare profesională continuă 2005-2010*
2. A.V. Feingenbaum, *Quality Education and America's Competitiveness*, *Quality Progress*, 27, 9, 1994, p. 84
3. Balaure, Virgil (coord.), *Marketing*, Editura Uranus, 2000, pg. 522 – 524.
4. Bran, Florina, Ioan, Ildiko, *Managementul calității în învățământ*, *Revista Economia seria Management*, Anul IX, Nr. 1, 2006.
5. Chișu, A., Viorica, *Învățământul de stat nu va mai fi pe gratis de la anul, ci pe granturi*, în revista *Capital* nr. 42 / octombrie 2006.
6. Drucker, P. , *Management: Tasks, Responsibilities, Practices* – Harper & Row, New York, 1974, p.79
7. Dumitru, I., *Marketing strategic, o abordare în perspectiva globalizării*, Editura Uranus, București, 2004, pag. 28-29
8. Eric, Beerkens, *Global Opportunities and Institutional Embeddedness Higher Education*, *Consortia in Europe and Southeast Asia* Consorțiile din Europa și Asia de Sud-Est, 2004, pp.2-4.
9. G. Steiner, J. Miner, E Gray, *Management Policy and Strategy*, 2-nd edition, MacMillan, New York, 1982, p.189
10. Grigore, Liliana, *Elementele definitorii ce contribuie la succesul alianțelor strategice în mediul global*, *Jurnalul Economic*, Anul IX, nr. 22, 2006;
11. Gyöngyi Pozsgai, Tímea Németh, *Internationalizarea și rolul rețelelor universității*, *Lucrările Conferinței EMUNI 2009*, Portorož, Slovenia, 26 septembrie
12. Kotler Ph., *Managementul Marketingului*, Ed. Teora, București, 1997, p.103
13. Kotler Ph., Saunders J., Armstrong G., Wong V., *Principiile marketingului*, ediția a III-a, Ed. Teora, București, 1999, pg.105
14. Kotler, Philip, Fox, Karen, *Strategic Marketing for Educational Institutions*, Englewood Cliffs, New Jersey: Prentice Hall, 1995, pg.7
15. Kotler, Philip, Murphy, E., Patrick, *Strategic Planning for Higher Education*, in *Journal of Higher Education*, September – October, 1995, pp. 470 – 489.
16. Olteanu, Valerica, *Marketingul serviciilor*, Ed. Uranus, București, 1999,
17. Olteanu, Valerica., *Management-Marketing*, Ed. Ecomar, București, 2002,
18. Suci, M-Ch., *Investiția în educație*, Bucuresti, Ed. Economica, 2000,
19. Zaharia, R. (coordonator), *Marketing strategic, suport de curs*, Editura A.S.E., București, 2000.

SECTION

FINANCE – BANKING – ACCOUNTANCY

Implementing Performance-Based Budgeting in Republic of Moldova

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This article includes a research on budgeting based performance, and proposes a system of performance indicators that assess the linkage between the policies and annual budget law, the compliance of global budgeting performance to European principles in the area of public financial management, and the impact of public financing on economic growth. The analysis of performance indicators shows the linkages between the policies, and budgeting, as well as budgeting performance in compliance with European principles in this area.

Keywords: budgetary, programs, performance, performance indicators, public financial management, European principles.

JEL code: H61, H72

1. Introduction

In the past decade, Moldova has implemented important reforms in public financial management (PFM), including the medium term spending framework (2002), the system of internal financial control (in 2010), the state budget for the year 2014 based entirely on programs. At the same time, it modernized the legal and regulatory framework related to the budget, including the adoption of *Public Financial Management Reform Strategy 2013-2020*, the *Law on public finances and budgetary fiscal accountability* [1] and the *Methodological set on elaborating, approving and amending the budget* (2014). As a result of reforms, it was implemented a new system of PFM, which ensures the integration of budgetary decisions with the performance of public sector; a better control of funds received by public authorities by monitoring the use of funds; a performance measurement of budget programs implementation; and accountability of government for implementing efficient programs. However, the PFM system in Moldova still does not provide the expected efficiency and effectiveness in the use of public financial resources. The experience shows that not all its components fully meets international and European standards. The purpose of this article is to research performance-based budgeting concept, instruments that ensure budget performance and to develop a system of systemic performance indicators from the perspective of compliance of the national system of public financial management to the European principles.

2. Performance-based budgeting concept

Performance-based budgeting is defined as a form of budgeting that associate funds allocated for achieving measurable results, it is a system that aims to transform budgeting into a tool for maximizing the efficiency and effectiveness of the state, using non-financial information in the budget process [3]. In the concept of performance-based budgeting, performance is defined by economy (savings), efficiency and effectiveness (model of 3E's) in the production of government services [5]. The economy refers to the cost of services production. A high or low cost still does not indicate government performance, efficiency therefore apply showing the relation between resources (inputs) and outputs (products or services), and effectiveness that indicate the extent to which the government has achieved its goals and objectives. In recent years, the 3E model was updated by including other aspects: assessing service quality and sizing inputs and outputs. *We conclude* that the concept of budgetary performance has been developed from the concept of efficiency, being enhanced during the time. Today's performance is measured on the following dimensions: inputs, activities, efficiency, effectiveness, services quality, financial performance and system performance (overall). In the

decision-making process at the institutional level it can be identified three categories of performance: a) the performance of public sector which refers to performance evaluation of public sector as a whole and its components [4]; b) the performance of the organization (public entity) which refers to the performance of public authorities funded from the public budget; this performance can be measured by summing the performance of programs/sub-programs implemented by the public entity; c) *the performance of the budget program/sub-program* [2] which represents the activity result of budgetary entities on the implementation of goals, objectives and performance indicators of the programs/subprograms.

The performance-based budgeting model establish the linkage between government policies and budgetary resources allocation, in particular by introducing medium-term budgetary framework (MTBF) as a tool for strategic planning of public spending. MTBF implementation in Moldova has contributed substantially to improving the quality of the budget process, especially it helped the public expenditure planning. MTBF combines top-down approach in setting financial targets with bottom-up calculation of costs for government programs. A description of this process is shown in Figure 1.

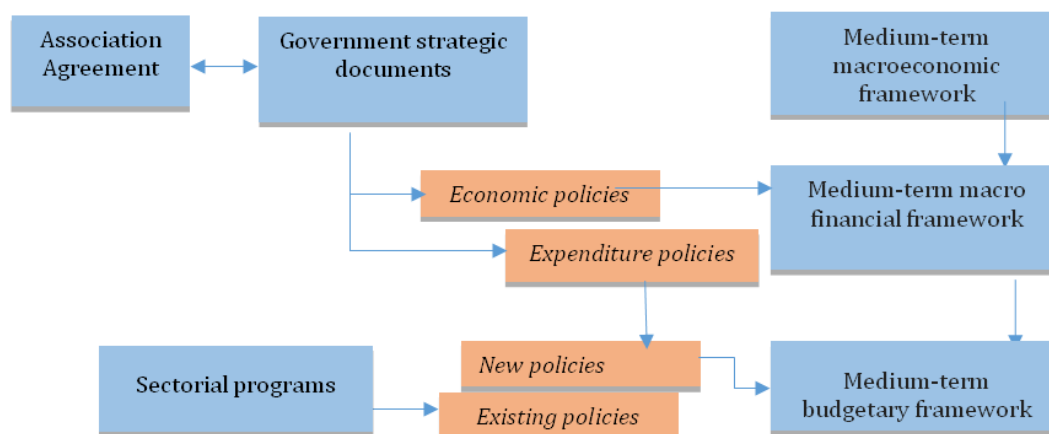


Figure 1. Process connection between government policies and MTBF

Source: developed by the authors.

Connection quality between public policies and the annual budget is presented by the suitability of the medium-term budgetary framework public expenditure limits and the volume of public expenditure in the adopted annual budget.

3. Measuring budgetary systemic performance

According to the approach of budget performance in the public sector from the performance-based budgeting model, in budget documents, in addition to financial indicators of the budget there is also included performance information. This information, called non-financial indirectly measures the future performance. Additionally, it could also include direct indicators that explicitly measure the performance of public services (performance contracts) and activity indicators of budgetary entities for some specific sectors (education, health etc.).

In the mentioned context, corresponding to the identified dimensions, budgetary performance measures inputs (resources), activities of budget entities, the efficiency of budgetary allocations, services (products) and the results of budget programs (analyzing whether programs meet the objectives formulated), effectiveness on targets / objectives. Systemic performance characterizes the performance of the entire system of public finance. It has many dimensions in the institutional form (format): performance at budget programs level, at budget entity level and at national (government) level or entirely on public sector or its components (including central government). Budgetary performance is measured (evaluated) using direct and indirect indicators, both quantitative and qualitative. Currently, in our country it was approved the methodological bases for evaluating the performance of budgetary programs that are being implemented. At the same time, the regulatory framework and methodology for performance evaluation of public institution/authority and the systemic performance of the Government is missing. In Moldova the methodological framework refers to the evaluation of performance on budget programs, while establishing the system of indicators of performance for programs/subprograms is a responsibility of each ministry. Here to mention that at system level there are no unified standards. Regulations and methodical guidelines on budget performance evaluation at public authority as a whole are missing, including the ministry level. Also,

there are no legal provisions, regulations and methodological guidelines that would facilitate the assessment of budgetary performance as a whole for the country and for the ministry entirely, using a system of performance indicators, according to European principles in the PFM.

The systemic budgetary performance evaluation methodology proposed includes the description of methodological issues (and technical) of development of budgetary performance indicators, the defining of performance indicators system and the requirements for the performance report. The methodology proposed is in line with OECD/SIGMA approach for systemic performance evaluation of governmental sector in developing European countries, using a system of performance indicators [7].

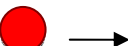
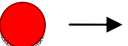
The system of performance indicators is deemed for measuring the systemic performance in the following three aspects:

- *The connection between public policy and the state budget* - by determining the degree of connection between the medium-term budgetary framework targets and the annual state budget;
- *Compliance of public finance management system to European principles* - by defining the level of connection of national financial and non-financial indicators to the same average EU's indicators (and/or other member states of the EU) on the elements of the public finance management;
- *The impact of public spending on key macroeconomic indicators* - by identifying key value changes of macroeconomic indicators (especially GDP) caused by budgetary funds use, especially public expenditure.

In this context, the methodological approach proposed includes the use of *quantitative methods* that measure the performance of the budget system using a system of performance indicators (system of quantitative indicators presented in Table 1) and *qualitative methods* that measure the degree of compliance of PFM relevant components in a developing country to European principles on the public sector as a whole, using scores on a scale from 1 (lowest result) to 5 (highest result).

**Table 1. Application of the Methodology of measuring the systemic budgetary performance:
Scorecard on situation for budget year 2014**

Performance Indicators (PI)	Calculation Method, data for 2014	Data	Situation
I. Connectedness of public policies and state budget			
PI 1. Ration between public expenditure (CP) planned in MFBT and in annual state budget (CBS), %	$IP1 = \frac{CP \text{ din ES}}{CP \text{ din CDTM}} * 100$ $CBTM \text{ 2012} - 2014$	109,9	
II. Compliance of PFM system to European principles			
PI 2. Ratio between state budget initial approved and emended by revenue (VBS) and expenditure (CBS), %	$IP2^1 = \frac{CPS \text{ inițial}}{CPS \text{ precizat}} * 100;$ $IP2^2 = \frac{VPS \text{ inițial}}{VPS \text{ precizat}} * 100$	106,8 106,4	
PI 3. Ratio between the budget revenue (VB) planned and collected in the most recent year, %	$IP3 = \frac{VB \text{ efectiv}}{VB \text{ planificat}} * 100$	98,3	
PI 4. Ratio between the budget expenditure planned and spent in the most recent year %	$IP4 = \frac{CB \text{ efectiv}}{CB \text{ planificat}} * 100$	94,7	
PI 5. Average difference between Cash Flow (FB) planned and spent monthly, %	$IP5 = \frac{FB \text{ alocate}}{FB \text{ planificat}} * 100$	3,2	
PI 6. public debt (CD) serving cost (DP) as a share of GDP (PIB), %	$IP6 = \frac{CD \text{ DP}}{PIB} * 100$	0,5	
PI 7. Ratio between the public debt effective and planned target, %	$IP7 = \frac{DP \text{ efectivă}}{DP \text{ planificată}} * 100$	96,1	
PI 8. Efficiency of the government spend public revenues	IP8 = Score estimated by <i>The World Economic Forum in Global Competitiveness Report 2014</i> (1=inefficient; 7=most efficient)	2,6	
PI 9. Public authorities that allow personnel units (NAP ²) for the intern audit subdivisions (SAI) as a share of total number of authorities (NAP), %	$IP9 = \frac{NAP^2}{NAP} * 100$	50	

PI 10. Public authorities that developed intern audit plans (PAI) in compliance with legal provisions, %	$IP10 = \frac{NAP\ PAI}{NAP} * 100$	100	
PI 11. Quality of intern audit reports (RAI)	IP11=Score estimated by SIGMA in the <i>Report on Measurement of the Principles of Public Administration Moldova 2015</i> .	0	
PI 12. Court of Accounts budget as a share of state budget, %	$IP12 = \frac{CP\ allocate\ CC}{CPS} * 100$	0,09	
PI 13. Extern audit recommendations implemented by the controlled public authorities (NRAE1) in the total number of recommendations (NRAE2), %	$IP13 = \frac{NRAE1}{NRAE2} * 100$	49,2	
PI 14. Level of modernization of procurement tools and methods estimated by non-governmental organizations (NGOs), %	IP14 estimated by <i>Transparency International – Moldova or NGOs</i>	...	
III. Impact of financial indicators on GDP			
PI 15. Dependence between modification of public expenditure and GDP	Graphical comparison of public expenditure annual variation in % and economic growth rate in %.	23	
PI 16. Dependence between modification of revenue and GDP	Graphical comparison of public revenue annual variation in % and economic growth rate in %.	22	

Note. Color shows: green - good, yellow – satisfactory, red – unsatisfactory; direction: up – improvement, horizontal – unchanged, down – deterioration.

Source: elaborated by the authors using the source [6].

The information presented in Table 1 (columns 1 and 2) characterizes the *methodological framework* of performance indicators system designed to assess the systemic budgetary performance, i.e. at national level. The system proposed by the authors contains **16 performance indicators** that correspond to the main elements of public finance management. The methodological framework includes description of budgetary performance indicators, data sources and method of calculation for each indicator. Data source is the State Budget Law, the Ministry of Finance reports and reports by various independent organizations. The actual values of systemic budgetary performance indicators will be analyzed, interpreted graphically and used to *prepare the Performance report* at national level. The report should include the progress towards achievement of budgetary performance targets, and the degree of compliance with European principles and identify the impact on GDP and other macroeconomic indicators.

Focusing on system performance analysis is useful for the analysis of public authorities and public sector activities. It indicates the quality of PFM, especially in comparison with European best practices. It is noteworthy that systemic budgetary performance analysis has some application limitations, especially in managerial decision making at the budget entity.

4. Applications of systemic performance evaluation methodology

The methodology was tested for fiscal year 2014 (using data from the source [8]), the results being presented in a *Scorecard* that reveals the situation using the "traffic light" method (Table 1). The quality of the state budget is given by the difference between the budget approved by the annual Law on State Budget (plan originally adopted, usually before the start of the fiscal year) and the amended budget during the budget year (the plan includes indicators of the last amended budget). Analysis shows that during 2012-2014, the state budget was amended three times each year by adopting amendments to the annual state budget law, due to changes in the economic situation. Analysis of the linkage between policies and budgetary law reveals a 10 to 17% discrepancy of public expenditure included in the MTBF versus those planned in NPB. The discrepancy is higher for public spending compared to public revenues and for the budget deficit it is the most significant.

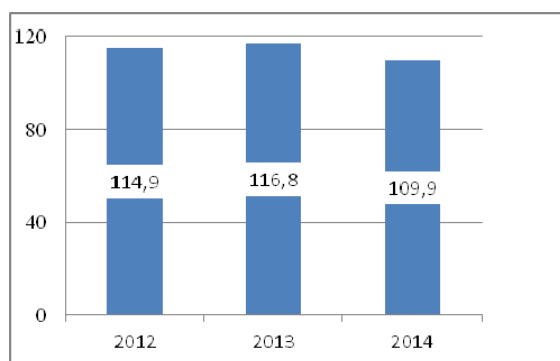


Fig.2. The ratio between public expenditure planned in the MTBF and in annual budget law, %.

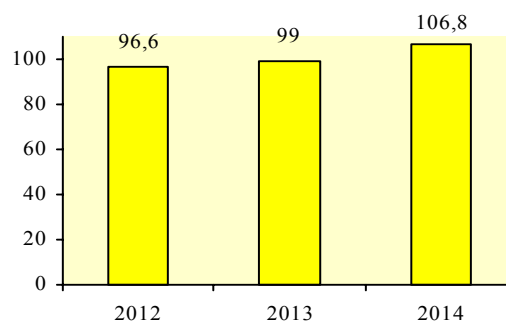


Fig. 3. Ratio between effective revenues and originally planned in the annual budget law, %.

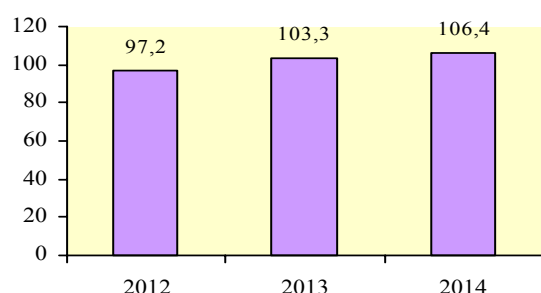


Fig. 4. Ratio between effective expenditures and originally planned in the annual budget law, %.

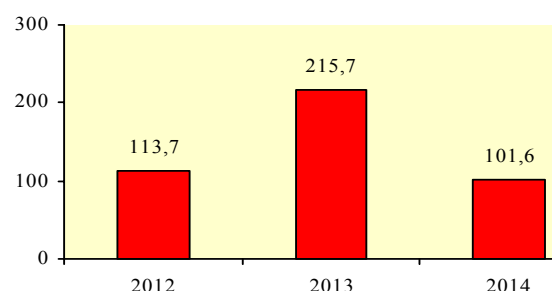


Fig. 5. The ratio of the effective budget deficit and that initially adopted, %.

Source: developed by authors based on state budget data.

Data shows the following trend of planning: revenues were overstated for the years 2012-2013 and then reduced during the fiscal year. Irrespective of the revenue situation, expenditures were increased, which led to increasing budget deficit discrepancy between the original adopted and the corrected one.

The quality indicators were assessed for each of the 16 European principles in the PFM using scoring system. Depending on the situation in the field and the results of performance indicators on PFM's components, the progress in implementation of each European principle in the field was evaluated with a certain score, where 1 is the lowest result and 5 - the highest result (Figure 6).

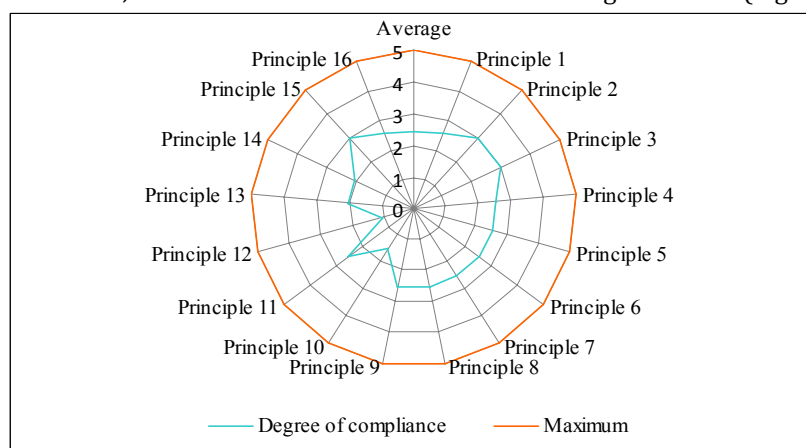


Figure 6. Difference between the level of Moldova's PFM and European principles.

Source: developed by authors.

MFP components compliance evaluation results to European principles reveal an average score of 2.4 points (5 points maximum) representing a moderate level. A higher level of compliance with European principles is observed on components such as program-based budgeting and in line with

MTBF, public debt management, implementation of financial management and internal control, external audit. Meanwhile, components such as public procurement - the compliance to European principles is relatively low, given that the legal framework (legal and regulatory) has not yet been fully harmonized with the EU acquires.

A dynamic comparison of state budget revenues and expenditures and GDP is shown in Figure 7.

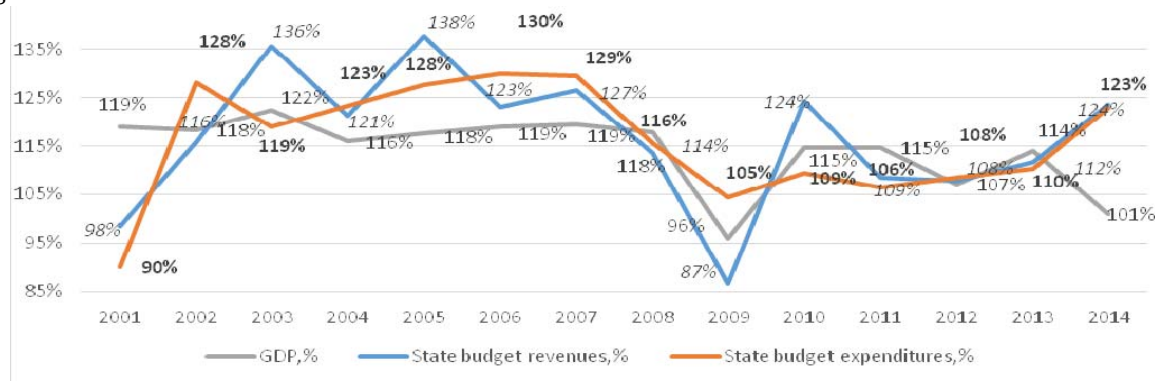


Figure 7. Evolution of state budget revenues and expenditures share in GDP, %.

Source: developed by the authors based on data BOOST of MF and NBS.

The analysis shows that for the period under review, there are three stages in the evolution of state budget revenues and expenditures and GDP. Stage 2000-2004, which is characterized by a relatively low level of public sector size; stage 2005-2008, with a higher level of public sector size, due to increased public financial resources and external resources included the state budget which previously were not included; stage 2010-2014, with the reduced financial size due to the 2009 financial crisis and implementing the policy of reducing public expenditure and the number of staff in budget entities.

5. Conclusions

Systemic budgetary performance analysis indicates that the state budget is generally developed based on MTBF, ensuring it a satisfactory linkage between policies and budget. Assessment of Moldova PFM's components compliance to European principles reveals an average score of 2.4 points (5 points maximum) representing a moderate level compared with the European principles. Thus continuing the reform will help to increase the degree of PFM compliance. At the same time, analysis of the impact of budgetary and fiscal policies on GDP allows us to conclude that public expenditure indicator of NPB does not fully reflect the scope laid down in the Government's strategic documents. Public expenditures should be increased according to the local gross domestic product, but analyzing the linkage between GDP and BPN expenditures it indicates that spending had increased mainly on account of external financial sources.

References

1. Law on public finances and budgetary fiscal accountability no.181 of 25.07.2014.
2. Boboc I. Considerations on the Public Funds Use Based on the Performance: Program Budgeting. Bucharest Academy of Economic Studies. Budgetary Research Review Vol. 3 (1).
3. OECD, Budgeting for Results: Perspectives on Public Expenditure Management. Paris: OECD, 1995.
4. Profiroiu M., Profiroiu A. Analysis Framework of public sector performances. Journal "Economie teoretica si aplicata", 2007, pp. 41-50. ASE, Bucuresti. <http://store.ectop.ro/articole/180.pdf/>
5. Afonso A., Schuknecht L., Tanzi V., (2003): Public sector efficiency: An international comparison, European Central Bank, Working Paper no. 242/July 2003.
6. Ciubotaru M., Hincu V. Budgeting performances measuring from the perspective of harmonization of PFM of Moldova to European principles. Internat. Conference 2015. Chisinau: ASEM, 2016, p.28-36.
7. The Principles of Public Administration. Chapter 6. Public Financial Management. OCDE. 2014. www.sigmaweb.org.
8. Report on budgeting execution 2012 (p.21), 2013 (p.25) și 2014 (p.29).

Considerations Over the Evaluation of Investment Projects Financed From European Structural Funds

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Cost-benefit analysis is the main method used for evaluating the efficiency of resource utilization, accepted worldwide. This method is recommended by European Commission to assess the efficiency of European Structural Funds utilization. Its use involves the calculation of some financial and economic performance indicators and the analysis of risks associated to the project considered. However, it is criticized for several weaknesses such as those presented in this paper.

Keywords: cost-benefit analysis, European Structural Funds, performance indicators, risk, weaknesses

JEL classification: F3, F5

1. Introduction

Development of the European Commission and EU bodies then have a strong connection with transfer of grant funding toward Member States, which were described as European Structural Funds.

According to the political vision of the founding states of the EU, the only way to achieve effective European single market is to accompany measures of liberalization and market opening measures with financial assistance in order to close the levels of economic development of Member States. This will reduce development disparities between Member States facilitating the achievement of the objectives of Cohesion Policy [6].

EU Cohesion Policy is one of the oldest concepts in the strategy of the EU politically and economically. Financial instruments of this policy are currently the European Social Fund, European Regional Development Fund and the Cohesion Fund [5].

Any development strategy involves the allocation and use of financial resources, based on one or more investment decisions. Also, economic growth and prosperity, the objectives of EU cohesion policy, are dependent on productive capital, infrastructure, knowledge, human capital, the total productivity of factors and quality of public institutions.

Consequently there was a need for tools for comparing costs and benefits of various categories of investment projects financed from European Funds, which is why regulations of implementing structural programs financed from non-reimbursable European Funds expressly requires achieving cost benefit analysis in all major investment projects.

2. The methodology of Cost Benefit Analysis

As mentioned previously, cost-benefit analysis is used to assess the effectiveness of the use of European Structural Funds in order to finance investments projects, being the main method of assessing the efficiency of resource use accepted worldwide.

The purpose of this analysis, according to European Commission, is to highlight the fact that the sum of the effects of impact is greater than the net benefit to society by considering net benefit of society as the sum of cash/monetary benefits and nonmonetary benefits of the project.

In the European Commission documents Cost-Benefit Analysis is defined as: „conceptual framework applied to any quantitative and systematic assessment, of a public or private project to determine if or how much the project is worthwhile from a public or social perspective”. Cost benefit analysis differs from a net financial estimate because it considers all gains (benefits) and losses (costs), regardless of who owns them [2].

According to European Commission Guidelines, cost-benefit analysis can be structured in 6 steps (Figure 1):

1. Analysis of the context and objectives of the project
2. Project Identification
3. Feasibility and project analysis
4. Financial Analysis
5. Economic Analysis
6. Risk Analysis

Studying the feasibility of projects by conducting financial and economic analysis is the key element of cost-benefit analysis[3], primarily for financiers and banks. Project evaluation process is the only way that decision makers can show the citizens of EU member states that their resources were invested in the best way possible. For the same reasons, the protection of European citizens' money, the risks associated with these projects should be identified, analyzed and monitored throughout the lifetime of the project.

Financial analysis is aimed at assessing whether to finance the project in question by using the DCF method [4]. This method involves forecasting future financial flows of the investment project and the calculation of financial performance indicators of the project: financial net present value (FNPV), internal rate of return on equity (FIRR), the benefit-cost (B/C).

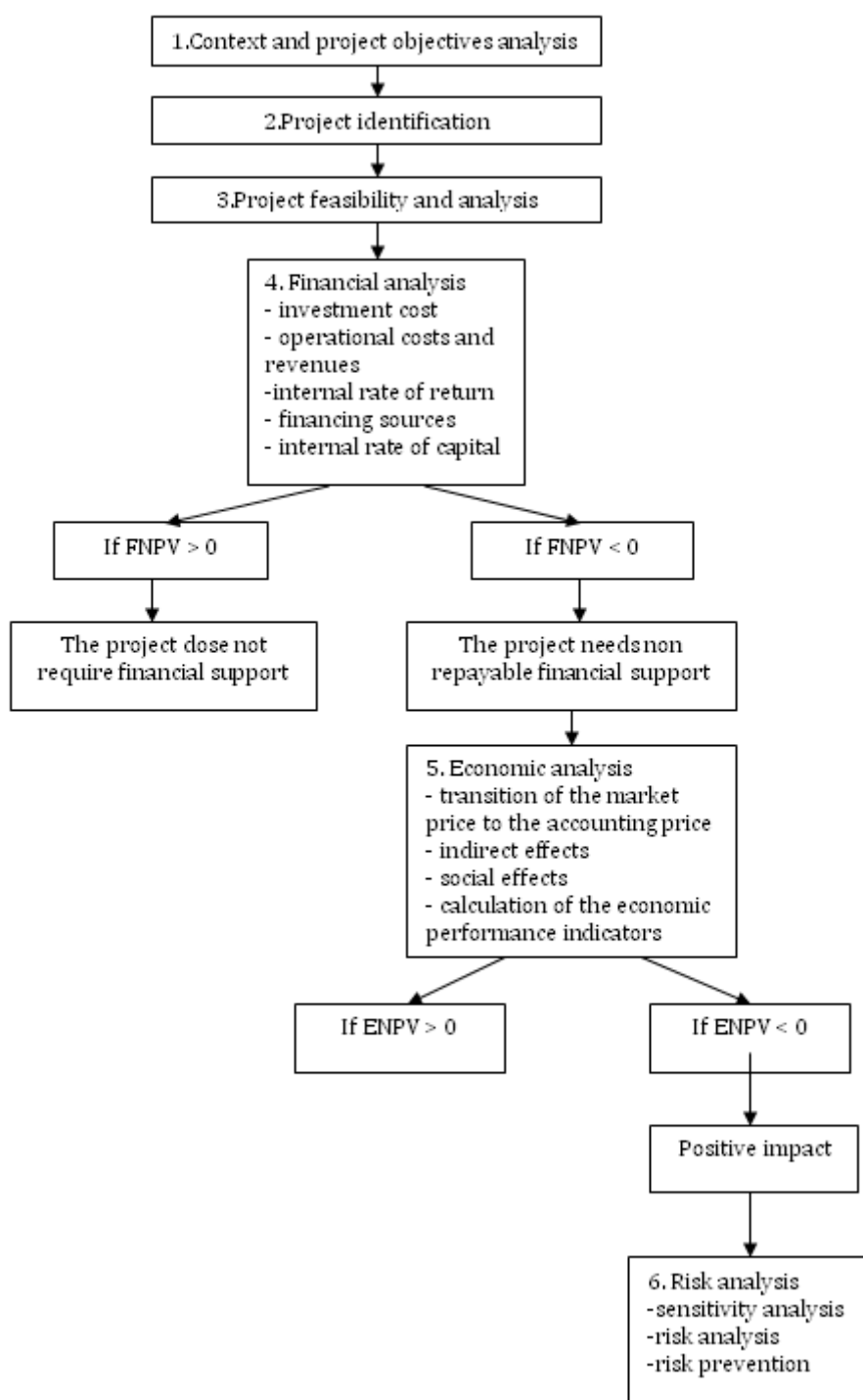
The economic analysis is that justifies the decision of the Community authorities to finance or not finance the project. Financial analysis is intended only to determine the need to finance and borrowing. Economic analysis involves calculating economic performance indicators of the project: economic net present value (ENPV), economic internal rate of return (EIRR), the benefit-cost (B / C).

The economic analysis from the perspective of society, having as a starting point cash flows of financial analysis. The key concept of the economic analysis is utilization of shadow prices based on the social opportunity cost, instead distorted market prices. Financial flows are translated into economic flows by performing correction calculations (European Commission, 2008).

First is the transformation of market prices into accounting prices (shadow) by using the conversion factor (constants applied by multiplying the market price); the calculation and the value of the conversion factor used ranges from a factor of production to another, depending on their nature and characteristics.

Second is the application of fiscal corrections, which means that all costs and revenues are taken into account without VAT and other indirect taxes. Also make corrections to external effects that occur without monetary compensation, so they are not present in the financial analysis and should therefore be estimated and evaluated in the economic analysis.

Because cost-benefit analysis involves forecasting cash flows of the project, it is imperative that it be accompanied by a risk analysis and sensitivity analysis. Sensitivity analysis is made in order to identify the critical variables of the project and studying the impact that they have on the performance indicators of the project change. This is followed by the analysis of risk- once identified critical variables in the sensitivity analysis, each of them is associated a probability distribution. According to the methodology of the European Commission, the Monte Carlo simulation modeling is used to yield result as a probability distribution of performance indicators (NPV or IRR).

**Figure 1. ACB structure**

Source: Droj (2013), Bankability investment projects financed from EU structural funds

3. Weaknesses of CBA

Though CBA is widespread worldwide, it is criticized sometimes. It is considered by some authors a flawed procedure, which should not be central to public policy decisions on climate change or other issues.

Cost-benefit analysis exhibits numerous problems in practice, ranging from deep ethical and logical contradictions to a persistent tendency toward forecasting errors and partisan abuse. Some of these flaws could in theory be corrected; others are inherent in the methodology, and underscore the need for alternatives.

A review of the flaws in cost benefit analysis is presented below[7]:

a) Pricing the priceless

The costs and benefits of health and environmental policies are not normally expressed in comparable units. The costs are frequently well-defined in economic terms and the benefits, on the other hand, frequently involve human lives saved, ecosystems and endangered species protected, or other fundamentally nonmonetary values. Cost-benefit analysis absolutely requires monetary values for these benefits but the preservation of human life and natural systems are unpriced.

b) Troubling trade-offs

Closely related to the problem of priceless values is the hidden assumption that everything can be traded for everything else. This assumption is appropriate for things that can be measured in money.

But the assumption that anything can be exchanged for anything else becomes misleading and disturbing when artificial prices are applied to the fundamentally nonmonetary values of life, health, and nature, as is necessary in cost-benefit analysis. In fact, the problem is not that the price is too high or low, but simply that it is a price.

c) Uncertainty and precaution

Cost-benefit analysis requires definite numbers on each side of the balance sheet, to allow the comparison of costs and benefits. Many important questions of environmental policy, for example, involve inescapably uncertain outcomes. Faced with such uncertainties, it is effectively impossible to provide a precise quantification of the benefits of environmental protection.

In some cases, such as new and potentially toxic chemicals, uncertainty results from what we don't yet know about the problem. In other cases, uncertainty results from what we do know about systems so complex that they are essentially unpredictable in detail.

The precautionary principle provides an alternative approach to decision-making under uncertainty. It calls for taking action based on credible warnings of harm, without waiting for complete certainty or scientific consensus.

d) Distorting the future

Costs and benefits of public policies do not always occur simultaneously. While both can occur over a period of years, the benefits of health and environmental protection often extend much farther into the future than the costs. In addition to reducing all costs and benefits to monetary terms, cost-benefit analysis follows standard economic practice in discounting future amounts, converting them to their equivalent value today, or "present value."

Discounting is a perfectly sensible practice when evaluating financial transactions that occur within a single lifetime. This technique of financial analysis becomes problematical and controversial when extended beyond its domain of validity. When the time span is so great that different generations are involved in costs today and benefits tomorrow, the analogy to an individual investment decision breaks down. Instead, questions of intergenerational responsibility are involved, ultimately reflecting our commitments to and desires for our descendants.

e) Exaggerated costs

The cost side of the cost-benefit comparison poses fewer problems than the benefit side, because many of the costs of health and environmental protection are naturally expressed in monetary terms.

The costs of regulation are routinely overestimated in advance; several studies have found that advance predictions of costs are much more likely to be too high than too low.

f) Partisans and technicalities

Cost-benefit analysis is often proposed with the best of intentions. In the imagination of its advocates, it provides an objective, transparent calculation of the pros and cons of a policy proposal. Ideally, it seems as if this could reduce the partisan squabbling involved in policy debates, by providing a shared, empirically based understanding of exactly how good or bad a proposal would be. This noble ambition can fail in at least two aspects: biases may enter in the choice of alternatives for analysis, and in the interpretation of complex, technical data.

Of the six flaws in cost-benefit analysis presented above, the first three are inescapable features of the methodology, requiring a different approach to decision-making under the best of circumstances. The other three could in theory be avoided if cost-benefit analysis were implemented by perfectly informed, unbiased individuals with no stake in the outcome of the policy decisions.

Conclusion

Cost-benefit analysis is the main method for assessing resource utilization efficiency accepted worldwide. Used from the outset to substantiate the feasibility of public projects, it is recommended by the European Commission to analyze investment projects financed from European Funds. The purpose of this analysis is to demonstrate to European citizens that their resources were invested in the best way possible.

But CBA has many limitations such as its inability to assess quantify social benefits, many uncertainties involved in projects and the fact that use of DCF becomes controversial for projects with very long life cycles. Some authors believe that there are other methodologies for making better decision, appropriate to different circumstances and levels of knowledge, with much better results than cost-benefit analysis.

References

1. Droj L., *Bancabilitatea proiectelor de investitii finantate din fonduri structurale europene*, Editura Economica, Bucuresti, 2013
2. European Commission, *Guide to Cost-benefit Analysis of Investment Projects, Structural Funds, Cohesion Fund and Instrument for Pre-Accession*, DG Regional Policy, http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pdf, Brussels, 2008
3. Comisia Europeană, *Orientări privind metodologia de realizare a analizei costuri-beneficii*, Document de lucru nr.4, Regional Policy, Brussels, 2006
4. European Parliament, *Regulation No.1080/2006 of the European Parliament and of the Council of 5th July 2006 on the European regional Development Fund and repealing Regulation No. 1783/1999*, Official Journal of Euroepan Union, Brussels, 2006b
5. European Commission, *European Cohesion Policy in Romania*. http://ec.europa.eu/regional_policy/sources/docgener/informat/country2009/ro_en.pdf, 2009
6. Evans A., *The E.U. Structural Funds*, Oxford University Press, 2004
7. https://www.foe.co.uk/sites/default/files/downloads/policy_appraisal.pdf, 2008

The Evaluation of Unincorporated Areas – Particularities and Perspectives on the Real Estate Market

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The real estate market in Romania occupies an important position within the national economy, with the results in the real estate field having a significant impact on the determination of the macroeconomic indicators' values. We can consider that within each economy, the real estate market represents a complex sector, due to the high volume of carried out transactions and to the high number of individuals that take part in the carrying out of the transactions. The importance of area evaluation is guaranteed by the high number of its practical applications. The information provided by the evaluator is used by judicial institutions as a basis for various decision making processes.

Keywords: evaluation, real estate market, direct comparison, market value, capitalization rate

Jel Classification: R10, G33

1. Introduction

The objective of each evaluation is to estimate a price through different approaches, in order to reach a value as close as possible to the market value. To reach this objective, the evaluator has to gather information both from inside and outside the market.

The market value can be defined as the most probable price that a propriety would bring on a competitive market given all the conditions that a correct sale requires, with the buyer and the seller acting in a careful manner, conscious about the case and given the existence of the supposition that the price is not affected by wrong stimuli. For a closer estimation of the right value of a good, the following condition must be met altogether:

- The sale at a certain date;
- The existence of an opened and competitive market for the evaluated good;
- The existence of normal motivation, both of the seller and of the buyer;
- The careful implication of the participating parts of the transactions in order to reach what is considered to be their optimal interest;
- The price must not be influenced by a special relation existing between the parts or by other interests;
- The selling process requires the existence of proper conditions, making all the effort for the phenomenon, as well as the allocation of optimal time in order to expose the goods on the market;
- The financing conditions provided by one of the parts in the transaction must not affect the price, which represents a normal compensation for the traded propriety.
- The principles that govern the evaluation of areas are:
- Areas' evaluation must be made towards a very well defined objective;
- The evaluation is based on economic criteria, respectively on the comparison of gained results;
- Areas evaluation considers the sustainable development, following the risks that lead to the degradation of fields, as well as of the environment;

The objective of our research is represented by the evaluation of an area, locate in Sendreni Township, Galati County. Sendreni Township is located in the southern part of Galati County, 10 kilometers west from Galati, with a surface of 4724 hectares, of which 176 represent the incorporated area of the township.

The subject of the evaluation expertise is an unincorporated area, consisting of plough land of 23.153 sqm, which is a part of a larger plough land, with more landowners. When evaluating this type of area, we used two methods, which we will further present:

2. The direct comparison method approach

Sales comparison assume that an informed buyer won't pay more for a propriety than the cost of purchasing a propriety with the same utility. The direct comparison method approach comes to display the value of a propriety by analyzing recent sales, the offer prices of similar goods to the analyzed subject.

Considering the fact that comparable transactions are different, the selling prices of purchased goods will be adjusted to equalize the features of the evaluated area. Direct comparison method is based on gathering information regarding the sales and offers of similar fields, the determination of the comparability degree with the respective area, the establishment of the elements that are considered suitable for the comparison, the gathering, systematization, and the analysis of the gained information and the appliance of the results.

The market approach provides optimal results when there is an active market that owns the capacity to provide a sufficient number of comparable proprieties sales, inexistent when a good is unique or it is located on a market with a low number of sales.

Within the evaluation of a propriety, through the direct comparison method, we will use comparison elements which will consider and compare all the significant differences between the compared proprieties, which will lead to the influence on the final value. The main comparison elements used in the direct comparison method regarding the evaluation of an area are:

- Physical features;
- Economic features;
- The use;
- Non- real estate components of values;
- Transmitted propriety rights;
- Sales conditions;
- Market conditions;
- Location;

Table 1. Direct comparison method for the evaluation of an unincorporated area

Comparison elements	Evaluated area	Area A	Area B	Area C
Offer price		8.000 €	15.000 €	23.000 €
Comparable type		Ofertă	Ofertă	Ofertă
Adjustment		10 %	10 %	10 %
Adjustment value		800 €	1.500 €	2.300 €
Propriety rights	Complete	Complete	Complete	Complete
Adjustment		-	-	-
Selling conditions		Exchange/Sale	Sale	Sale
Adjustment		-	-	-
Financing conditions	Normal	Normal	Normal	Normal
Adjustment		-	-	-
Market conditions	October 20th	October 20th	October 20th	October 20th
Adjustment		-	-	-
Location	Șendreni	Independenta	Galati	Galati
Adjustment		250 €	100 €	130 €
Road	Paved	Paved	Asphalt	Asphalt
Adjustment		-	153 €	72 €
Area surface	23.153 sqm	25.000 sqm	10.000 sqm	20.000 sqm
Adjustment		180 €	113 €	127 €
Utilities	All	Same	Same	Same
Adjustment		-	-	-
Buldings on the surface	No	No	No	No
Adjustment		-	-	-

Destination	Agriculture	Agriculture	Agriculture	Agriculture
Adjustment		-	-	-
Total adjustment		1.230 €	1.785 €	2.629 €
Adjustments		3	4	4
Adjusted price		6.770 €	13.215 €	20.371 €

6.770 €	30.020,211 RON

Exchange at October 20th 2015 = 4.4343 RON / €

Subsequent to the use of the method, based on which the information was analyzed, compared and adjusted, we chose the adjusted value of propriety A where Adjusted price = 6.770/€, as, in this case, the number of used adjustments was the lowest, the surface and the location are close to the level of the evaluated area.

$V_{\text{Area (Direct comparison method)}} = 30.020,211 \text{ RON, equal to } 6.770 \text{ €}.$

Used adjustments:

- Comparable type: Comparables 1,2 and 3 are offers and were adjusted at a negotiation level of - 10%;
- Location: Comparables were adjusted with 250 €, 100 €, 130 €;
- Road: Comparables 2 and 3 were adjusted with 153 €, 72 €;
- Area surface: Comparables were corrected with 180 €, 113 €, 127 €.

3. Income approach

The income approach is based on the ability of an evaluated asset to generate profit. The method establishes the value of the evaluated area depending on the cash flow that is generated by its use. The value of the area $V(\text{cap})$ can be calculated through income capitalization. The cash flow that is generated by the evaluated propriety will vary from a year to another, depending on:

- Type of used agriculture;
- Produced goods;
- The cyclical nature of the goods markets.

The general estimation formula of the usage value of the area is: $V_p = VN/C$ where,

- V_p = Propriety value
- VN = Net income

Considering the information provided to the evaluator regarding the analyzed are, its physical status, the context of the evaluation, the general and local economic status, as well as the leasing contracts of similar areas:

$$VN = 0,37\text{RON/m}^2 \times 23.153 \text{ m}^2 = 8.566,61 \text{ RON}$$

- C = capitalization rate = 11 %

$$C = C_0 + R$$

C_0 = the neutral capitalization rate, equal to the interest of the zero risk financial placements is determined as the real interests' rate applied by banks, CEC or other financial institutions or the real yield of certain alternative placements (treasury certificates)

R = placement specific risks

The present value of the capitalization rate, for the real estate market has resulted from a specific market analysis.

An estimated value of the evaluated area results:

$$V_p = 8.566,61/0.11 = 77.878,27 \text{ RON}$$

The estimated value of the area through the income method is 77.878,27 RON, respectively 17.562 Eur.

4. Results reconciliation

The value of the arable unincorporated area from Sendreni parish, Galati county, established through the direct comparison method is 30.020,211 RON, equal to 6.770 Eur.

The value of the arable unincorporated are from Sendreni parish, Galati county, established through the income method is 77.878,27 RON, equal to 17.562 Eur.

Both methods used specific data of the real estate market in the calculus. Considering the prices on the free market and the fact that the evaluation was made in order to sell and buy, the proposed value as a fair value is the one established through the direct comparison method, namely 20.443 Eur.

The arguments that led to the development of an opinion, as well as the reasons regarding the value are:

- The value was exclusively expressed considering the expressed hypotheses and the appreciations in this report;
- The selling price could be placed under or over this value depending on the demand/offer report available at the moment of the transaction;
- The value doesn't consider the environment responsibilities;
- The value is a prediction;
- The value is subjective;
- The evaluation is an opinion on a value;
- The value doesn't include VAT.

Conclusions

Considering the fact that the areas have been and continue to be one of the most essential fields of available financial resources investments, a significant attention must be paid to their evaluation.

According to the analyses of real estate experts, based on the documents that are issued by county agricultural institutions, the average price of an arable hectare in Galati County is 2.600 Eur. Thus, the real estate market maintains a positive evolution, increasing the number of investments in the Romanian agriculture.

The significance of the evaluation activity has increased, as at the base of the finalization of each real estate project, an evaluation has to be placed, which is made by an authorized and specialized evaluator.

References

1. Appraisal Institute, (2004), *Evaluarea proprietății imobiliare, Editia a doua Canadiană*.
2. Bănanu C., (2007), *Ghid practic de evaluare imobiliară, Editura Tribuna Economică, București*.
3. Bircea I., (2005), *Evaluarea întreprinderii, Editura Dacia, Cluj Napoca*.
4. Cretu C., (2011), *European Standards of financial reporting rational sciences, Publisher Zigotto, Galati*.
5. Dragotă V., (2005), *Gestiune imobiliară, Editura ASE București*.
6. Ghic G., (2008), *Analiză economico-financiară, Editura Universitară, București*.
7. Hristea A. M., (2013), *Analiză economică și financiară a activității întreprinderii, Editura Economica, Vol. 1, București*.
8. The University of British Columbia, *Course Workbook, Case Studies in Real Estate Appraisal- BUSI 442, UBC Real Estate Division and Appraisal Institute of Canada*.
9. Jianu I., (2012), *Evaluarea în contabilitate. Teorie și metodă, Editura Economica, București*.
10. Oancea N. M., Popescu A. M., Ion A., Popa A., (2010), *Evaluarea întreprinderii, Editura Economica, București*.
11. Onica Mihaela-Cristina, *The internal Audit-Key Pillar of Corporate Governance, Rev.Acta Universitatis Danubius.Economica, revista indexata, in BDI,vol.9 (no.6), 2013, pag. 207-213*
12. Onica Mihaela Cristina-*Corporate Governance Codes-examples of good practice,XIVth International Annual Conference Risk in Contemporary Economy, RCE 2013, Galati, Romania, published in Conference Proceedings, ISSN 2067-0532*
13. Onica Mihaela Cristina-*The relevance of accounting information enclosed in performance indicators, Rev. Acta Universitatis Danubius. Economica, revista indexata in BDI,vol.8(no.6),2012,pag.33-46,impact factor of 0.03 according to RePec Database,DOAJ,Econ Papers*
14. Polignac B., Monceau J.P., (2002), *Expertise immobilière, Guide pratique*.
15. Rossiter D. G., (1994), *Land evaluation, Lecture Notes, CornellUniversity*.
16. Ștefănescu I., (2001), *Evaluarea terenurilor, curs ANEVAR, București*.
17. Vlad V., (1996), *Proposal for an integrated expert system for land evaluation in Romania, Știința Solului, Vol. XXX, București*.

The Contribution of Banks towards the Formation of Capital Market Liquidity: the Case of Moldova

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The problem of low liquidity in the capital market of Moldova is addressed in several policy documents at the state level, noting that the low liquidity of the stock market has hampered the proper functioning of the domestic capital market and access to financing its means. In their view, improving the liquidity of the domestic capital market can be achieved through the active involvement of banks into capital market activities. In this article the phrase "banks" are envisaged licensed banks, and there is no reference to the central bank.

Keywords: capital market, capital market quality, capital market liquidity, assesment of capital market liquidity, bank, financial assets-held-for-sale, financial assets-hel-for-trading.

JEL code: G12, G21, G23, G24

1. Introduction

As stated in the National Development Strategy 2012-2020 of the Republic of Moldova, also known as the "Moldova-2020", "the securities market¹²⁵ in Moldova has the characteristics of an emerging market: a limited number of issuing entities, low liquidity, a lack of public investments, a small number of investors, and reduced integration into international financial markets"[24, p. 23]. Taking into account the fact that in Moldova, on the one hand, financing the economy goes more through the banking system acting as a lender in the form of loans, and on the other hand - "the share in GDP of bank loans to the private sector constitutes about 35 percent, while deposits constitute about 45 percent of GDP"[15, p. 3]. it can be mentioned that the banks could boost the supply of capital to improve liquidity in the domestic capital market. This aspect determined the purpose of the research in the present article, which results from the actuality of the problem of bank contributions to the improvement of the Republic of Moldova's capital market liquidity. The following research methods were applied: analysis and synthesis, induction and deduction, graphic methods, comparisons, etc.

2. Methodological issues regarding the capital market liquidity as dimension of its quality

The interest of the international scientific community is quite wide, in terms of capital market liquidity and its importance to the efficient functioning of capital markets. As noted by Boehmer Ekkehart, Chava Sudheer and Tookes Heather (2011) [3], capital market liquidity is one of the indicators for assessing the quality of a capital market. Insufficient liquidity is often cited as the primary obstacle to capital market development. Supporters of this statement are Bortolotti et al (2004) [4] who state that liquidity is the fundamental aspect in the development of a securities market (stock market). Later, in 2010, Hearn and Piesse [10] reconfirmed this statement.

¹²⁵ The National Development Strategy of the Republic of Moldova, approved in 2012 mentions the approach "securities market". Currently, in the Republic of Moldova, the approach "securities market" is equivalent to "capital market", the latter, being introduced into circulation by the Law of the Republic of Moldova on the capital market approved later, on July 24, 2012.

Formulating the concept of capital market size, Keynes, still in 1930, launched the concept of market liquidity, stating that "capital market liquidity incorporates key elements of volume, time, and trading expenses". This definition, as was later found, does not include assessing capital market liquidity with all dimensions. Later, following several studies, the definition of capital market liquidity was stated as "the ability to trade an asset in the short term, at low cost and with little impact on its price" [14]. Therefore, capital market liquidity should be analyzed in terms of its impact on the trading price of securities. This approach aligns with Schmukler, Van Hören and Yeyati (2007) [12], who define a liquid capital market "as one in which market participants can execute large volume of transactions promptly, without a significant impact on prices." Thus, they mentioned the determinants of capital market quality - liquidity and trading volume, or, to determinants of capital market quality are assigned and the concentration and pricing [25].

3. Assessment of capital market liquidity

Based on the definitions and comments presented, it may be stated that capital market liquidity can be considered through three dimensions:

- **depth** (*profoundness*) **of market**, namely, the impact of high volume trading on price movements. An illiquid capital market would have a negative impact on traded asset prices;
- **extension** (*magnitude*) **of market**, which can be described by the proportion of the market that participating in upward or downward movement in the price indices. In other words, market magnitude refers to the degree of market concentration. Hasbrouck (2003) argues that this concentration indicates the cost associated with trading or the cost of speed. The spread of supply and demand is an indicator used for determining the extension of the market, and thus this spread should be low enough to prevent excessive price movements;
- **resilience** (*elasticity*) **of the market**, or the time necessary to achieve market balance in case there are significant price fluctuations. Such fluctuations are usually caused by either news feeds (normally, news reports) or by high transaction volumes. A strong or resistant market is a solid market in which market prices of assets return after a short period of time to the average or fair value. While the size of the market's "depth" targets only the volume of supply and demand's best prices orders, elasticity takes into consideration the elasticity of supply and demand. Dong, Kempf and Yadav (2007) [6] argued that the measures of elasticity show how quickly modified prices, related to high volume transactions, will return to previous levels.

Later, in 2004, Von Wyss [18] proposed that in addition to these 3 dimensions, another useful dimension of a market's liquidity is **the time** at which transactions are absorbed by the market. In a liquid market, transactions are executed with a minimum time lag. Assessing capital market liquidity by the rate of trading is accepted and used by IOSCO [19]. PriceWaterHouseCoopers LLP [20], consider that there is no single definition of capital market liquidity, hence the difficulty in sizing. The institution proposes using a set of essential indicators for assessing capital market liquidity, as shown in Figure 1.

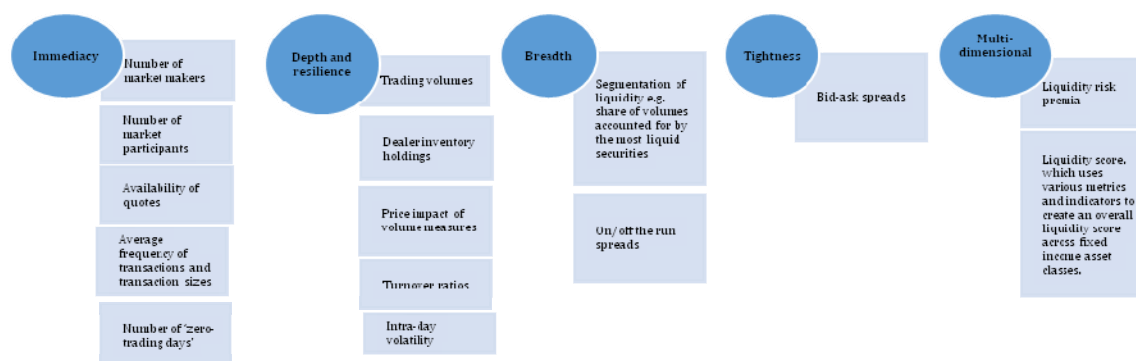


Figure 1. The dimensions of capital market liquidity and indicators which correspond with dimensions

Source: prepared by the authors based on source [19].

In Figure 1 it is shown that the capture and measurement of capital market liquidity is an extensive and complex task, as the spectrum of indicators is extremely vast.

It is clear from the aforementioned that the international scientific community is interested in the method of sizing the liquidity of capital markets. At the same time, we note that local researchers and institutions, are less trained in assessment, so and in researching capital market liquidity under different aspects of dimensions which usually reference to market capitalization [2] and [9]. This subject, namely methods to dimension the capital market liquidity, and possibilities for their increase, needs to become, according to authors' opinion, an important focus for local scientific researchers, as well as for institutions that form the policies for qualitative capital market development, and for the Republic of Moldova's economy as a whole.

4. Liquidity of the Capital Market of Moldova

Moldova's capital market liquidity is low. This observation is made in both the National Development Strategy "Moldova 2020", and in the research of Harcenco D. [9] and Bilooaia S. [2]. As noted above, capital market liquidity can be determined based on several indicators, however, because data on transactions (the parties involved and the price at which participants trade) are less transparent in Moldova, sizing capital market liquidity can be achieved only on the basis of several indicators. The most important indicator being the ration of transaction volume occurring on the capital market in GDP, or specialized sources state that this indicator is a preliminary step towards complete analysis of market liquidity. According to results obtained from analysis of indicator *the ratio of transactions in GDP*, it is observed that the liquidity of the Moldovan capital market is very low (see Figure 2).

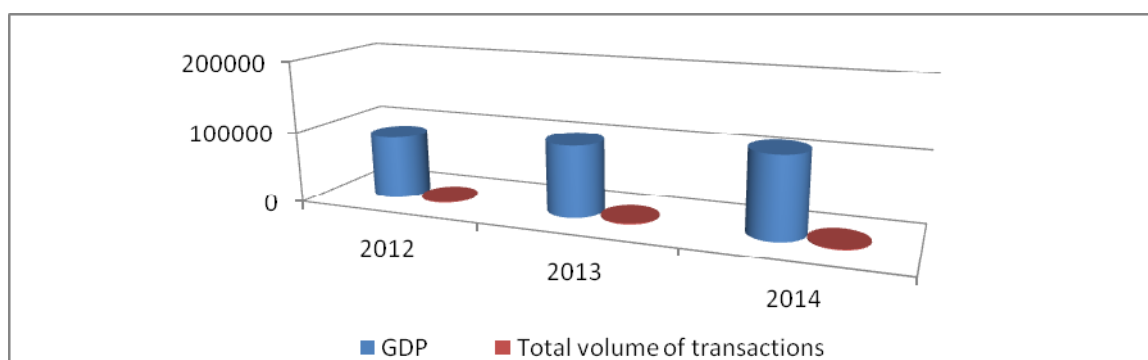


Figure 2. The volume of transactions made on the Republic of Moldova's capital market compared to GDP, 2012-2014, mil. MDL

Source: developed by authors based on sources [30] and [31].

From Figure 2, it is noted that in 2012 the volume of transactions on the capital market amounted to only 0.014% of GDP, increasing during 2012 to 0.017% of GDP, and decreasing to 0.011% of GDP in 2014.

Capital market liquidity increase, according to Strategy "Moldova 2020", and priorities on National Commission of Financial Market [30] can be achieved by increasing participation of institutional investors on capital market.

5. The contribution of banks to the formation of capital market liquidity in the Republic of Moldova

One of the factors with significant impact on capital market liquidity is the investment behavior of capital market participants. During the years 2012-2014, the period of reference in the given article, professional participants must be licensed dealers/brokers to perform transactions on the capital market¹²⁶. Such a license was held by joint stock companies that carry out only professional activity on the capital market and banks that have a licensed dealer/broker. During the years 2012-2014, broker/dealer licenses were held by 22 professional participants on the capital market, of which 11, or 50%, were represented by banks¹²⁷ (see Table No. 2).

¹²⁶ Currently, under the current legal framework of the Republic of Moldova, the participants in transactions on the domestic capital market are represented by licenses holders of an "investment company".

¹²⁷ It should be noted that in the years 2012-2014, of the 14 banks in Moldova, only 11 had a broker-dealer.

Table No. 1.

The number of transactions performed by professional participants in the Republic of Moldova's capital market

No	Non-bank broker/dealer companies				No	Banks as broker/dealer companies			
		Number of transactions					Number of transactions		
		2012	2013	2014			2012	2013	2014
1.	Oldex JSC	238	150	152		CB"Victoriabank" JSC	140	161	134
2.	Fincom JSC	154	288	293		CB "Energbank" JSC	1	12	6
3.	S.V.M. Iuventus-DS JSC	160	33	38		CB "Eximbank Gruppo Veneto Banca" JSC	7	53	2
4.	DAAC-Invest JSC	524	140	706		CB "Banca de Finanțe și Comerț" JSC	84	30	3
5.	B.C. Proajioc JSC	503	297	278		CB "Banca de Economii"	79	24	18
6.	F.B. BrokWest JSC	118	103	149		CB "Moldindconbank" JSC	77	21	25
7.	Passim JSC	148	1	*		CB "Mobiasbanca Groupe Societe Genarale" JSC	27	10	8
8.	Broker M-D JSC	493	264	572		CB "Moldova Agroindbank" JSC	24	40	105
9.	Valinvest JSC	329	403	314		CB "Banca Socială" JSC	17	116	0
10.	Gest-Capital JSC	545	318	109		CB "Unibank" JSC	85	13	9
11.	Broker-Capital JSC	0	0	*		CB "Eurocreditbank" JSC	1	0	0
12.	Broking-VM JSC	*	39	19					
13.	Asito-Broker JSC	*	*	0					
Number of total transactions performed by non-bank broker/dealer companies		3.212	2.036	2.630	Number of total transactions performed by banks as broker/dealer companies		542	480	310
The ratio of number of transactions performed by non-bank broker/dealer companies in total number of transactions		85,6	80,9	89,5	The ratio of number of transactions performed by banks as broker/dealer companies in total number of transactions		14,4	19,1	10,5

Source: developed by authors based on source [29].

*Note: A company marked with * in the table do not held license in that year.*

According to data presented in Table 1 it may be noted that the number of transactions made by banks constituted about 17% of total transactions, representing as a share, a small percentage. Furthermore, the volume of transactions carried out by banks, or made through them (as broker/dealers) in 2012 constituted 828,3 mil MDL (66,5% of total amount of transactions on the capital market), and in 2013 and 2014, the volume of transactions made by banks decreased to 733,3 mil. MDL (44,6%), and, respectively, to 558,25 mil. MDL (39,4% of total amount of transactions) (see Figure 3). Obviously, depending on the degree of commitment and the intensity of performed transactions contributed by banks (more or less) to the formation of liquidity in the domestic capital market.

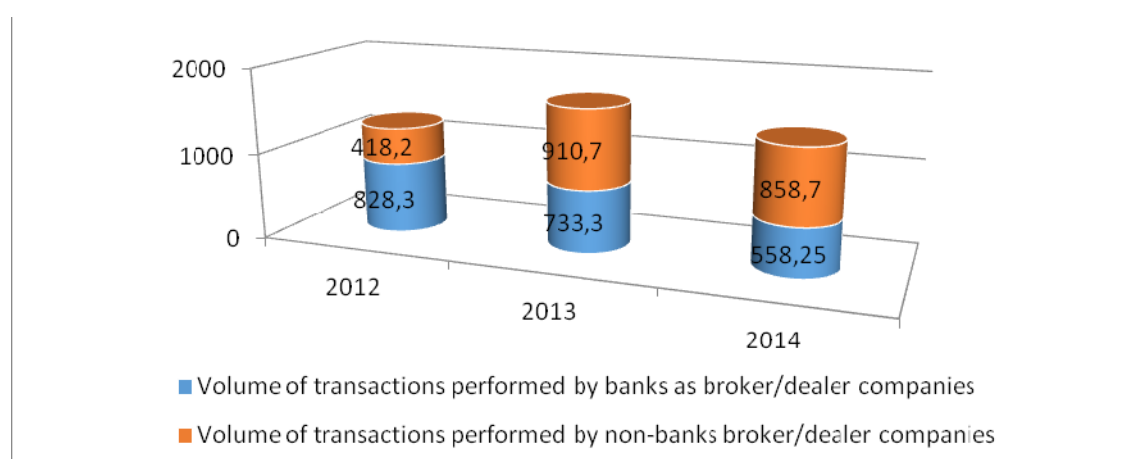


Figure 3. The volume of transactions performed by banks as broker/dealer companies and non-banks broker/dealer companies on the capital market of the Republic of Moldova during 2012-2014, mil. MDL

Source: developed by authors based on source [29].

Another way of determining the degree of bank involvement in the transactions can be carried out by applying the *Herfindahl-Hirschman Index* [13], which is usually used for sizing the degree of market concentration in order to establish the monopolistic or oligopolistic type of the market.

Thus, in result of the calculation of this index for 2014 (see Figure 4), it was observed that among the banks' professional participants in the Republic of Moldova's capital market, BC "Moldova-Agroindbank" (as a company broker/dealer) concentrated the largest volume of transactions. This was followed by 2 non-banking companies as broker/dealers, namely "Proajioc" JSC and "Broking" VM. In reference to the total transactions carried out by banks, from calculations performed by authors, it is observed that the Herfindahl-Hirschman Index is lower for companies of broker/dealer banks, which confirms previous statements referring to the low contribution of banks to the formation of liquidity on the capital market.

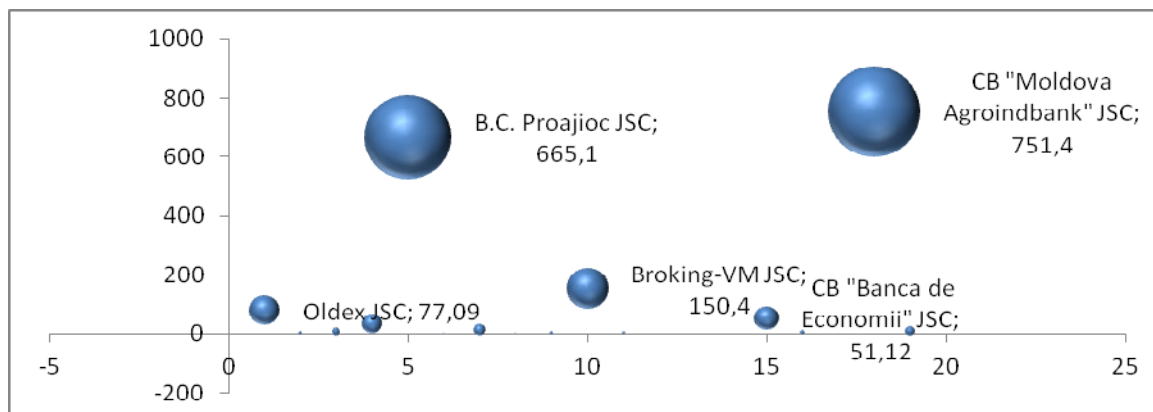


Figure 4. The degree of concentration of transactions volume performed on domestic capital market by banks and non-banks broker/dealer companies according to Herfindahl-Hirschman Index

Source: developed by authors based on source [29].

Analyzing the contribution of banks to liquidity formation on the capital market of the Republic of Moldova, in accordance with the indicator ratio in GDP of volume of transactions performed by banks, it is noted that this indicator is steadily decreasing: from 0.009% in 2012 to 0.007% in 2014 (see Figure 5).

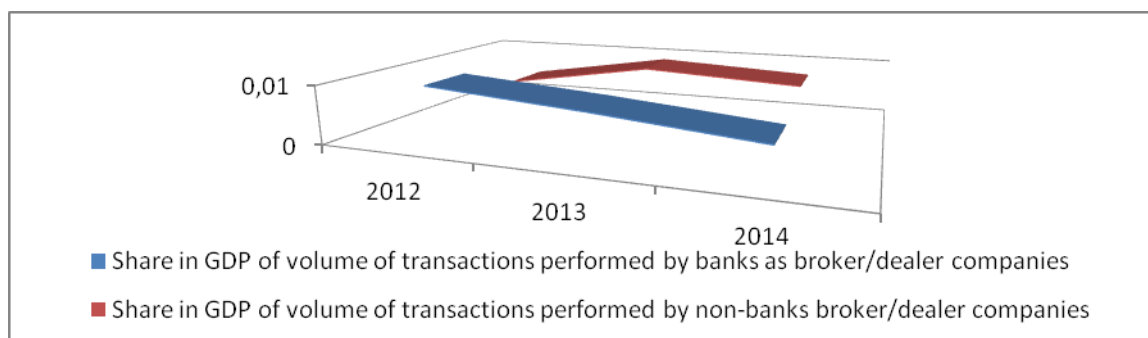


Figure 5. The share in GDP of volume of transactions performed by banks as broker/dealer companies and non-banks broker/dealer companies in the Republic of Moldova during 2012-2014, mil. MDL

Source: developed by authors based on sources [29] and [31].

Moldovan banks, according to international standards, hold financial assets for sale, financial assets for trading and investment held until maturity. It is noted that in the Republic of Moldova, as a results of studying the components of banks' balance sheets, the investments held to maturity are composed by state securities and, currently, are not subject of transactions performed on capital market. The state securities, compared to all securities that banks operating, recorded the largest share - about 5% of total assets (see Table No. 2).

Table No. 2.

The share of financial assets for trading, financial assets for sale and investments until maturity in the Republic of Moldova banking system' assets structure, 2012-2014

Indicator		2012		2013		2014	
		Absolute value, MDL	Share from assets, %	Absolute value, MDL	Share from assets, %	Absolute value, MDL	Share from assets, %
Financial assets for trading		185 243 073	0,318	173 454 635	0,2276	156 987 101	0,167
	Derivateives held for trading	0	0	2 556 483	0,00335	1 719 723	0,0018
	Equity instruments	0	0	0	0	0	0
	Debt instruments	185 243 073	0,318	170 898 152	0,2243	155 267 378	0,318
Financial assets for sale		340 869 622	0,586	495 271 568	0,65	451 502 793	0,48
	Equity instruments	315 928 789	0,543	468 712 008	0,615	417 161 986	0,44
	Debt instruments	24 940 833	0,0428	26 559 560	0,0348	34 340 807	0,036
Investments until maturity		3 406 656 563	5,86	3 815 548 512	5,007	3 988 635 574	4,25
	Debt instruments	3 406 656 563	5,86	3 815 548 512	5,007	3 988 635 574	4,25
Total Assets		58 168 487 331	100	76 190 117 616	100	93 909 150 222	100
Total Regulatory Capital				8 167 580 000		9 013 850 000	
Share of equity instruments held for sale in Total Regulatory Capital, %		No available data		5,74		4,62	

Source: developed by authors based on sources [27] and [28].

From Table 2 it is observed that financial assets which are held for trading consist of debt instruments and derivatives (since 2013). In the domestic banking system, the share of total assets in debt securities held for trading in 2014, was 0.318% and derivative securities - 0.0018%. The share in total assets of financial assets available for sale is higher, constituting 0.48% in 2014, and decreasing by 0.17 p.p. compared to 2013. Within the financial assets available for sale are included debt instruments, consisting of state securities and equity instruments. It is noted that the share of equity instrument (on domestic capital market exists only shares) in total assets in the domestic banking system is 0.44% in 2014 and is decreasing compared to previous years, by about 0,2%. Based on calculations by the authors (and shown in Table No. 2), it is indicated that the share of equity instruments, which is subject to capital market transactions, in total regulatory capital of the domestic banking system amounted to 4.62% in 2014 and to 5.74% in 2013. According to existing legislation [16], Moldovan banks may hold equities up to 50% of the total regulatory capital of the bank. Referring to the statement made by Sissoko (2014) [22] "institutions holding financial assets for trading by participating in trading, depending on the size and frequency of transactions, contribute to capital market liquidity." Thus, by analyzing the structure of assets which are held by banks in Moldova (see Table No. 2) it can be concluded that there are significant reserves of domestic banks to participate in the formation of capital market liquidity.

6. International practices on banks contribution to the formation of capital market liquidity

In order to determine the contribution of banks to the formation of capital market liquidity, as given in the article, a brief analysis was made of the investment and trading activity of banks in the EU capital market. EU banks are actively involved in trading activities on the capital market. This is seen by analyzing the assets of those banks' balance sheets. The share of financial assets held for trading, on average, in the EU banking system is typically below 10% (see Figure 6). Only in Germany and France were higher numbers observed, reflecting the market presence of large banks with significant financial investment and trading activities⁶. It is noted that in other countries, on the balance sheets of large banks, the financial assets which are held for trading represent the biggest shares.

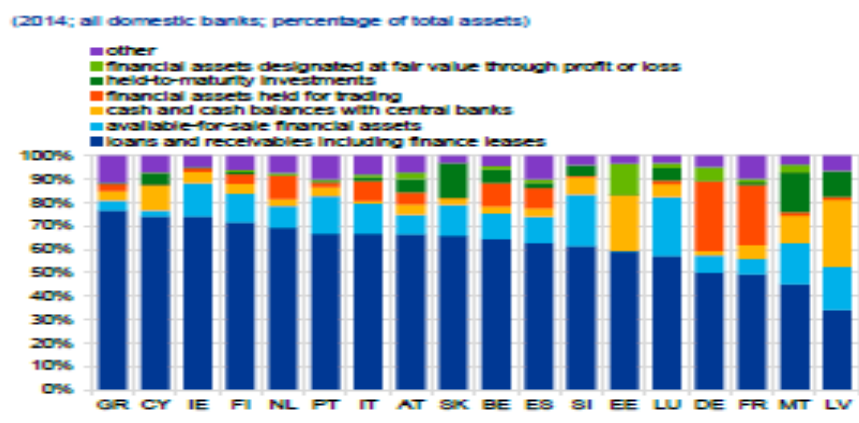


Figure 6. The structure of EU banks' assets in 2014

Source: [7, p. 29].

In response to reforms which separate banking activity, the banning of proprietary trading, etc., banks are likely to reduce their trading activities. In the post-crisis period, regulators have taken steps to protect financial markets by limiting the proportion of capital that can be invested by banks, which determined the decrease in the liquidity of the capital market. We note that, as a result of the crisis in 2007-2009, new rules were introduced on the holdings of financial assets for trading and, consequently, banks reduced their trading activities. In particular, stocks of financial instruments which were held to support market making activity, were reduced. Gross and net holdings in stocks of trading securities held by systemically important banks fell significantly during the global financial crisis in both the US and Europe (see figure 7).



Figure 7. Bank holdings of trading assets for a sample of 32 global banks during 2006-2012

Source: [20, p. 40].

From Figure 6 it is seen that the trading assets holdings by banks fell by more than 40% from 2008 to the present. The first crash in a post-crisis contraction of around 30% occurred in 2009, followed by a gradual reduction of 10% in the following years. This has been elucidated in a 2014 study by PwC, which showed that 90% of the universal banks have reduced or stopped proprietary trading [21]. While trading bans on banks should reduce the risk of suffering substantial losses, it will actually remove a source of forming liquidity on capital markets [20]. To confirm these given concerns, it was noted that trading volumes and transaction sizes have decreased, thus lowering the depth and immediacy of the capital market.

Easing the investment criteria, to some extent, for institutional investors, especially banks acting as financial intermediaries on the capital market (or broker-dealers), has been considered in order to help generate liquidity in the secondary capital market [20]. The argument for this is that banks hold inventories of bonds and/or shares they subscribe to and provide quotations on price.

7. Conclusions

Weak capital market liquidity is an important issue for the Republic of Moldova's capital market. Moldovan banks, having a universal character, have the right to carry on with their investing activities and trading on the capital market, but the extent of their activity is very low compared to the intensive trading and investment activity carried out by EU banks.

The low involvement of banks in trading activities on the capital market in the Republic of Moldova is conditioned not only by strict regulations which must be complied with, but also by the

reduced capacity of the domestic capital market to provide liquid financial and profitable instruments. We consider that banks from the Republic of Moldova, which accumulate considerable financial resources in the economy and redistribute capital, must reorient towards the capital market. A change in the structure of bank balance sheets in the Republic of Moldova, in order to increase the share of assets for trading, presents a challenge for local banks, though this would increase capital market liquidity in the Republic of Moldova, and subsequently improve its quality.

References:

1. BIELENIA-GRAJEWSKA Magdalena. *The role of metaphors in the language of investment banking*. University of Gdańsk (Poland) iBérica 17 [2009]: 139-156. Available from: http://www.aelfe.org/documents/09_17_Bielenia.pdf. Cited at 5.11.2014
2. BILLOCAIA Sv. *Развитие рынка ценных бумаг Республики Молдова в контексте европейской финансовой интеграции*. Teză de doctor. Chişinău, 2014
3. BOEHMER Ekkehart, CHAVA Sudheer and TOOKES Heather E. *Capital Structure, Derivatives and Equity Market Quality*. Available from: <http://www.uis.no/getfile.php/Conferences/CBWMFM%202011/Boehmer-Chava-Tookes.pdf>. Cited at 6.03.2016
4. BORTOLOTTI, B. şi alţii. *Privatisation and Stock Market Liquidity*. [online]. Research Report, No.23., 2004. Available from: <http://www.cepr.org/pubs/dps/DP4449.asp>. Stockholm Institute for Financial Research. Cited at 31.03.2016
5. COMERTON-FORDE Carole and RYDGE James. *Director holdings, shareholder concentration and illiquidity*. In: *Finance Discipline, School of Business, University of Sydney NSW 2006*. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=713181. Cited at 31.03.2016
6. DONG, J., KEMPF, A. şi YADAV, P. K., *Resiliency, the Neglected Dimension of Market Liquidity: Empirical Evidence from the New York Stock Exchange*. [online]. 2007. Available from: <http://www.isb.edu/caf/htmls/ResiliencytheNeglected.pdf>. Cited at 31.03.2016
7. European Central Bank. *Report on financial structures in 2014*. octombrie 2015. Available from: <https://www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201510.en.pdf?32669bf4f03b3d9936369cd9efc07863>. Cited at 1.03.2016
8. GARŞTEA N. *Studiu privind impactul semnării Acordului de asociere între Republica Moldova şi Uniunea Europeană asupra pieţei de capital din Moldova*, Chişinău 2011. pag 11. Available from: http://www.evm.md/public/studii/Studiu_Soros.pdf. Cited at 27.03.2016
9. HARCENCO Dorina. *Rolul pieţei valorilor mobiliare în abordarea investiţională prin prisma globalizării*. Teză de doctor. 2010. 184 p. P. 127
10. HEARN, B. and PIESSE, J. *Barriers to the Development of Small Stock Markets: A Case Study of Swaziland and Mozambique*. In: *Journal of International Development*, 22 (7), 2010. Pag. 1018–1037. Available from: <https://www.kcl.ac.uk/sspp/departments/management/research/papers/theme/ibcmm/finance/smallstockmarkets.pdf>
11. HÖKMARK, Gunnar (2015) "Amendments 300-608 on the proposal for a regulation of the European Parliament and of the Council on structural measures improving the resilience of EU credit institutions", report to the European Parliament Committee on Economic and Monetary Affairs.
12. LEVY-YEYATI, E., SCHMUKLER, S. şi Van HOREN, N., *Emerging Market Liquidity and Crises* [online]. 2007. Available from: <http://ssrn.com/ab#stract=1019028>.
13. NALDI Maurizio and FLAMINI Marta. *The CR4 index and the interval estimation of the Herfindahl-Hirschman Index: an empirical comparison*. 2014. Available on-line: <https://halshs.archives-ouvertes.fr/hal-01008144/document>
14. NIKOLAOU K. *Liquidity (risk): concepts, definitions and interactions*. Working Paper Nr. 1008. Februarie 2009. Available from: <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1008.pdf?e87aba3a52137adea91048bf54801968>
15. NOTE INFORMATIVE din partea Partenerilor de dezvoltare ai Moldovei, ianuarie 2015, pag. 3. Available from: <http://infoeuropa.md/files/note-informative-din-partea-partenerilor-de-dezvoltare-ai-moldovei.pdf>. Cited at 31.03.2016
16. RATNER David L., *Deregulation of the Intersection Between the Banking and the Securities Industries*, in *The deregulation of the banking and the securities industries* 323, 329 (Lawrence G. Goldberg & Lawrence J. White ed., 2003)
17. *Regulamentul cu privire la deţinerea de către bănci a cotelor în capitalul unităţilor economice*, aprobat prin HCA al BNM nr.81 din 09.04.1998. Available from: <http://www.bnm.org/ro/content/regulamentul-cu-privire-la-deţinerea-de-catre-banci-cotelor-capitalul-unitatilor-economice>. Cited at 14.04.2016
18. Von WYSS, R., *Measuring and Predicting Liquidity in the Stock Market*. doctoral dissertation, 2004. St. Gallen University. Available from: [http://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/2899/\\$FILE/dis2899.pdf](http://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/2899/$FILE/dis2899.pdf). Cited at 2.04.2016
19. IOSCO Report. *Emerging Markets Committee. Factors Influencing Liquidity in Emerging Markets*. December 2007. Available on-line: <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD258.pdf>. Accesat la 24.07.2015
20. PwC study (2015). *Global financial markets liquidity study*. Available from: <https://www.pwc.se/sv/financial-services/assets/global-financial-markets-liquidity-study.pdf>. Cited at: 6.04.2016
21. PwC study. (2014). *The impact of EU bank structural reforms*. Available at: <http://www.pwc.com/gx/en/banking-capital-markets/impact-bank-structural-reforms-europe.html>. Cited at: 6.04.2016
22. SISSOKO Carolyn. *The Plight of Modern Markets: How Universal Banking Undermines Capital Markets*. September 21, 2014, pag 1. Disponibil on-line: <http://weblaw.usc.edu/centers/class/class-workshops/documents/SissokoUniversalBanking.pdf>. Accesat la 16.08.2015

23. SCHRÖDER Michael și alții. *The Role of Investment Banking for the German Economy. Final Report for Deutsche Bank AG, Frankfurt/Main.. Mannheim, October 14, 2011. Zentrum für Europäische Wirtschaftsforschung (ZEW). Disponibil on-line: <ftp://ftp.zew.de/pub/zew-docs/docus/dokumentation1201.pdf>. Accesat la 14.02.2015*
24. *Strategia Națională de Dezvoltare a Republicii Moldova 2012-2020. Moldova 2020, pag 23*
25. AGGARWAL Reena. *Stock Market Development: Role of Securities Firms and New Products.*, Georgetown University (1999) http://www.egx.com.eg/pdf/stock_market_development-role_of_new_products.pdf
26. ДОРОХОВ Е. В. СТАТИСТИЧЕСКИЙ АНАЛИЗ И ПРОГНОЗИРОВАНИЕ РАЗВИТИЯ ФОНДОВОГО РЫНКА РОССИИ. Abstract to Ph.D. Thesis. Moscow 2004
27. <http://www.bnm.org/bdi/pages/reports/drsb/DRSB1.xhtml?id=0&lang=ro>
28. <http://www.bnm.org/bdi/pages/reports/drsb/DRSB5.xhtml>
29. <http://www.cnpf.md/md/anfin/>
30. <http://www.cnpf.md/file/rapoarte/2015/RA%202014%20Final%20Tipar%2021.05.2015.pdf>
31. <http://www.statistica.md/category.php?l=ro&idc=191&>

Aspects Concerning the Relationship between Internal Audit and Fraud Risk

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In the current economical situation, fraud cannot be regarded as an exception with random occurrence and limited effects on credit institution. Major fraud scandals that shook the financial markets required a rethinking of the organization and control of the banks to keep intact the trust of customers. Identifying and assessing risks is a concern not only for managers, but also for internal and external auditors. Management may implement programs or measures to limit the risks or deciding to accept some risks. In order to identify the main causes generating fraud risk and increasing the quality of banking activity we used a quantitative research method that was based on a questionnaire administered individually, using SPSS.

Keywords: audit, audit committee, fraud, fraud risk, internal audit.

JEL Codes: M42, G32, D81

1. Introduction

Changing economic environment presents major opportunities for banks, but also risky and complex variables that represent a challenge for banking management.

Banking fraud are constantly growing and expanding as fraudsters resort to various methods to steal amounts of cards and customer accounts. Certainly, technology is the most important weapon in the fight against banking fraud. Systems anti-skimming on ATMs, chip cards or devices "card reader" are effective ways to prevent frauds in banks. Although there are substantial costs of implementing these measures, most banks choose to apply them.

Internal audit aims to ensure protection and quality of information and to apply management instructions and to improve the performances.

Internal audit is an independent, objective assurance and consulting services designed to create value and improve the operations of a credit institution.

2. Internal audit and fraud

Internal audit plays an important role in finding effective solutions and assisting the implementation process and development of techniques and instruments in the process of risk identification.

The role of internal auditor in the detection of fraud depends on his training and practical skills.

Analysis of the changing nature of fraud and fraudster can help credit institutions to strengthen their defence against these criminal activities.

In order to commit fraud in a credit institution must be a series of favourable circumstances. Most fraud that occurred globally, 54% was facilitated by ineffective internal controls performed within the credit institution. Regarding Romania, many frauds were committed by managers in crossing controls, 38% of frauds detected unlimited authority managers was a key factor in achieving fraud.

One way to improve the internal control environment is the implementation of an effective mechanism for reporting integrity; most cases investigated were detected in Romania through informal picks.

Those who have suffered damage as a result of fraud that took place under a credit institution may apply to legislation which penalizes fraud drastically.

3. Audit Committee

Audit Committees appeared from the need to send recommendations to the general management / board of directors. Audit Committee members may be members of the Board of Directors, non-executive, non-executive directors and persons with long experience in the field of academics and research.

In practice, not to be confused members of the Audit Committee with internal auditors.

Quality of internal auditing is a profession authorized to be exercised in accordance with professional and ethical standards, and membership in an Audit Committee confers rights and obligations.

In Romania, there are Audit Committees in banks for monitoring the implementation of the internal audit function in the Bank that will help to minimize the fraud risk.

The composition of the Audit Committee is key to its success. For these reasons, it is important the selection of members, the requirements of autonomy, the committee size and length of service. According to BNR Regulation no. 5/2013 on prudential requirements for credit institutions, an audit committee must (without limitation):

- monitor the effectiveness of internal control, internal audit and risk management;
- supervise external auditors of the credit institution;
- recommend approval by the management or by shareholders the appointment, remuneration and removal of the external auditors;
- consider and approve the scope and frequency of internal audit;
- examine the internal audit reports;
- check adoption by senior management necessary corrective actions to remedy weaknesses in the control, non-compliance with the legal and regulatory policies and other problems identified by auditors.

However, an Audit Committee fully understand their responsibilities as a delegate key management / board is able to respond effectively to all the problems facing the entity.

4. The risk of fraud and its management

Financial and banking fraud can be committed by customers (external fraud), damaging the bank and by the bank staff (internal fraud).

Internal frauds can be made:

- bookkeeping clients - is a mistake to transfer the account to the account;
- internal bookkeeping;
- earnings by assuming certain banking operations.

External fraud - committed by persons who are not employees of the bank. Possible causes of external fraud:

- safety weak banking system;
- hostility former employees;
- the low level of protection of information networks;
- failure to comply with the code of ethics on access to bank information.

The most important cause of occurrence of bank fraud is incorrect personnel management so that in the financial and banking fraud are detected in cash and lending operations.

Cashier operations are dangerous, especially for customers since the injury in this type of operation is supported by the customer, but can be detected through effective internal control.

Although Cashier fraud is most common fraud, vulnerable, in terms of conducting fraud it is also the lending department. The frequency of fraud encountered in this compartment is lower than the cash desk operations, but the amounts stolen from one tranche may be much higher.

Fraud risk management, the bank will consider the following ways to eliminate fraud:

- Timely detection of staff addiction
- Creating a favorable psychological climate in the collective bank through which every employee to feel good protected and checked
- Creating a system of rotation of staff
- The division of responsibilities
- Testing and verification of information systems and introducing innovations in systems
- Creating a system of checking staff at headquarters.

After a committed fraud, all subjects who were involved in bank-client relationship are suffering. If the damage is supporting the bank's customer, in addition to material loss occurs the loss of confidence in the bank. If the damage is supporting bank, in addition to material loss, this action means losing credibility customers, which is the basic element in the finance and banking.

Thus, following the adoption of appropriate measures and compliance with prudential rules established by the regulations of the National Bank of Romania, the bank's management considers that any level of exposure to risks in the financial-banking losses can be minimized if the operations will be organized and managed rationally professionally.

5. Practical aspects of internal audit and fraud risk

In order to identify the main causes generating fraud risk we used a quantitative research method that was based on a questionnaire administered individually. By applying this questionnaire we sought to identify the defining elements of improving the quality and determination of long-term factors that determine fraud.

In sample size to determine if random sampling we considered the maximum permissible error of $\pm 5\%$ at a confidence level of 95%. We determined the sample size follows:

$n = t^2 * p * (1-p) / e^2$, where:

n = the sample size;

t = probability theory accepted (usually take $t = 1.96$ for a confidence level of 95%);

p = percentage of the population owns sampling feature (usually = 0.50);

e = error of representativeness permissible limit (accepted between 1% and 5%).

By applying this formula, the sample obtained will be corrected depending on the size of the population as follows: $n_1 = n / [1 + (n-1) / N]$ where:

n_1 = corrected sample size;

n = sample size obtained earlier;

N = the total population.

This questionnaire is addressed to legal entities, also bank customers and is divided into three sections that focus on identifying key measures to combat fraud and bank damage.

They sampled were clients of credit institutions, as legal entities. The total volume of the sample was in the amount of 30 companies but only 28 of them answered the questions, of which 13 in Galati, 10 of Braila and five other localities.

The study on the behavior of firms in order of their ranking to confidence in the banking system and the desire to improve legislation in this area in order to minimize the risk of fraud, was sent to a sample of 28 companies of different sizes and current state of development.

The data processing was done using SPSS processing system. SPSS (Statistical Package for the Social Sciences) is one of the most used statistical analysis with a wider application range expanded program with strong components for data management (selection, reconfigure, creating new data) and documenting data (there is a metadata dictionary, which retains data characteristics).

At the operation of SPSS in terms of interface, data management and statistical analysis can be added flexibility regarding the types of data accepted as the way to build reports and operational procedure. [Jaba, E.; Grama, A.; 2004]

In the specific case based on documentary research firms we have formulated the following hypotheses:

1. The surveyed companies expressed their agreement or disagreement for the first approach, "focusing on trust in the banking system" vs. "damaged banking system".
2. A second hypothesis present in the same questionnaire "orientation to improve banking legislation" vs. "orientation towards improving the banking system of internal control".

Cluster analysis on the audit valid on the 28 respondent companies based on the questionnaire study variables in companies that were grouped into the following two main components and record the following results (principal component analysis):

- The current attitude of bank staff vs. the errors detected in the banking system;
- Existence of legislative gaps in the banking system facilitates production of errors vs. improving the internal control system and adoption fraud detection systems to reduce risks in the banking system.

We made an hierarchical cluster analysis using the Ward Method with squared euclidian distance (square root of the sum of differences squared) as a method for calculating the distances about 50% of the available cases.

After principal component analysis it was resulted the following distribution of latent variables (Table No. 1) :

Table No. 1 Distribution of variables

Question	PC1	PC2	PC3	PC4
C1. How do you see the transparency of banking?	-19.41	- 1.67	14.53	-3.65
C2. How do you evaluate the degree of customer information by bank staff regarding the possible errors?	-16.66	- 5.53	- 5.43	-3.13
C3. How often do you use banking products or services per month?	-12.35	- 8.62	-10.65	-2.93
C4. How do you appreciate the regularity of fraud the institutions of credit?	-10.98	- 2.18	- 4.95	-3.60
C5. Have you suffered damage as a result of a fraud committed by staff of a credit institution?	- 9.38	17.84	2.40	-0.57
C6. At what bank did you suffer the damage?	- 8.66	0.40	1.14	-0.19
C7. Did fraud has an impact on a product or service banking?	- 7.14	13.39	- 0.76	-5.49
C8. What was the value of fraud you suffered?	- 6.73	- 7.34	- 7.71	7.31
C9. In your opinion using a rigorous control system will decrease the risk of fraud?	- 6.64	- 7.57	0.87	4.35
C10. Do you think that improving banking legislation will lead to more efficient banking supervision?	- 6.46	-11.01	5.23	4.45

Source: own processing

These dimensions / axes group determined at least eight combinations (or four) of the score of the company H - high and L - low; using two dimensions, Cluster 1 record low score at PC1 and high score at PC2, Cluster 2 record high score both PC1 and PC2 at, etc, in a table summarizing, clusters are defined as follows:

Table No. 2 - PC1 and PC2 scores recorded

Cluster	Score @ PC1	Score @ PC2
Cluster 1	H	H
Cluster 2	H	L
Cluster 3	H	H
Cluster 4	H	L

Source: own processing

Similarly, one can identify 8 clusters using the three-dimensional. For the case of two dimensions, the graph (Figure 1) illustrates the uneven distribution on PC1 & PC2 dials because the correlation shown in the figure below:

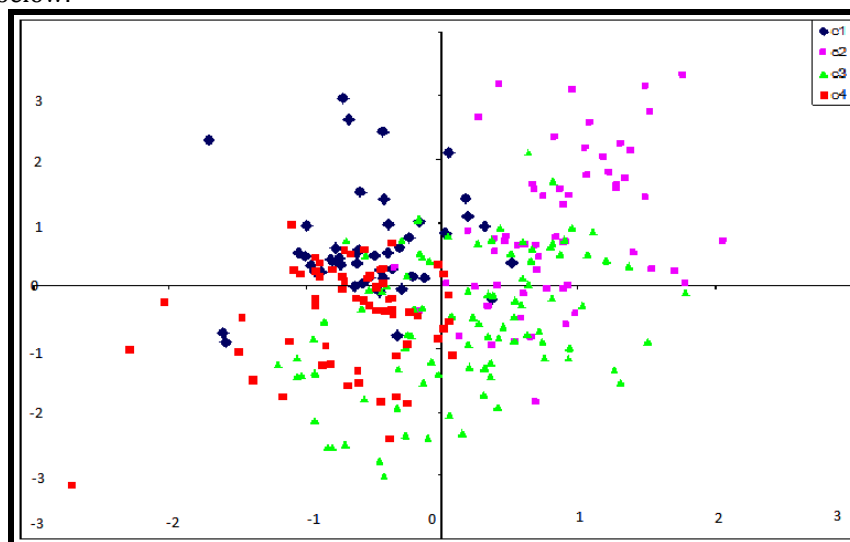


Figure 1. Distribution of the four clusters

Source: own processing

As conclusions of the cluster analysis we can observe the following:

-10 Of the surveyed companies were identified as being targeted and focused by the confidence in the banking system. Cluster 1 is how it should behave credit institutions so as to be fallen in with the needs of customers in order to gain and maintain their trust.

-18 Businesses, Cluster 3 illustrates the willingness of professionals to enjoy improve banking legislation and achieve higher performance in the near future in this area, by increasing the quality and service and align them centered on the beneficiaries (clients).

- Cluster 2 and Cluster 4 though similar 1 and 3 are populated with companies that want to improve the banking system so that it can cope with internal and external vulnerabilities and obstacles.

After obtaining this information, there is a need to change the current culture in the banking system, seen in terms of quality. It is recommended to act on the causes of the outbreak of bank errors.

To implement this change we suggest using the following methods:

- Promoting a rigorous control system inside the credit institution

The internal auditor has an important role in a credit institution. At the end of the audit engagement, the auditor is required to evaluate the findings and to establish views on the findings.

It is imperative that the internal auditor have high knowledge, extensive experience, to prepare and continuously update his knowledge in banking and auditing techniques. At the same time, it must have the ability to collect information, to examine them, to assess the situation and communicate conclusions

- Organizational development including organizational learning

The rapid evolution of information and communication technology as well as concerns on the creation of an integrated European market for financial services and the establishment of the Single Euro Payments, determined some significant investments in the banking sector, for enhanced security of information and transactions in real time. It is also imperative the bank staff training and development in these new directions so that the volume errors to be at minimum.

- Culture change using technology.

Improving or diversifying computer system draws a number of changes regarding work processes, interactions between individuals, strengthening specific behaviors; all contributing to minimizing the risk of banking errors.

6. Real-Time detection fraud

A general anti-fraud system aims at providing services fast, reliable and complete information to customers (accounts, deposits, interests, online payment systems / card, money laundering).

The most common fraud in banking system manifested in the last 5 years were caused by the following elements:

- Fraud absence from work, unregistered, settlement company costs of goods / services that are used in the interests of the employee's personnel;
- Obtain cash advances before closing expense account for previous advances and the use of money to cover the lack of funds / documents supporting the use of advances;
- Granting loans / facilities to customers by managers of financial entities, beginning to achieve its sales goals, and then to collect bonuses;
- Insufficient monitoring of people who leave out to other banks (often competing) or leave the system due to non-compliance and internal security work.

According to European regulations and the national rules established by BNR, financial and banking institutions have to fulfill by operating rules, goals such as: each bank had to take a firm attitude regarding the stopp of any attempts of fraud targeting both its heritage and its customers products or services; bank must not tolerate fraud or practices that do not agree with standards for employee conduct, entered in the Internal Rules.

Starting from these aspects, implementing an anti-fraud system must ensure the integration of all users or roles, both leadership and execution. If one link is left out monitoring, the entire production process can enable security breaches.

Intellinx [<http://www.intellinx-sw.com/products/product-features/>] is a management solution that reduces security incidents operational risks by detecting fraud and suspicious activity in real time.

The advantages of Intellinx are:

- It discourages fraudulent potential users through sessions that all users are registered.
- Improves internal audit efficiency by alerting on suspicious behavior detection and providing complete visibility for internal auditors at all suspicious actions;

- Implement security policies of the credit institution by detecting security breaches and eliminating exceptions and allows the configuration of new rules that can be applied after the events or incidents;
- Improves compliance with national regulations and creates a complete audit trail on all sessions end users, including queries that normally leaves no trace in most systems;
- Detect business opportunities in real time to enable immediate action. For example, if customer bank deposits that exceed a certain limit: permits various investment offers by sending an early warning in the system;
- Increases productivity and improves customer satisfaction by detecting suspicious activity, transmission of the alert level operating violation admitted and blocking real-time working session, as appropriate;
- It is non-invasive and does not involve risks to implementation;

It was developed and implemented already in several banking institutions in Romania. Unlike other providers antifraud to which the client must provide the data analysis (from the log files and data warehouses), Intellinx provides a comprehensive and efficient management fraud, covering a wide range of functions, from data capture, analysis and investigation.

7. Conclusions

The banking community remains concerned about the consequences of fraud by forgery, identity theft, and documents work forgery and continues to support the need to implement projects aimed at protecting customers in good faith and avoid incidents that affect image and stability of the banking system. Organizing a formal framework to improve lending by reducing the risk of fraud and streamline operational processes lending is one of the main concerns of the banking community.

ARB and ANAF concluded a Cooperation Protocol through which banks can check the loan applicants income individuals and legal entities' financial statements (with the consent of the applicant). The objective is to streamline lending activity and reduce the incidence of bank fraud that are based on forged documents.

The primary responsibility for preventing and detecting fraud return to those charged with governance of the entity and to the management. Management should focus on prevention of fraud, which could lead to reduced opportunities for producing fraud and on the fight against fraud.

„European Money Week program " which debuted in 2015, is conducted simultaneously in the States Member of the European Union, being an action initiated by banking associations members of the European Banking Federation (FBE). The objective of the program at EU level is raising awareness of the importance of financial education.

In the first edition of the „European Money Week”, ARB launched website dedicated to financial education www.educatiefinanciara.info in order to promote to the public the information that financial and banking allowing proper assumption of rights and obligations financial risks, thereby reducing the number of clients harmed by the banking system.

Following the analysis made on the basis of questioning of the 28 companies in Galati, Braila and other localities we have seen clients distrust in the banking system generated by the financial crisis, poor communication between bank and customer and damages suffered in recent years.

References

1. Basel Committee on Banking Supervision, *The internal audit function in banks*, Bank for International Settlements, June 2012; Online: <http://www.bis.org/publ/bcbs223.htm>
2. Ghiță M., Iașco C., Brezuleanu O., *Guvernanța corporativă și audit intern*, Editura Tio Moldova, Iași, 2009;
3. Jaba E., Grama A., *Analiza statistică cu SPSS sub Windows*, Editura Polirom, Iași, 2004;
4. Morariu A., *Audit intern și guvernanță corporativă*, Editura Universitară, București, 2008;
5. Nedelcu M., Siminică M., Țurlea C., *Corelata dntre auditul intern și performanțele financiare ale băncilor din România*, Conferință ASE București 2014, Online http://www.amfiteatrueconomic.ro/temp/Article_2474.pdf
6. Vernon A., *Comitetele de audit în România situația actuală și practicile curente*, Conferință, București, 2013.
7. Intellinx, Online: <http://www.intellinx-sw.com/products/the-intellinx-difference-enterprise-fraud-management>
8. Legea nr. 227/2007 pentru aprobarea Ordonanței de urgență a Guvernului nr. 99/2006 privind instituțiile de credit și adecvarea capitalului;
9. OUG 75/1999 privind Activitatea de Audit financiar, republicată și actualizată în 2013, cu modificările și completările ulterioare.
10. Regulamentul BNR Nr. 5/2013 privind cerințe prudențiale pentru instituțiile de credit, publicat în Monitorul Oficial, Partea I 841 30.12.2013, Intrare în vigoare la 1. Ian.2014.

Pharmaceutical Receivables, the Source of the Pharmaceutical Units Solvency

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The objective of this work is to analyze the current assets recorded by the pharmaceutical units, namely the role of the pharmaceutical receivables to improve the financial performances carried out by the pharmaceutical entities. The study was carried out through the analysis of the financial statements drawn up by a community pharmaceutical entity from Bucharest. In order to achieve the proposed objective, we analyzed the current assets in their structure, namely the pharmaceutical receivables which are to be recovered by the Bucharest Health Insurance House and the Insurance House OPSNAJ, resulting from the issuance of the compensated drugs prescriptions. Thus, it was determined the total receivables, but also differentiated release programs, how they are created, the term of settlement and the manner in which they have influenced the level of financial performance indicators.

Key words: pharmaceutical receivables, current assets, compensated drugs, pharmacy, financial performance.

J.E.L. Classification: I11, L65, P52

1. Introduction

The pharmaceutical assistance of the general public shall be ensured, in compliance with the Law of pharmacy No 266/2008 via community pharmaceutical entities, by selling at the retail price of drug products which may be issued with or without medical prescription, with full payment of the sum to be paid to them or partly as a result of their compensation on the basis of the national programs.

National health programmes include activities and services, established by law for the purposes of the prevention and treatment of diseases with serious consequences on the health of the population and in some cases (AIDS, TUBERCULOSIS) with increased epidemiological risk.

Preventive activities and specific drug treatment of these diseases are financed from the State Budget and the National Unique Fund of Health Insurance, within the limits established by the annual State Budget Law.

The principles of the national system of health insurance are based on: social solidarity, freedom of choice of the services and drugs, pharmaceutical market competition, the quality of the services and medicines issued, the privacy of the medical act, but also respect for the insured, as a central objective of the national system of health insurance.

The allocation of budgetary resources to ensure medication treatment is based on the principle of equity, in the sense of access to medicines to patients as a result of the recent developments of the research activity in the field, as well as on the principle of efficiency of the use of resources allocated from the health insurance budget.

Population access to medicines is a matter of respect for the human rights, regardless of its location, but also an obligation of the state to participate in the general's public health through adequate healthcare services and medicines to treat certain diseases.

2. Hypothesis

The aim of this study was to analyze the level of the pharmaceutical receivables, the recovery mode and their influence on the performance indicators of the pharmaceutical entity.

3. Materials and methods

We analyzed the registration mode and the settlement of the pharmaceutical receivables, which reflects the value of the compensated drugs, partially or totally, issued on the prescription and reimbursed by the Health Insurance House in Bucharest and the Insurance House OPSNAJ; The method of research used was the analysis of the pharmaceutical receivables credited to the account of customers, distinct analytic on the two houses of insurance and the retrospective analysis of their influence on the performance indicators during the period under review.

4. Results and discussion

Drug products with or without personal contribution in the ambulatory treatment shall be issued by the pharmacies which have been authorized by the Ministry of Health, assessed in accordance with the legal regulation in force (Decision No 400 of 13.5.2014), based on framework contracts concluded with the health insurance houses.

The contracts shall be concluded by the legal representative of the pharmaceutical company with the health insurance house where the administrative-territorial head office is situated (CJAS) and/or with the Health Insurance House for Defense, Public Order, National Security and Magistrates (OPSNAJ).

Thus, patients have access to drugs with or without personal contribution, in accordance with the list of International Commercial Name (DCI) from the Nomenclature of drug products for human use granted to insured persons on the basis of a prescription in the ambulatory treatment, drawn up in accordance with the provisions of the Law No. 95/2006, as amended and supplemented.

Honoring, namely the issuance of drugs on prescriptions will be made upon presentation by the pharmaceutical entities patients with an electronic prescription issued by the family doctor or medical specialist, on which occasion the patient supports from his own pocket the part of the costs of the drug issued, the difference being borne by the health insurance budget.

Pharmaceutical entities charges on a monthly basis, the county health houses and the OPSNAJ houses, the value of the compensated issued drugs, separated on programs, lists of compensation, sublists A, B and C and sections C1 and C3, following that they make payment in accordance with the terms of the framework contract signed.

Nationally, according to the results of the study "*Pharma & Hospital Report*", Cegedim Romania estimated that the total value of the market of drugs issued to patients in Romania in the year 2014 reached the level of 12, 28 billion lei at the price of distribution, from which 67, 4 % of the value is owned by drugs issued based on the Rx (recipes with medical prescription).

From this value, only a certain amount has been supported by the patients from their own resources, the difference being recovered from the receivables that the pharmacies had to collect from the health houses and the OPSNAJ houses and which was to be settled in accordance with the provisions of the framework contract (Table nr.1).

Table no. 1 The evolution of the pharmaceutical market in 2014

Canal/ Segment	VOLUME		DAYS OF TREATMENT		VALUE PPP				
	Market Share (%)	Variation (+/- %)	Market Share (%)	Variation (+/- %)	Market Share (%)	RON		EUR	
						mil, RON	(+/- %)	mil, EUR	(+/- %)
Total market	100,0	5,2	100,0	8,4	100,0	12.285,9	6,8	2.764,5	6,2
Retail	95,2	5,4	98,1	8,7	88,3	10.845,2	6,7	2.440,3	6,0
- Rx	67,4	5,0	86,8	8,8	81,3	8.820,1	5,2	1.984,7	4,5
- OTC	32,6	6,2	13,2	7,9	18,7	2.025,1	13,7	455,6	13,1
Hospital	4,8	2,1	1,9	-1,7	11,7	1.440,7	8,1	324,2	7,4

Source: *Pharma & Hospital Survey Report, Cegedim Romania 2014, own processing*

In terms of the evolution of the main sales on the primary therapeutic groups in 2014 spotlights the growth in volume greater than the market average in the case of medicinal products for the cardiovascular system (2275,1 million RON), for the digestive system and metabolism (1.975,1 million RON) and in the case of antineoplastic agents and immunomodulatory (2.065,2 million RON), (table no. 2):

Table No. 2 evolution of the sales volume of the therapeutic groups-2014

Groups ATC1	VOLUME			AVERAG E PRICE	VALUE PPP
	mil. boxes	Market share (%)	Δ +/- %	RON	mil. RON
Total	532,1	100,0	5,2	23,1	12.285,9
Top groups ATC1	458,2	86,1	5,0	22,9	10.507,3
C – Cardiovascular System	131,4	24,7	7,3	17,3	2.275,1
L – Antineoplastic agents and Immunomodulators	3,3	0,6	6,1	631,9	2.065,2
A – Digestive and Metabolism System	100,4	18,9	7,1	19,7	1.975,1
N – Nervous System	84,3	15,9	3,6	19,0	1.602,6
J - Anti-infectious System	39,3	7,4	-2,4	28,5	1.121,9
R – Respiratory System	57,5	10,8	4,6	15,6	895,1
M – Musculo-skeletal System	42,0	7,9	4,5	13,6	572,3
Other groups ATC1	73,9	13,9	6,2	24,1	1.778,6

Source: Pharma & Hospital Survey Report, Cegedim Romania 2014, own processing

Thus, through an examination of indicators determined based on data extracted from the balance of sheets prepared for 2014 and the annual financial statements drawn up by 31 December 2014, the results of the synthetis were the indicators presented in Table no. 3.

Table No. 3. Summary Indicators and share sales of drugs compensated recipes on 2014

No. Crt.	ECONOMIC INDICATORS NAME	VALUE (LEI)	% of total sales
1	Turnover in 2014, of which:	1.876.324,64	100,00
2	-Income from the sale of goods, of which	1.851.448,49	98,68
	-Incomes sales of prescription drugs	805.326,19	42,92
	-sales representin OTC medicines and other parapharmaceutical products	1.046.122,30	55,76
	-Services cf. Contract with Infotreat (trade discounts to customers)	24.876,15	1,32
3	Net profit in 2014	44.073,51	x
4	Profit rate	23,50%	x
5	Trade margins (related sales)	410.917,47	x
6	Average share of added	22,20%	x

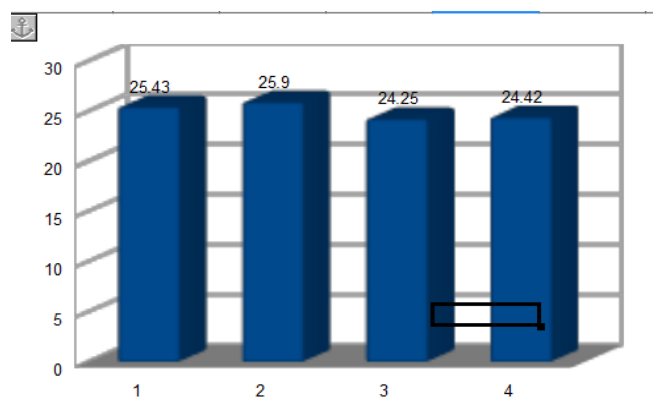
Source financial statements of FARMAS MED SRL on 31.12.2014

Considering the topic of the proposed research, namely the analysis of the revenue from the supply of drug products with and without personal contribution in the ambulatory treatment they were in the amount of 805.326,19 lei, respectively 42,92 % of the turnover achieved in 2014.

These revenues are credited to the customer account (symbol 411) analytically distinct and which follow to be reimbursed by the Health Insurance House in Bucharest and the OPSNAJ, in accordance with the contractual terms and conditions accepted by both parties.

Thus, the value of the receivables by the two houses was of 877,805.53 lei, distributed almost equally on a quarterly basis as shown in the graph below (chart no.1).

Chart no. 1 - Quarterly distribution amounts invoiced in 2014 by Insurance House of Bucharest and OPSNAJ House



Source: Program and management of pharmaceuticals and parapharmaceutical products, balance of accounts and the annual financial statements drawn up to 31 December 2014

Analyzing the income from the release of drugs on prescription (Rx) with and without personal contribution to the ambulatory treatment by FARMAS MED SRL, in Annex No.1, we have detailed these sales every month on each national programme for the support of patients as they drafted the invoices by the House Health IG6 T Insurance Bucharest and OPSNAJ.

Result of the study carried out ~~a result~~, that sales on the compensated prescriptions are determined by the sales on the main programs of health: Retirees recipes PENS 700, unique recipes C+G, ADO recipes and ONCOLOGY recipes.

Taking into account the share of these revenues in the total turnover, 42%, we can conclude that the issue of compensated prescription drugs is a solution for increasing revenue, providing financial resources and the improvement of the financial performance.

In accordance with the provisions of the Directive 2000/ 35/EC of 29 June 2000 on combating late payment in commercial transactions, starting with April 2013, the application of these provisions were imposed in Romania as well.

Thus, the progressive reduction of the term of the settlement of the drug products issued on compensated recipes at 60 days, from 180 and even over 300 days as it was prior to the implementation of this European Directive, has resulted in a reduction of the fiscal pressure on pharmacies and even a reduction in the prices of drug products issued without a prescription and hence an improvement in the health status of the population by increasing consumption of drugs as far as the European average.

Even if the payment terms no longer reach 300 days as in previous years, there are a few cases when the pharmacies have turned to the financial sources, respectively they accessed credit lines from banks to cope with the current payments and current obligations and to avoid the entrance of the impossibility of making payments, respectively insolvency.

As shown in Annex No.2 it can be noticed that the deadline for the collection of receivables representing the costs of the medicine issued on compensated recipes with and without personal contribution in the ambulatory treatment, paid by the CAS-MB and O.P.S.N.A.J was in 2014 after approximately 3 months, respectively 90 days.

However, it can be observed a reduction toward the end of the year of the number of days of settlement almost to the time limits of the European terms.

The settlement of the current activity of the years 2014 to 2015 is carried out in chronological order, up to 60 calendar days from the date of verification of prescriptions (max. 30 days) issued to the insured person and the granting of the visa "passed for payment" of invoices that accompany the health insurance house.

As it is known, commercial companies, including the pharmaceutical units organized under the form of commercial companies are obliged monthly, up on the 25th day of the following month to pay the value-added tax on the income and recorded in the accounting records in the previous month.

In addition to this tax liability at the end of each quarter the commercial companies are obliged to the payment of the tax on profit (16 % applied to the difference between the revenue and the total expenditure, namely gross profit, adjusted with non-deductible expenses and non-taxable income).

These obligations with tax payment deadline monthly and quarterly have no connection with the collection of revenue but only with the achievement and registration in the accounting, for companies not applying VAT collection.

However, for the companies which subject to VAT, the limit of 90 days is sufficiently taking into account that VAT paid upon the receipt of the receivables and the tax on profit is payable quarterly.

5. Conclusions

Even if the time limits for collection were greatly diminished compared to previous years, reaching almost to 90 days, enabling funding and resource management much better, there were other problems related to the declining purchasing power of the population and the reducing discounts received from suppliers and manufacturers.

The release of drugs compensated receipts related to marketing activity of pharmacy, the demand is addressed pharmacy patients under study. Refusal to issue the compensation prescriptions drugs would entail a negative impact on patients, would give up all pharmacy services and thus would influence current revenues pharmacy and even bankruptcy.

A proper management of stocks of drugs management, is the main factor ensuring the sustainability of pharmacy, providing current circulating means necessary to conduct the current business of pharmacy.

The pharmacist is to ensure the health of the population by putting into practice the knowledge acquired in the field but must be concerned about the commercial aspect of the work in the pharmacy, because depending on the skill and availability in relation to patients, issue of OTCs and other parapharmaceuticals products and released pharmacies depends on ensuring current financial resources necessary for the payment of salaries, payments to suppliers of goods, payment obligations to the state budget and social insurance budget, pay all other utilities pursue the activity and even avoid bankruptcy.

Progressive reduction of the deadline for settlement of medicinal products on compensation prescriptions to 60 days, according to Directive 2000/35 / EC of 29 June 2000 on combating late payment in commercial transactions resulted in a reduction of the tax burden on pharmacies and even a reduce prices of medicines without a prescription and thus an improvement in the health of the population by increasing drug consumption to the EU average.

References

1. Mincă, D.G., Marcu, M.G., "Sănătate publică și management sanitar", Editura Universitară "Carol Davilă";
2. D.Margaritti, "Notiuni de evidentă, gestiune și contabilitate farmaceutică"-Editura Dobrogea 2008, Course support
3. The recording and management of pharmaceutical and parapharmaceutical products
4. The statement of accounts and the annual financial statements drawn up to 31 December 2014
5. The national catalogue of prices for medicines for human use issued with a medical prescription, authorised for placing on the market
6. Pharmacy Law no. 266/2008, republished in the Official Gazette of Romania, Part I, no. 448 of 30 June 2009
7. Resolution no. 400 of 13/05/2014 approving service packages and the Framework Agreement governing the conditions of granting medical assistance within the health insurance system
8. Government decision No. 993/2013 for the modification and completion of the governmental decision no. 144/2010 concerning the organization and functioning of the Ministry of Health.
9. Government decision No. 525 from 22.06.2010 approving the regulation on the manner of approval and registration of producer prices to drugs/Official Gazette No. 105-106, the effective date 01.09.2010
10. Law No. 95/2006, Title XVII-Medicine
11. Order No. 220 for the modification and completion of the rules governing the calculation of the prices of medicinal products for human use, approved by order of the Minister of health no 75/2009
12. The financial and accounting documents of the pharmaceutical unit

Annexes

Annex No 1. Drug Sales compensated recipes, grouped in national programs and pharmacy each month under study, in 2014, presented separately for each home health company that has a contract.

CAS-Bucharest County

No. crt	PROGRAM	No. / Invoice Date	TOTAL Invoice value(lei)	Value without VAT (lei)	VAT (lei)
1	Rețete unice C+G elib.in 12.2013	622/20.01.2014	55965,07	51344,10	4620,97
2	Rețete oncologie elib.in 12.2013	619/20.01.2014	828,06	759,69	68,37
3	Rețete ADO elib.in 12.2013	620/20.01.2014	448,11	411,11	37
4	Rețete PENS 700 elib.in 12.2013	621/20.01.2014	2339,31	2146,16	193,15
	Total JANUARY 2014	X	59580,55	54661,06	4919,50
5	Rețete PENS 700 elib.in 01.2014	626/19.02.2014	1397,31	1281,94	115,37
6	Rețete unice C+G elib.in 01.2014	627/19.02.2014	53566,74	48226,37	4340,37
7	Rețete P5 ADO elib.in 01.2014	625/19.02.2014	752,14	690,04	62,10
8	Rețete oncologie elib.in 01.2014	624/19.02.2014	73,31	67,26	6,05
	Total FEBRUARY 2014	X	55789,49	51183,02	4606,47
10	Retete PENS 700 elib.in 02.2014	636/01.03.2014	1770,02	1623,87	146,15
11	Rețete unice C+G elib.in 02.2014	637/01.03.2014	51291,67	47056,58	4235,09
12	Rețete ADO elib.in 02.2014	635/01.03.2014	848,60	778,53	70,07
13	Rețete oncologie elib.in 02.2014	634/01.03.2014	877,92	805,43	72,49
	Total MARCH 2014	X	54788,21	50264,41	4523,80
14	Rețete PENS 700 elib.in 03.2014	649/22.04.2014	1860,82	1707,17	153,65
15	Rețete unice C+G elib.in 03.2014	650/22.04.2014	51578,07	47319,33	4258,74
16	Rețete ADO elib.in 03.2014	648/22.04.2014	941,17	863,46	77,71
17	Rețete oncologie elib.in 03.2014	647/22.04.2014	828,06	759,69	68,37
	Rețete POSTTRANSPLANT elib.in 03.2014	646/22.04.2014	7740,41	7101,29	639,12
	Total APRIL 2014	X	62919,22	57724,06	5195,16
18	Retete PENS 700 elib.in 04.2014	658/20.05.2014	1645,55	1509,68	135,87
19	Rețete unice C+G elib.in 04.2014	659/20.05.2014	60321,95	55341,24	4980,71
20	Rețete ADO elib.in 04.2014	657/20.05.2014	463,47	425,20	38,27
21	Rețete oncologie elib.in 04.2014	656/20.05.2014	753,34	691,14	62,20
	Total MAY 2014	X	63184,31	57967,26	5217,05
22	Rețete PENS 700 elib.in 05.2014	667/20.06.2014	1332,17	1222,17	110
23	Rețete unice C+G elib.in 05.2014	668/20.06.2014	45188,41	41457,26	3731,15
24	Rețete ADO elib.in 05.2014	666/20.06.2014	724,58	664,75	59,83
25	Rețete oncologie elib.in 05.2014	665/20.06.2014	753,34	691,14	62,20
	Total JUNE 2014	X	47998,50	44035,32	3963,18
27	Rețete PENS 700 elib.in 06.2014	677/18.07.2014	2056,21	1886,43	169,78
28	Rețete unice C+G elib.in 06.2014	678/18.07.2014	57068,95	52356,83	4712,12
29	Rețete ADO elib.in 06.2014	676/18.07.2014	487,27	447,04	40,23
30	Rețete oncologie elib.in 06.2014	675/18.07.2014	707,15	648,76	58,39
	Rețete POSTTRANSPLANT elib.in 06.2014	674/18.07.2014	2580,14	2367,10	213,04
	Total JULY 2014	X	62899,72	57706,17	5193,55
31	Rețete PENS 700 elib.in 07.2014	685/19.08.2014	1055,25	968,12	87,13
32	Rețete unice C+G elib.in 07.2014	686/19.08.2014	47514,60	43591,38	3923,22
33	Rețete ADO elib.in 07.2014	684/19.08.2014	673,28	617,69	55,59
34	Rețete oncologie elib.in 07.2014	682/19.08.2014	1500,66	1376,75	123,91
35	Rețete POSTTRANSPLANT elib.in 07.2014	683/19.08.2014	2580,14	2367,10	213,04
	Total AUGUST 2014	X	53323,93	48921,04	4402,89
36	Rețete PENS 700 elib.in 08.2014	696/19.09.2014	1724,00	1581,65	142,35
37	Rețete unice C+G elib.in 08.2014	697/19.09.2014	45373,35	41626,93	3746,42
38	Rețete ADO elib.in 08.2014	695/19.09.2014	299,27	274,56	24,71
39	Rețete POSTTRANSPLANT elib.in 08.2014	694/19.09.2014	2580,14	2367,10	213,04
	Total SEPTEMBER 2014	X	49976,76	45850,24	4126,52
40	Rețete PENS 700 elib.in 09.2014	706/22.10.2014	1285,44	1179,30	106,14
41	Rețete unice C+G elib.in 09.2014	707/22.10.2014	46609,27	42760,80	3848,47
42	Rețete ADO elib.in 09.2014	705/22.10.2014	325,99	299,07	26,92
43	Rețete ONCOLOGIE elib.in 09.2014	704/22.10.2014	750,33	688,38	61,95
	Rețete POSTTRANSPLANT elib.in 09.2014	703/22.10.2014	2580,14	2367,10	213,04
	Total OCTOBER 2014	X	51551,17	47294,65	4256,52
44	Rețete PENS 700 elib.in 10.2014	713/18.11.2014	1827,20	1676,33	150,87
45	Rețete unice C+G elib.in 10.2014	714/18.11.2014	55290,70	50725,41	4565,29
46	Rețete ADO elib.in 10.2014	712/18.11.2014	688,55	631,70	56,85
	Total NOVEMBER 2014	X	57806,45	53033,44	4773,01

No. crt	PROGRAM	No. / Invoice Date	TOTAL Invoice value(lei)	Value without VAT (lei)	VAT (lei)
49	Rețete PENS 700 elib.in 11.2014	724/19.12.2014	2271,67	2084,10	187,57
50	Rețete unice C+G elib.in 11.2014	725/19.12.2014	46384,51	42554,60	3829,91
51	Rețete ADO elib.in 11.2014	723/19.12.2014	774,01	710,10	63,91
	Rețete ONCOLOGIE elib.in 11.2014	722/19.12.2014	750,33	688,38	61,95
	Total DECEMBER 2014	X	50180,52	46037,17	4143,35
	TOTAL YEAR 2014	X	670,028,14	614704,72	55323,42

OPSNAJ HOUSE

No. crt	PROGRAM	No. / Invoice Date	TOTAL Invoice value(lei)	Value without VAT(lei)	VAT (lei)
1	Rețete unice C+G elib.in 01.2014	631/31.01.2014	14044,91	12885,24	1159,67
2	Rețete oncologie elib.in 01.2014	628/31.01.2014	386,87	354,93	31,94
3	Rețete ADO elib.in 01.2014	629/31.01.2014	392,28	359,89	32,39
4	Rețete PENS 700 elib.in 01.2014	630/31.01.2014	341,04	312,88	28,16
	Total JANUARY 2014	X	15165,10	13812,94	1252,16
5	Rețete PENS 700 elib.in 02.2014	639/28.02.2014	762,26	699,32	62,94
6	Rețete unice C+G elib.in 02.2014	640/28.02.2014	14049,63	12889,57	1160,06
7	Rețete P5 ADO elib.in 02.2014	638/28.02.2014	246,66	226,29	20,37
	Total FEBRUARY 2014	X	15058,55	13815,18	1243,37
10	Rețete PENS 700 elib.in 03.2014	644/31.03.2014	334,54	306,92	27,62
11	Rețete unice C+G elib.in 02.2014	645/31.03.2014	21023,37	19287,50	1735,87
12	Rețete ADO elib.in 02.2014	643/31.03.2014	1367,58	1254,66	112,92
13	Rețete oncologie elib.in 02.2014	642/31.03.2014	74,79	68,61	6,18
	Total MARCH 2014	X	22800,28	20917,69	1882,59
14	Rețete PENS 700 elib.in 04.2014	654/30.04.2014	717,72	658,46	59,26
15	Rețete unice C+G elib.in 04.2014	655/30.04.2014	16765,73	15381,40	1384,33
16	Rețete ADO elib.in 04.2014	653/30.04.2014	208,31	191,11	17,20
17	Rețete oncologie elib.in 04.2014	652/30.04.2014	409,03	375,26	33,77
	Total APRIL 2014	X	18100,79	16606,23	1494,56
18	Rețete PENS 700 elib.in 05.2014	663/31.05.2014	622,08	570,72	51,36
19	Rețete unice C+G elib.in 05.2014	664/31.05.2014	14832,47	13607,77	1224,70
20	Rețete ADO elib.in 05.2014	662/31.05.2014	122,08	112	10,08
	Total MAY 2014	X	15576,63	14290,49	1286,14
22	Rețete PENS 700 elib.in 06.2014	672/30.06.2014	960,62	881,30	79,32
23	Rețete unice C+G elib.in 06.2014	673/30.06.2014	19969,22	18320,39	1648,83
24	Rețete ADO elib.in 06.2014	671/30.06.2014	1132,91	1039,37	93,54
25	Rețete oncologie elib.in 06.2014	670/30.06.2014	538,76	494,28	44,48
	Total IUNE 2014	X	19601,51	17983,04	1618,47
27	Rețete PENS 700 elib.in 07.2014	680/31.07.2014	71,98	66,04	5,94
28	Rețete unice C+G elib.in 07.2014	681/31.07.2014	16738,16	15356,11	1382,05
29	Rețete ADO elib.in 07.2014	679/31.07.2014	410,54	376,64	33,90
	Total JULY 2014	X	17220,68	15798,79	1421,89
31	Rețete PENS 700 elib.in 08.2014	692/31.08.2014	843,55	773,90	69,65
32	Rețete unice C+G elib.in 08.2014	693/31.08.2014	10851,98	9955,95	896,04
33	Rețete ADO elib.in 08.2014	691/31.08.2014	51,69	47,42	4,27
34	Rețete oncologie elib.in 08.2014	690/31.08.2014	224,37	205,84	18,53
	Total AUGUST 2014	X	11971,59	10983,11	988,48
36	Rețete PENS 700 elib.in 09.2014	701/30.09.2014	857,97	787,13	70,84
37	Rețete unice C+G elib.in 09.2014	702/30.09.2014	14394,37	13205,84	1188,53
38	Rețete ADO elib.in 09.2014	700/30.09.2014	1804,86	1655,83	149,03
39	Rețete oncologie elib.in 09.2014	699/30.09.2014	389,18	357,05	32,13
	Total SEPTEMBER 2014	X	17446,38	16005,85	1440,53
40	Rețete PENS 700 elib.in 10.2014	709/31.10.2014	317,31	291,11	26,20
41	Rețete unice C+G elib.in 10.2014	710/31.10.2014	14969,29	13733,29	1236
42	Rețete ADO elib.in 10.2014	708/31.10.2014	351,83	322,78	29,05
	Total OCTOBER 2014	X	15638,43	14347,18	1291,25
44	Rețete PENS 700 elib.in 11.2014	720/30.11.2014	915,78	840,17	75,61
45	Rețete unice C+G elib.in 11.2014	721/30.11.2014	17640,97	16184,38	1456,59
46	Rețete ADO elib.in 11.2014	719/30.11.2014	556,87	510,89	45,98
	Rețete oncologie elib.in 11.2014	718/30.11.2014	149,58	137,23	12,35
	Total NOVEMBER 2014	X	17640,97	16184,38	1456,59
49	Rețete PENS 700 elib.in 12.2014	727/31.12.2014	263,33	241,59	21,74
50	Rețete unice C+G elib.in 12.2014	728/31.12.2014	18381,51	16863,77	1517,74
51	Rețete ADO elib.in 12.2014	726/31.12.2014	1289,41	1182,94	106,47
	Total DECEMBER 2014	X	19263,20	17672,66	1590,54
	TOTAL YEAR 2014	X	207777,39	190621,46	17155,93

Annex no. 2 - Analysis of collection of receivables being compensated with prescription medication and without personal contribution in ambulatory treatment, settled CAS-MB and O.P.S.N.A.J House

CLIENT	NR. FACTURA	DATA FACTURA	DATORIE	DATA INCASARE	INCASARE	EXPLICATIE	NR. ZILE INCAS
CAS-MB	619	20-Jan-14	828.06	30-Apr-14	828.06	ONCOLOGIE 12.2013	100
CAS-MB	620	20-Jan-14	448.11	30-Apr-14	448.11	ADO 12.2013	100
CAS-MB	621	20-Jan-14	2339.31	30-Apr-14	2339.31	PENSIONARI 12.2013	100
CAS-MB	622	20-Jan-14	55965.07	30-Apr-14	55965.07	C+G 12.2013	100
CAS-MB	624	19-Feb-14	102.61	30-Apr-14	102.61	ONCOLOGIE 01.2014	70
CAS-MB	626	19-Feb-14	1397.31	28-May-14	1397.31	PENSIONARI 01.2014	99
CAS-MB	627	19-Feb-14	53566.74	28-May-14	53566.74	C+G 01.2014	99
CAS-MB	625	19-Feb-14	752.14	29-May-14	752.14	ADO 01.2014	99
CAS-MB	634	01-Mar-14	877.92	27-Jun-14	877.92	ONCOLOGIE 02.2014	117
CAS-MB	635	01-Mar-14	848.6	27-Jun-14	848.6	ADO 02.2014	117
CAS-MB	636	01-Mar-14	1770.02	27-Jun-14	1770.02	PENSIONARI 02.2014	117
CAS-MB	637	01-Mar-14	51291.67	27-Jun-14	51291.67	C+G 02.2014	117
CAS-MB	646	22-Apr-14	7740.41	30-Jul-14	7740.41	POST TRANSPLANT 03.2014	98
CAS-MB	647	22-Apr-14	828.06	30-Jul-14	828.06	ONCOLOGIE 03.2014	98
CAS-MB	648	22-Apr-14	941.17	30-Jul-14	941.17	ADO 03.2014	98
CAS-MB	649	22-Apr-14	1860.82	30-Jul-14	1860.82	PENSIONARI 03.2014	98
CAS-MB	650	22-Apr-14	51578.07	30-Jul-14	51578.07	C+G 03.2014	98
CAS-MB	660	30-Apr-14	-29.31	30-Apr-14	-29.31	STORNO F.624/01.02.2014 F.660/	0
CAS-MB	656	20-May-14	753.34	27-Aug-14	753.34	ONCOLOGIE 04.2014	97
CAS-MB	657	20-May-14	463.47	27-Aug-14	463.47	ADO 04.2014	97
CAS-MB	658	20-May-14	1645.55	28-Aug-14	1645.55	PENSIONARI 04.2014	97
CAS-MB	659	20-May-14	60321.95	28-Aug-14	60321.95	C+G 04.2014	97
CAS-MB	668	20-Jun-14	45188.41	18-Sep-14	45188.41	C+G 05.2014	88
CAS-MB	665	20-Jun-14	753.34	25-Sep-14	753.34	ONCOLOGIE 05.2014	95
CAS-MB	666	20-Jun-14	724.58	25-Sep-14	724.58	ADO 05.2014	95
CAS-MB	667	20-Jun-14	1332.17	29-Sep-14	1332.17	PENSIONARI 05.2014	95
CAS-MB	675	18-Jul-14	707.15	29-Oct-14	707.15	ONCOLOGIE 06.2014	101
CAS-MB	676	18-Jul-14	487.27	29-Oct-14	487.27	ADO 06.2014	101
CAS-MB	677	18-Jul-14	2056.21	29-Oct-14	2056.21	PENSIONARI 06.2014	101
CAS-MB	678	18-Jul-14	57068.95	29-Oct-14	57068.95	C+G 06.2014	101
CAS-MB	674	18-Jul-14	2580.14	25-Nov-14	2580.14	POSTTRANSPLANT 06.2014	127
CAS-MB	683	19-Aug-14	2580.14	26-Sep-14	2580.14	POSTTRANSPLANT 07.2014	37
CAS-MB	682	19-Aug-14	1500.66	29-Oct-14	1500.66	ONCOLOGIE 07.2014	70
CAS-MB	684	19-Aug-14	673.28	29-Oct-14	673.28	ADO 07.2014	70
CAS-MB	685	19-Aug-14	1055.25	21-Nov-14	1055.25	PENSIONARI 07.2014	92
CAS-MB	686	19-Aug-14	47514.6	21-Nov-14	47514.6	C+G 07.2014	92
CAS-MB	694	19-Sep-14	2580.14	29-Oct-14	2580.14	POSTTRANSPLANT 08.2014	40
CAS-MB	695	19-Sep-14	299.27	21-Nov-14	299.27	ADO 08.2014	62
CAS-MB	697	19-Sep-14	45373.35	26-Nov-14	45373.35	C+G 08.2014	67
CAS-MB	696	19-Sep-14	1724	27-Nov-14	1724	PENSIONARI 08.2014	68
CAS-MB	707	22-Oct-14	46609.27	21-IAN-15	46609.27	C+G 09.2014	90
CAS-MB	703	22-Oct-14	2580.14	19-Dec-14	2580.14	POSTTRANSPLANT 09.2014	58
CAS-MB	704	22-Oct-14	750.33	19-Dec-14	750.33	ONCOLOGIE 09.2014	58
CAS-MB	705	22-Oct-14	325.99	19-Dec-14	325.99	ADO 09.2014	58
CAS-MB	706	22-Oct-14	1285.44	19-Dec-14	1285.44	PENSIONARI 09.2014	58
CAS-MB	712	18-Nov-14	688.55	21-IAN-15	688.55	ADO 10.2014	62
CAS-MB	714	18-Nov-14	55290.7	21-IAN-15	55290.7	C+G 10.2014	62
CAS-MB	713	18-Nov-14	1827.2	19-Dec-14	812.08	PENS 10.2014	30
CAS-MB	722	19-Dec-14	750.33	23-Feb-15	750.33	ONCOLOGIE 11.2014	64
CAS-MB	723	19-Dec-14	774.01	23-Feb-15	774.01	ADO 11.2014	64
CAS-MB	724	19-Dec-14	2271.67	23-Feb-15	2271.67	PENSIONARI 11.2014	64
CAS-MB	725	19-Dec-14	46384.51	24-Mar-15	46384.51	C+G 11.2014	94

CLIENT	NR. FACTURA	DATA FACTURA	DATORIE	DATA INCASARE	INCASARE	EXPLICATIE	NR. ZILE
CASA OPSNAJ	628	31-Jan-14	386.87	21-May-14	386.87	ONCOLOGIE 01.2014	111
CASA OPSNAJ	631	31-Jan-14	14044.91	22-May-14	14044.91	C+G 01.2014	112
CASA OPSNAJ	629	31-Jan-14	392.28	27-May-14	392.28	ADO 01.2014	117
CASA OPSNAJ	630	31-Jan-14	341.04	27-May-14	341.04	PENSIONARI 01.2014	117
CASA OPSNAJ	640	28-Feb-14	14049.63	25-Jun-14	14049.63	C+G 02.2014	115
CASA OPSNAJ	638	28-Feb-14	246.66	26-Jun-14	246.66	ADO 02.2014	116
CASA OPSNAJ	639	28-Feb-14	762.26	26-Jun-14	762.26	PENSIONARI 02.2014	116
CASA OPSNAJ	643	31-Mar-14	1367.58	22-Jul-14	1367.58	ADO 03.2014	112
CASA OPSNAJ	642	31-Mar-14	74.79	23-Jul-14	74.79	ONCOLOGIE 03.2014	113
CASA OPSNAJ	645	31-Mar-14	21023.37	23-Jul-14	21023.37	C+G 03.2014	113
CASA OPSNAJ	644	31-Mar-14	334.54	30-Jul-14	334.54	PENSIONARI 03.2014	120
CASA OPSNAJ	652	30-Apr-14	409.03	23-Jul-14	409.03	ONCOLOGIE 04.2014	83
CASA OPSNAJ	653	30-Apr-14	208.31	25-Aug-14	208.31	ADO 04.2014	115
CASA OPSNAJ	655	30-Apr-14	16765.73	25-Aug-14	16765.73	C+G 04.2014	115
CASA OPSNAJ	654	30-Apr-14	717.72	28-Aug-14	717.72	PENSIONARI 04.2014	118
CASA OPSNAJ	662	31-May-14	122.08	22-Sep-14	122.08	ADO 05.2014	112
CASA OPSNAJ	664	31-May-14	14832.47	22-Sep-14	14832.47	C+G 05.2014	112
CASA OPSNAJ	663	31-May-14	622.08	29-Sep-14	622.08	PENSIONARI 05.2014	119
CASA OPSNAJ	673	30-Jun-14	16969.22	29-Sep-14	16969.22	C+G 06.2014	89
CASA OPSNAJ	670	30-Jun-14	538.76	21-Oct-14	538.76	ONCOLOGIE 06.2014	111
CASA OPSNAJ	671	30-Jun-14	1132.91	21-Oct-14	1132.91	ADO 06.2014	111
CASA OPSNAJ	672	30-Jun-14	960.62	30-Oct-14	960.62	PENSIONARI 06.2014	120
CASA OPSNAJ	679	31-Jul-14	410.54	23-Oct-14	410.54	ADO 07.2014	113
CASA OPSNAJ	681	31-Jul-14	16738.16	24-Nov-14	16738.16	C+G 07.2014	114
CASA OPSNAJ	680	31-Jul-14	71.98	27-Nov-14	71.98	PENSIONARI 07.2014	117
CASA OPSNAJ	690	31-Aug-14	224.37	25-Nov-14	224.37	ONCOLOGIE 08.2014	85
CASA OPSNAJ	691	31-Aug-14	51.69	25-Nov-14	51.69	ADO 08.2014	85
CASA OPSNAJ	693	31-Aug-14	10851.98	26-Nov-14	10851.98	C+G 08.2014	86
CASA OPSNAJ	692	31-Aug-14	843.55	27-Nov-14	843.55	PENSIONARI 08.2014	87
CASA OPSNAJ	702	30-Sep-14	14394.37	22-Ian-15	14394.37	C+G 09.2014	112
CASA OPSNAJ	699	30-Sep-14	389.18	17-Dec-14	389.18	ONCOLOGIE 09.2014	77
CASA OPSNAJ	700	30-Sep-14	1804.86	18-Dec-14	1804.86	ADO 09.2014	78
CASA OPSNAJ	701	30-Sep-14	857.97	19-Dec-14	857.97	PENSIONARI 09.2014	79
CASA OPSNAJ	708	31-Oct-14	351.83	22-Ian-15	351.83	ADO 10.2014	82
CASA OPSNAJ	710	31-Oct-14	14969.29	22-Ian-15	14969.29	C+G 10.2014	82
CASA OPSNAJ	709	31-Oct-14	317.31	19-Dec-14	317.31	PENSIONARI 10.2014	49
CASA OPSNAJ	718	30-Nov-14	149.58	27-Feb-15	149.58	ONCOLOGIE 11.2014	87
CASA OPSNAJ	719	30-Nov-14	556.87	27-Feb-15	556.87	ADO 11.2014	87
CASA OPSNAJ	720	30-Nov-14	915.78	27-Feb-15	915.78	PENSIONARI 11.2014	87
CASA OPSNAJ	721	30-Nov-14	17640.97	27-Feb-15	17640.97	C+G 11.2014	87
CASA OPSNAJ	726	31-Dec-14	1289.41	25-Mar-15	1289.41	ADO 12.2014	85
CASA OPSNAJ	727	31-Dec-14	263.33	25-Mar-15	263.33	PENSIONARI 12.2014	85
CASA OPSNAJ	728	31-Dec-14	18381.51	25-Mar-15	18381.51	C+G 12.2014	85

Determinants of Trade Credit: A Preliminary Analysis on Construction Sector

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This paper introduces a preliminary analysis of the correlations between trade credit and some selected measures of financial performance for a sample of 958 firms acting in the construction sector. The examined period covers 2004-2013. The sample derived from Amadeus database contains firms that have sold and bought on credit. Results showed that larger firms offered and used more credit than counterparties. Firms offered and used in same time credit, but not in same level. Firms with higher return on assets and profit margin used and offered less credit from suppliers, respectively to clients. Moreover, more liquid firms used less trade payables.

Keywords: trade receivables, trade payables, profitability, firm size, pairwise correlation.

JEL Classification: G30, G32.

1. Introduction

In economies with well-developed financial institutions, firms have many opportunities of funding investment projects and operational activity. Usually, firms choose funding sources with the lowest cost and projects by that yield the highest returns. But, for firms in poorly developed financial markets, the borrowing to the bank is not always a solution due to the creditworthiness conditions. Thus trade credit is an alternative source of funds. Industries with higher dependence on trade credit financing exhibit higher rates of growth in countries with weaker financial institutions, and most of the effect reported comes from growth in the size of pre-existing firms, consistent with barriers to trade credit access among young firms (Fisman and Love, 2003).

In the countries with poorly developed financial institutions, non-state owned firms use more trade credit compared to state owned firms. This higher usage is primarily for financing their prosperous growth opportunities rather than transactional purposes (Ge and Qiu, 2007). Also, poorly performing state-owned enterprises are more likely to redistribute credit to firms with less privileged access to loans via trade credit (Cull *et al.*, 2009).

Firms with direct access to capital markets both extend more and receive less trade credit during a recession (Kohler *et al.*, 2000). Studying the behaviour of trade credit around the time of financial crises, Love *et al.* (2007) found an increase in trade credit at the peak of financial crises, followed by a subsequent collapse of trade credit right after crisis events. Coulibaly *et al.* (2013) explored the extent to which financial conditions contributed to the decline in firms' sales during global financial crisis and found that financial conditions adversely affected sales during the crisis and also, the use of trade credit played an important role in the relative performance of firms.

The concept of trade credit explains relationships between the firm, its customers and suppliers. Petersen and Rajan (1997) described three main theories which explain trade credit. The first theory is financing advantage theories of trade credit, the supplier having an advantage over traditional lenders in investigating the creditworthiness of clients and a better ability to monitor and force repayment of credit. They mention three sources of cost advantages: advantage in information acquisition, advantage in controlling the buyer, and advantage in salvaging value from existing assets.

The second theory related to price discrimination (commercial motives) through trade credit can be explained since credit terms are usually invariant to the credit quality of the buyer, and trade credit

reduces the effective price to low-quality borrowers. If this is the most price elastic segment of the market, then trade credit is an effective means of price discrimination. The third theory of transactions costs (operational motives) is explained by the reduction costs of paying bills through the use of trade credit. Usually, both financial and commercial motives explain the credit behaviour of firms and suppliers act as financial intermediaries in favour of firms with a limited access to bank credit (Delannay and Weill, 2004).

A deep review of trade credit literature, from micro and macroeconomic perspectives, was achieved by Seifert *et al.* (2013). They focused on motives of the studies, countries, characteristics of the sample, different methodology used (as equilibrium models, panel-data regressions, optimization model and survey) and the findings.

Testing the existence of a trade credit channel of transmission of monetary policy, Guariglia and Mateut (2006) found that both the credit and trade credit channels operate in the UK, and that the latter channel tends to weaken the former. Yang (2011) found that during tight monetary periods, trade credit operates mainly as a substitute for bank borrowing, while during looser monetary episodes even when the economy is weak, trade credit and bank loans are dominated by a complementary effect.

Trade credit is the separation between delivery of goods and services and their payments to suppliers (Brennan *et al.*, 1988). Trade credit is not controlled by authorities because of its specific nature of not belonging to bank sectors (Nieuwkerk, 1979). Also, there is no a fixed level of accounts receivable and payable that firm should has, this level being affected by many factors: market structure, stages of business cycles, customers' creditworthiness, suppliers' willingness to price discriminate, and information asymmetry between suppliers and customers (Altunok, 2011).

Some important findings were achieved by panel-data regressions: trade credit offers control benefits in the early stages of a venture (Huyghebaert, 2006), trade credit can be a substitute for loans for firms that were shut out of formal credit markets (Cull *et al.*, 2009); trade credit can be both a substitute for and a complement to bank credit (Chant and Walker, 1988; Yang, 2011), trade credit is a complement to bank credit (Ono, 2001), firms end up using a mix of trade credit and bank loans trade (Yang, 2011), credit reduces treasury uncertainties (Brennan *et al.*, 1988) etc. When lending becomes less severe, the allocation of lending became more efficient, and the amount of trade credit extended by private firms declined (Cull *et al.*, 2009). But, firms with better access to credit offer more trade credit (Petersen and Rajan, 1997).

Small firms increase trade credit, a substitute credit, indicating a strong loan demand; trade credit is widely used by the small firms suffering the loan decline; the reasons large firms use trade credit are financial in nature (Nilsen, 2002). Larger firms, with better access to alternative internal and external financing and with a lower cost, use less credit from suppliers (Garcia-Teruel and Martinez-Solano, 2010; Li, 2011), while firms with greater capacity to obtain resources from the capital markets, and more cheaply, grant more trade credit to their customers in accordance with discrimination theory.

Li (2011) observed that older firms grant less trade credit and resort more to trade credit; smaller firms grant more credit to customers as a way of marketing strategy to increase sales and build long-term relationship with customers; larger firms resort more financing to suppliers as their good reputation and large economic scales. It is observed that firms with high capacity of generating internal cash, offer less trade credit to customers and borrow less from suppliers.

Moreover, firms react by increasing the credit they grant in an attempt to stem falling sales and larger firms, with greater growth opportunities and greater investment in current assets, receive more finance from their suppliers (Garcia-Teruel and Martinez-Solano, 2010).

The effect of financial deepening on the relationship between trade credit and cash holdings show that firms in regions with higher levels of financial deepening hold less cash for payables while substituting more receivables for cash and a more highly developed financial sector helps firms to better use trade credit as a short-term financing instrument (Wu *et al.*, 2012).

Firms use the trade credit channel to manage growth and firms that are more vulnerable to financial market imperfections, and therefore more likely to be financially constrained, rely more on the trade credit channel to manage growth (Ferrando and Mulier, 2013). Also, firms prefer to delay collection from their customers then demand long-term trade credit from their suppliers and firms that present high levels of days-of-sales outstanding and a high probability of insolvency use more trade credit (Bastos and Pindado, 2013), these relations being enhanced during a financial crisis.

Firms offer more trade credit as a marketing strategy to increase sales as the costs of extra trade credit can be offset by high profit margin. Firms with higher turnover, offer less trade credit as they are afraid of losing trade credit sales after product quality assessment. While relating to accounts payable,

firms with high growth resort less financing from suppliers, because they have capability of obtaining external financing including short-term financing debt and long-term debt (Li, 2011).

The profitable private firms are more likely to extend trade credit than unprofitable ones (Cull *et al.*, 2009). Firms with high trade credit located in producer countries have stock returns that are strongly predictable based on the returns of their associated customer countries (Albuquerque *et al.*, 2015).

Highly profitable firms both give and receive less trade credit. Firms with greater access to bank credit offer less trade credit to their customers. On the other hand, firms with higher bank loans receive more trade credit. Holdings of liquid assets have a positive influence on both accounts receivable and accounts payable (Vaidya, 2011).

Bougheas *et al.* (2009) achieved a model that identifies the response of accounts payable and accounts receivable to changes in the cost of inventories, profitability, risk and liquidity and they found that this influence operates through a production channel. Albuquerque *et al.* (2015) developed an asset pricing model in which firms in different countries are connected by trade credit links that offers stronger predictability during periods of high credit constraints and low uninformed trading volume. The aim of this paper is to realize a preliminary analysis on firms acting in the construction sector in order to identify possible correlations of trade credit. The paper contributes to the managerial approach of trade credit and is organized as follows. Section 2 presents the description of variables and data used in the analysis. Section 3 reflects a brief summary statistics and is followed by the pairwise correlations analysis in section 4, and final conclusions in the Section 5.

2. Variables and data description

For our analysis we selected 24 indicators of trade credit and financial performance reflected by profitability, liquidity, gearing, financing, activity and firm size (Table 1). Also, the Table 1 describes the methodology of measuring variables used in sector and correlation analysis.

Table 1. Description of variables

Variables used in correlation analysis	Abbreviation	Description / Calculation
Trade receivables	TR	Accounts receivable / Total assets
Trade payables	TP	Accounts payable / Total assets
ROE using Net income (%)	ROE	(Net income/Shareholder funds) × 100
ROA using Net income (%)	ROA	(Net income/Total Assets) × 100
Profit margin (%)	PM	(Profit before tax/Operating revenue) × 100
Liquidity ratio (x)	LR	(Current assets - Inventories) / Current liabilities
Gearing (%)	GE	((Non current liabilities + Loans) / Shareholders funds) × 100
Measuring firm size	FS	Logarithm of sales
Portion of current assets	CRTS	Current assets / Total assets
Short-term financing	CLTS	Current liabilities / Total assets
Long-term financing	NCRLTS	Non-current liabilities / Total assets
Portion of debtors	DCR	Debtors / Current assets
Portion of creditors	CCR	Creditors / Current liabilities
Other variables used in sector analysis	Abbreviation	Description / Calculation
Current Ratio (x)	CR	Current assets/current liabilities
Collection period (days)	CLP	(Debtors/Operating revenue) × 360
Credit period (days)	CRP	(Creditors/Operating revenue) × 360
Coding firms	Size2	Medium == 0 and large == 1
Number of employees	NO	Annual average number of employees of firms
Working Capital	WKC	Indicates how much capital is used by day to day activities = Inventories + Debtors - Creditors
Creditors	Cr	Debts to suppliers and contractors (trade creditors)
Debtors	Db	Trade receivables (from clients and customers only)
Current Assets	CRA	Total amount of current assets (Stocks + Debtors + Other current assets)

Variables used in correlation analysis	Abbreviation	Description / Calculation
Non-Current Liabilities	NCRL	Long term liabilities of the firm (Long term financial debts + other long term liabilities and provisions)
Current Liabilities	CRL	Current liabilities of the firm (Loans + Creditors + Other current liabilities)
Dividing firms based on size	SZ	Small with number of employees between 0-49; medium 50-249; and large - starting from 250

Source: Bureau van Dijk database (Amadeus database). Abbreviations made by the authors.

The variables were selected by authors, taking into account own considerations and the most used variables in the literature. Related to trade credit measures (TR and TP), Grave (2011) examined trade receivables divided by total assets and trade payables divided by total assets; Alatalo (2010) uses trade credit provided (trade receivables per sales), trade credit obtained (trade credit payables per cost of goods sold) and net trade credit (difference between trade receivables and payables scaled by sales); Ge and Qiu (2007) as a dependent variable use accounts payable/total assets, accounts payable/sales, (accounts payable - accounts receivable)/total assets, (accounts payable - accounts receivable) / sales.

In our study, we examined trade credit using measures as *Accounts receivable / Total assets* and *Accounts payable / Total assets*. For the rest measures of financial performance we used formulas well-known in the financial literature, as can be viewed in table 1.

Data used in our study were exported from Amadeus database, a commercial electronic database provided by Bureau van Dijk. There were selected firms acting in construction sector (buildings, bridges and tunnels, other civil engineering projects, roads and railways, underground railways), between 2004 and 2013, from 8 countries: Belgium, Germany, France and Netherlands (Western European countries); and Romania, Bulgaria, Poland and Hungary (Eastern European countries). The selection of the firms was done using the following criteria: number of employees between 100 and 1000 in the year 2013; sales higher than 1,000 thousand Euros for the year 2013 and non-negative values to the collection period and credit period; the firms have reported data to the interval analysed, and resulted 958 firms with totally 9,580 observations.

Further, data were corrected by some routine checks and were eliminated observations with inconclusive values. After the adjustments totally 8,473 observations remained for the analyses. The case study was used as a research method in the study. Data are organized in the form of unbalanced panel-data because the sample contains firms acting in the construction sector where in the period analysed 2004-2013 was registered a high fluctuation of firms because of founding and liquidation of many firms. Analyses are performed using Stata software package.

3. Summary statistics analysis

In this section we performed a short analysis of the data used. Related to how firms' observations are distributed per country, it can be noticed that Romania (20.64%), France (17.47%), Bulgaria (15.80%) and Belgium (14.76%) are countries with more observations, while rest with less (31.33% together), the lower number of observation being registered by Hungary with 4.59% (Table 2).

Table 2. Distribution of firms' observations on country and NACE code

Country	Firm	NACE code								
		4100	4110	4120	4210	4211	4212	4213	4291	4299
BE	1251		34	833		284	10		60	30
BG	1339		17	721		441	19		28	113
DE	951	40	92	608	9	158	25			19
FR	1480		93	770		463	19	94	6	35
HU	389		24	232		79	25		20	9
NL	472		57	369		27			19	
PL	842		25	454		242	19	53	20	29
RO	1749			1,036		584	24	16	40	49
Total	8473	40	342	5,023	9	2,278	141	163	193	284

Source: authors' calculations

The frequencies per country and NACE (Table 2) show us that majority of observations come from NACE code 4120 (59.28%) and 4211 (26.89%). Many of the observations for firms with NACE code 4120 come from Romania (20.63%). Majority of observations come from unconsolidated (independent) firms (92.62%). Again majority of observations come from Romania (20.64%), followed by France (17.23%), Bulgaria (15.80%), etc.

Initially firms were divided in three categories: small, medium and large. A small firm is considered if number of employees is between 0-49; a medium 50-249; and a large if number of employees is 250, or higher. The sample composition denotes that majority of selected firms are medium (62%), followed then by large firms (27%). Due to lack of information for number of employees some firms couldn't be classified and they are presented as blank (7.27%). For these reasons further analyses are focused just on medium and large firms.

Descriptive statistics presented in the table 3 include: number of observations, mean, standard deviation, minimum and maximum. Examined firms have at least one to maximum 2644 employees over the period analysed, the mean being 232 employees. On average examined firms have 32% trade receivables, whereas trade payables are 24% to total assets. That means studied firms for the examined period have sold more than have bought on credit. This is confirmed also with collection period that is around 83 days whereas credit period is 65 days.

Table 3. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
TR	8473	0.32	0.19	0.00	1.00
TP	8473	0.24	0.18	0.00	0.95
ROE	8345	21.11	54.30	-894.64	965.63
ROA	8447	6.25	9.90	-71.75	85.50
PM	8288	5.10	8.88	-93.61	100.00
LR	8417	1.40	2.35	0.05	92.59
GE	7563	94.47	130.19	0.00	999.76
FS	8298	9.79	1.30	0.45	14.14
CRTS	8473	0.71	0.20	0.01	1.00
CLTS	8473	0.53	0.23	0.00	1.00
NCRLTS	8473	0.14	0.15	0.00	0.99
DCR	8473	0.45	0.23	0.00	1.00
CCR	8473	0.43	0.27	0.00	1.00
CR	8438	1.73	2.52	0.23	97.11
CLP	8235	82.74	70.79	0.00	894.46
CRP	7693	65.32	66.09	0.00	965.54
WKC	7768	6502	29870	-73161	916106
Cr	7836	8033	21367	0	620977
Db	8407	9587	28987	0	927366
CRA	8473	23945	72133	0	1651000
NCRL	8439	5148	25635	0	1274626
CRL	8473	18511	61669	0	1832000
NO	7857	232	194	1	2644

Source: authors' calculations.

Current ratio is on average 1.73 that shows a lower liquidity than favourable values between 2 and 2.5 (Vintilă, 2000). This shows that a reduced capacity to cover current liabilities by current assets. The liquidity ratio on average is 1.40, higher than favourable values between 0.8 and 1 (Vintilă, 2000).

This situation shows a high capacity to cover current liabilities by accounts receivable, financial short-term investments and cash and cash equivalent.

On average, working capital has a positive value, that show inventories and debtors are higher than creditors on short-term. Firms on average are profitable; the profitability is measured by return on equity (21.11%), return on assets (6.25%) and profit margin (5.10%). On average, we can talk about a real profitability, taking into account that the profitability measures are higher than European Union countries inflation rates, in the period 2004-2013, the inflation rate of EU countries being lower than 4% (for more see Eurostat data).

Accounts receivable to current assets on average are 45% whereas accounts payable to current liabilities are 43%. Current assets to total assets are on average 71%. This in turn means that 29% are long-term assets. Current liabilities respectively non-current liabilities to total assets are 53%, respectively 14%. This mean that total assets are financed more with current rather than non-current liabilities. But, overall total assets are financed 67% by liabilities that it means the rest part 33% is financed by capital. Gearing on average is 94.47%. The high percentage of gearing indicates that shareholder funds in comparison with non-current liabilities and loans are enough lower.

4. Correlations analysis

The analysis is continued for detecting correlations between variables selected. Thus, Table 4 shows pairwise correlation results for all countries for selected variables.

As result shows between *TR* and *TP* and *CRTS* there is a significant fairly positive correlation. It means that firms have sold and bought on credit, but not in the same level. A significant positive correlation is between *TR* and *DCR*. Since, *TR* is short-term asset that means an increase of *TR* inevitably increases current assets or portion of debtors to current assets.

There is a slightly significant positive correlation between *TR* and *CLTS* and *CCR* that shows to a lesser extent trade receivables increase when increase the share of current liabilities to total assets and the share of creditors in total current liabilities. This means that firms with higher *TR* have higher current liabilities to total assets ratio and creditors to current liabilities ratio. A slightly significant negative correlation was found between *TR* and *NCRLTS* that shows firms with higher *TR* used less non-current liabilities to total assets ratio. In turn, this means that *TR* is financed more with current rather than non-current liabilities.

A very weak significant negative correlation is between *TR* and *PM*, *GE*, *ROA* and *ROE* while between *TR* and *FS* is a very weak significant positive relationship that means these variables not influence so much the level of trade receivables. Only *PM* has the coefficient -0.1315 and may show that firms with higher trade receivables are less profitable and used less gearing than counterparties. Also, an insignificant correlation was found between *TR* and *LR*.

Larger firms have offered to clients more trade credit than counterparties firms. On the other hand, larger firms have bought more on credit from suppliers than counterparties. Firm's size is more correlated with *TP* than *TR*, but both correlations are weak.

Our results show that firms used trade credit instead of other financial debts but not in a high measure. We found a significant positive relationship between *TP* and *CCR* that show an increase of trade payable when the share of creditors to current liabilities increase. A fairly significant positive correlation is between *TP* and *CLTS* and *CRTS* that show an increase in trade payable determine an increase in the share of current liabilities and respectively current assets to total assets. With other words, when firms use more trade payable may sell more on credit to the customers.

A slightly significant positive correlation was found between *TP* and *FS* while a slightly significant negative relationship was found between *TP* and *NCRLTS* that show the increase in trade payable not increase so much firm's sales while the increase in trade payables not decrease largely the share of non-current liabilities to total assets.

Table 4. Pairwise correlations of variables

	TR	TP	ROE	ROA	PM	LR	GE	FS	CRTS	CLTS	NCRLTS	DCR	CCR
TR	1												
TP	0.4015*	1											
ROE	-0.0329*	0.0296*	1										
ROA	-0.0561*	-0.1715*	0.5254*	1									
PM	-0.1315*	-0.1747*	0.4388*	0.7535*	1								

	TR	TP	ROE	ROA	PM	LR	GE	FS	CRTS	CLTS	NCRLTS	DCR	CCR
LR	-0.0107	-0.1566*	-0.0065	0.0734*	0.1148*	1							
GE	-0.0582*	0.0204	-0.0500*	-0.2315*	-0.1716*	-0.0406*	1						
FS	0.1602*	0.2756*	0.0481*	-0.1023*	-0.0543*	-0.0829*	0.1475*	1					
CRTS	0.4413*	0.4701*	0.1344*	0.0058	-0.0114	0.0339*	0.0008	0.3607*	1				
CLTS	0.3613*	0.6150*	0.0818*	-0.2135*	-0.1947*	-0.3128*	0.1360*	0.2986*	0.5562*	1			
NCRLTS	-0.2293*	-0.2878*	-0.0387*	-0.1370*	-0.0967*	0.0732*	0.5561*	0.0354*	-0.3037*	-0.4033*	1		
DCR	0.8479*	0.1789*	-0.0983*	-0.0659*	-0.1398*	-0.0282*	-0.0559*	0.0045	-0.0227*	0.1202*	-0.0970*	1	
CCR	0.2600*	0.7933*	-0.0229*	-0.0988*	-0.1031*	-0.0122	-0.0933*	0.1358*	0.2690*	0.1444*	-0.1612*	0.1278*	1

* Significance level 5%

TR – trade receivables; TP – trade payables; ROE – return on equity; ROA – return on assets; PM – profit margin; LR – liquidity ratio; GE – gearing; FS – firm's size; CRTS – current assets to total assets; CLTS – current liabilities to total assets; NCRLTS – non-current liabilities to total assets; DCR – debtors to current assets; CCR – creditors to current liabilities.

Source: authors' calculations.

Our analysis shows a very weak significant negative relationship between *TP* and *PM*, *ROA* and *LR* while a very weak significant positive relationship was found between *TP* and *DCR* and *ROE*. These shows when firms increase the use of trade payable, increase in a small extent the use of trade receivable, firms that increase the use of trade payable are less profitable and liquid as show *ROA*, *PM* and *LR*. An insignificant correlation we found between *TP* and *GE*.

Since, *TP* is current liability that means an increase in *TP* inevitably increases portion to current liabilities and hence to total assets. But, also is evidenced that firms with higher *TP* have higher current assets to total assets and debtors to current liabilities ratio. Results are signalling the fairly positive relationship that exist between *TR*, *TP*, their portions to respectively current assets and liabilities, and finally to total assets.

ROE is fairly positive correlated with *ROA* and *PM* that means return on equity increase when firms register an increase in operational profitability. Very weak significant positive correlations were found between *ROE* and *CLTS*, *CRTS* and *FS*, while very weak significant negative correlations we found between *ROE* and *DCR*, *GE*, *NCRLTS* and *CCR*.

Hence, firms with higher *ROE* used less gearing, non-current liabilities to total assets and have lower debtors to current assets, respectively creditors to current liabilities ratio. On the other hand, larger firms have higher *ROE*, lower *ROA*, *PM* and *LR*, and used less more gearing.

ROA is significantly positive correlated with *PM* that shows both indicators reflect the operational profitability of firms. There is a slightly significant negative correlation between *ROA* and *GE* and *CLTS* that means return on assets increase when firms use less debt. Very weak significant negative correlations were found between *ROA* and *NCRLTS*, *FS*, *CCR* and *DCR*, while very weak significant positive correlations we found between *ROA* and *LR*. But, we have also evidence that shows that firms with higher *ROA* are liquid too. Moreover, firms with higher *ROA* used less *GE*, current and non-current liabilities to total assets; and have lower debtors to current assets, respectively creditors to current liabilities.

PM is very weak negative correlated with *CLTS*, *GE*, *DCR*, *NCRLTS* and *CCR* and very weak positive correlated with *LR*. These show that firms with higher *PM* are more liquid. Moreover, firms with higher *PM* used less gearing, current and non-current liabilities to total assets; and have lower debtors to current assets, respectively creditors to current liabilities. For both *ROA* and *PM*, our results show an insignificant correlation with *CRTS*, as well as for *ROE* with *LR*, *LR* with *CCR*, *GE* with *CRTS* and *FS* with *DCR*.

LR has a slightly negative significant correlation with *CLTS* which show that more liquid firms used less current liabilities. There is a very weak significant negative correlation between *LR* and *FS*, *GE* and *DCR* while there is a very weak significant positive correlation between *LR* and *NCRLTS* and *CRTS*. Thus, more liquid firms used less gearing, have higher current assets to total assets and non-current liabilities to total assets. Moreover, more liquid firms have lower current liabilities to total assets, and lower debtors to current assets.

For *GE* we found a fairly significant positive correlation with *NCRLTS*, that means *GE* increase when firms has a high share of long-term debts in total assets. Our results show a very weak significant positive correlation between *GE* and *FS* and *CLTS* that means firms that use more gearing increase selling on credit. Very weak significant negative correlations were found between *GE* and *CCR* and *DCR*

which show that firms that used more gearing have lower debtors to current assets, respectively creditors to current liabilities.

FS is slightly significant positive correlated with *CRTS* and *CLTS*, and very weak with *CCR* and *NCRLTS*. This means that larger firms have higher current assets, current and non-current liabilities to total assets, and higher creditors to current liabilities ratios. *CRTS* is fairly positive correlated with *CLTS*, and slightly with *CCR* that show that firms use more current assets when use more current liabilities, especially trade payables. *CRTS* is slightly negative correlated with *NCRLTS*, and very weak with *DCR* that show that firms use more current assets when use less long-term debts and trade receivables.

CLTS is fairly negative correlated with *NCRLTS*, and very weak positive correlated with *DCR* and *CCR* that show firms use more current liabilities when use less long-term debts and use more trade receivables and payables. *NCRLTS* is very weak negative correlated with *DCR* and *CCR* that show also, firms use more long-term debts when use less trade receivables and payables. *DCR* is very weak positive correlated with *CCR* that show firms use more trade receivables when use more trade payables.

Trade credit as a concept is not isolated from other financial and economic measures. Hence, knowing some others indicators is welcomed and better interpretations can be given. Results show that selected firms have more short-term than long-term assets, i.e. 71% versus 29%. On the other hand, assets are financed 53% by short-term liabilities, 14% long-term percent and rest part of course is capital. So, firms are financed more with debt rather than capital.

5. Conclusions

Considering the features of sample selected, the characteristics of the countries studied, of the constructions sector, and world economy evolution with its influence in the economy of the countries in the period analysed, the results of our study suggest that: firms with higher trade receivables are less profitable whereas Cull *et al.* (2009) found that the profitable private firms are more likely to extend trade credit than unprofitable ones; larger firms have provided and obtained more trade credit than medium firms; more profitable firms have used less gearing; firms with higher profit margin are more liquid; more liquid firms have used less gearing; there are no significant differences for trade receivables and payables between medium and larger firms.

Related to the effects of financial performance indicators, we can conclude by the study that *TR* and *TP* are correlated by the same factors and approximately in the same direction. Results denoted that selected firms on average sold more than bought on credit. Profitable firms offered less credit, while more liquid firms used less credit from suppliers. Firms with higher current assets and current liabilities to total assets ratios offered and used in same time more credit than counterparties.

The preliminary analysis performed helps us to continue the study of the construction sector, using more advanced methodology in the next researches on trade credit and financial performance of firms.

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References

1. Albuquerque, R., Ramadorai, T., Watugala, S.W. (2015). "Trade credit and cross-country predictable firm returns", *Journal of Financial Economics*, Vol. 115, Issue 3, pp. 592–613, DOI:10.1016/j.jfineco.2014.10.007
2. Alatalo, R. (2010). "Trade credit use during a financial crisis: evidence from the U.K. of a non-existing trade credit channel", Aalto University, School of Economics.
3. Altunok, F. (2011). "Determinants of trade credit contract terms", North Carolina State University.
4. Bastos, R., Pindado, J. (2013). "Trade credit during a financial crisis: A panel data analysis", *Journal of Business Research*, Vol. 66, Issue 5, pp. 614–620, DOI:10.1016/j.jbusres.2012.03.015
5. Bougheas, S., Mateut, S., Mizen, P. (2009). "Corporate trade credit and inventories: New evidence of a trade-off from accounts payable and receivable", *Journal of Banking and Finance*, Vol. 33, Issue 2, pp. 300–307. DOI:10.1016/j.jbankfin.2008.07.019
6. Brennan, M.J., Maksimovic, V., Zechner, J. (1988). "Vendor financing", *Journal of Finance*, Vol. 43, Issue 5, pp. 1127–1141.
7. Chant, E.M., Walker D.A. (1988). "Small business demand for trade credit", *Applied Economics*, Vol. 20, pp. 861–876.

8. Coulibaly, B., Saprizza, H., Zlate, A. (2013). "Financial frictions, trade credit, and the 2008–09 global financial crisis", *International Review of Economics & Finance*, Vol. 26, pp. 25–38, DOI:10.1016/j.iref.2012.08.006
9. Cull, R., Colin Xu, L., Zhu, T. (2009). "Formal finance and trade credit during China's transition", *Journal of Financial Intermediation*, Vol. 18, Issue 2, pp. 173–192, DOI:10.1016/j.jfi.2008.08.004
10. Delannay, A.F., Weill, L. (2004). "The determinants of trade credit in transition countries", *Economics of Planning*, Vol. 37, Issue 3-4, pp. 173-193.
11. Ferrando, A., Mulier, K. (2013). "Do firms use the trade credit channel to manage growth?", *Journal of Banking and Finance*, Vol. 37, Issue 8, pp. 3035–3046. DOI:10.1016/j.jbankfin.2013.02.013
12. Fisman, R., Love, I. (2003). "Trade credit, financial intermediary development and industry growth", *Journal of Finance*, Vol. 58, pp. 353–374.
13. Garcia-Teruel, P. J., Martinez-Solano, P. (2010). "A dynamic perspective on the determinants of accounts payable", *Review of Quantitative Finance and Accounting*, Vol. 34, Issue 4, pp. 439-457.
14. Ge, Y, Qiu, J. (2007). "Financial development, bank discrimination and trade credit", *Journal of Banking and Finance*, Vol. 31, Issue 2, pp. 513–530, DOI:10.1016/j.jbankfin.2006.07.009
15. Grave, Th. (2011). "Trade credit as a shock absorber?: The effects of the financial crisis on the use of trade credit by Dutch manufacturing firms". University of Twente.
16. Guariglia, A., Mateut, S. (2006). "Credit channel, trade credit channel, and inventory investment: Evidence from a panel of UK firms", *Journal of Banking and Finance*, Vol. 30, Issue 10, pp. 2835–2856, DOI:10.1016/j.jbankfin.2005.11.002
17. Huyghebaert, N. (2006). "On the determinants and dynamics of trade credit use: empirical evidence from business start-ups", *Journal of Business Finance and Accounting*, Vol. 33, Issue 1&2, pp. 305–328.
18. Kohler, M., Britton, E., Yates, T. (2000). "Trade credit and the monetary transmission mechanism", Bank of England, London.
19. Li, X. (2011). "Determinants of Trade Credit: A Study of Listed Firms in the Netherlands", Master Thesis in Business Administration, School of Management and Governance University of Twente, The Netherlands, http://essay.utwente.nl/62672/1/Determinants_of_trade_credit_0922_final.pdf.
20. Love, I., Preve, L.A., Sarria-Allende, V. (2007). "Trade credit and bank credit: Evidence from recent financial crises", *Journal of Financial Economics*, Vol. 83, Issue 2, pp. 453–469, DOI:10.1016/j.jfineco.2005.11.002.
21. Nieuwkerk, M. van (1979). "Domestic and foreign trade credit in the Netherlands". *Journal of Banking and Finance*, Vol. 3, Issue 1, pp. 83-105.
22. Nilsen, J.H. (2002). "Trade credit and the bank lending channel". *Journal of Money, Credit, and Banking*, Vol. 34, pp. 226–253, DOI: 10.1353/mcb.2002.0032.
23. Ono, M. (2001). "Determinants of trade credit in the Japanese manufacturing sector", *Journal of the Japanese and International Economies*, Vol. 15, pp. 160–177.
24. Petersen, M.A., Rajan, R.G. (2007). "Trade Credit: Theories and Evidence", *Review of Financial Studies*, Vol. 10, Issue 3, pp. 661-669.
25. Seifert, D., Seifert, R.W., Protopappa-Sieke, M. (2013). "A review of trade credit literature: Opportunities for research in Operations", *European Journal of Operational Research*, Vol. 231, Issue 2, pp. 245–256, DOI:10.1016/j.ejor.2013.03.016.
26. Vaidya, R.R. (2011). "The Determinants of Trade Credit: Evidence from Indian Manufacturing Firms", *Modern Economy*, Vol. 2, pp. 707-716.
27. Vintilă, G. (2000). *Gestiunea financiară a întreprinderii, Didactică și Pedagogică Publishing House, Bucharest, 2000.*
28. Wu, W., Rui, O.M., Wu, C. (2012). "Trade credit, cash holdings, and financial deepening: Evidence from a transitional economy", *Journal of Banking and Finance*, Vol. 36, Issue 11, pp. 2868–2883, DOI:10.1016/j.jbankfin.2011.04.009.
29. Yang, X. (2011). "Trade credit versus bank credit: Evidence from corporate inventory financing", *The Quarterly Review of Economics and Finance*, Vol. 51, Issue 4, pp. 419–434, DOI:10.1016/j.qref.2011.07.001.
30. *** Euro Area Inflation Rate, available at <http://www.tradingeconomics.com/euro-area/inflation-cpi>, accessed on 10 April 2016.

Annual Financial Statements – the Final Products of Accounting

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Being a tool and a first class social stake in decision making, accounting language should be understood by all users in the national area, but also across national borders, which requires an internationalization of accounting language through standardization and harmonization. The expansion and multiplication of international economic relations in which commodity and capital markets are expanding at a rapid pace, ignoring national borders, due to globalization process, require that the accounting systems should ensure through the financial statements (balance sheet, profit and loss account, statement of changes in equity, cash flow statement, accounting policies and explanatory notes) accounting information comparable between countries.

Accounting has been accused often that submits inaccurate or useless information, that accounting assessment rules are inadequate and arbitrary, that a company's book value does not represents its market value, that information given are about the past, not about the future of the company.

Allegations of accounting are often unjustified, it provides what is required, it is not an exact science, it is dependent on the economic and social environment, on the company's ways of governance, on the legal system, on the dominant factors in an economy and on the way how is divided the power between different economic actors.

As the expression value of those items, the accounting theory and practice have demonstrated the possibility of using more assessment bases: evaluation of historical cost, market value assessment, evaluation of current values.

In the assessment area it was reached to one consensus: there is no absolute evaluation method, any kind of evaluation takes place in a particular context, aims certain goals, which requires choosing a particular basis of assessment. Thus, experts are trying to justify the choice of either method, showing their advantages and limitations in relation to the pursued objective.

The accounting, whether it operates with market values or uses historical costs, does not allow the "real" assessment, of the business assets, globally. Between exchange value of the shares and the book value of the company there are important differences that are not easily accepted by non-specialists, being discussed the relevance and reliability of accounting information.

The information provided by accounting operating with different assessment bases are different on a time horizon, each type of assessment provides a different view on the company.

Choosing assessment base is not random, but is another way by which economic actors (in a company) manifest and share power.

The traditional function of accounting is management function, wherethrough administrator presents to the owner how to manage the entrusted assets.

The financial-accounting information users range was widened with increasing interventionism in the economy, the state being interested in the financial reports of entities for taxation and regulation of market mechanisms. Changing social attitudes brought to the fore the fact that large companies have relatively obligation to inform employees and the consuming public. The employees are interested in the stability and profitability of the company, its ability to provide salaries and jobs. Suppliers and lenders want to know the opportunity to continue relations with the company concerned and the

general public needs information to assess the impact of the company's activity on the local economy. Therefore, users are multiple and the accounting information must satisfy these multiple requirements, the management goods control function moving to a secondary place.

Studies related to the conceptual framework of accounting agree that financial statements are prepared to provide basic information necessary for users to make economic decisions. There is consensus about the fact that to make economic decisions, financial statements users must assess a company's ability to generate availability, same as timing and certainty of their generation. This shift towards users needs should have consequences in terms of evaluation. Whereas the primacy is granted to financial information as support of decision-making and the fact that these decisions concern the future or at least the present, hence it appears that assessment of the historical cost, although objectively, is not relevant.

Different users have different information needs while the financial market represents the main mean of attracting capital; the conceptual structures believes that investors group has priority in the supply of information to the company. However, the management of a company is very reserved when to publish information about future profits, information useful to an investor. Ignoring the managers' behavior in terms of an informational system that puts investors first, shows a lack of vision. In case of interest conflicts between different users, it is important to know that these financial statements, designed for the needs of investors, are not always relevant to other users. For example, when closing a business, investors' interest may lead executives to delay news to minimize cost of operation.

The conceptual structures developed by ASB and FASB agree that the main qualitative characteristics of financial information are relevance (pertinence) and objectivity. IASC indicates four main features, namely: understandability, relevance, objectivity and comparability. ASB believes intelligibility as a secondary characteristic of financial information, so that the information about complex situations should not be excluded from the financial statements because they are difficult to understand for some users.

The information presented in the financial statements summary is relevant because has predictive power and / or can confirm the correctness of a decision based on that information (amount of feedback). The error-free financial information is objective or reliable, neutral, prudent and reflects the substance and not the form of the transaction. The neutrality of financial statements consists in developing them in the way to not induce decisions to achieve a predetermined goal. The exercise of prudence does not require undervaluation of assets and income or overstatement of liabilities and expenses. If the use of prudence leads to the creation of occult reserves or excessive provisions, the accounting information loses its neutrality and also the objectivity. ASB believes that "the exercise of prudence has resulted in a degree of skepticism with respect to the impact of uncertainty which counterbalances any tendency to optimism." It is believed that this approach denies caution in formulating accounting rules that failed to annihilate trend than "natural" management to overstate assets, the net result of these two trends is the "real thing".

The comparability of financial information allows comparisons both in time, by studying past and present financial statements, and between businesses. The consequences of this fact are obvious: notification of any changes in accounting method and presentation, along with information of current year, with restated information on the previous exercise. The intelligible attribute of the user requires a reasonable level of financial and accounting knowledge and willingness to study the information presented.

Both, the IASC and the ASB, identifies three "constraints" or "compromises" relative to the qualitative characteristics of financial information. The time factor and the cost and benefit ratio of obtaining information are aspects that can cancel relevance of information when it can not be obtained in a timely manner or when the effort to provide it is disproportionately large to the benefits of publication. The potential conflict between relevance and objectivity of financial information requires a compromise between these two features. ASB and IASC propose a balance between relevance and objectivity, neutrality and caution, choosing between features being a matter of professional judgment.

Users are facing with sometimes divergent perspectives and they express divergent viewpoints (i.e. perspectives and points of view of workers and trade unions, consumers and shareholders are, not in few cases, contradictory).

Because of uniqueness principle balance action, there will always be a common set of information, structured in synthetic documents. It is what we might call general purpose financial information. The question is whether this type of information adequately respond to information

needs of different user groups. The negative answer requires us to discern a second type of information, which we will call it for private use, intended for a given category of users.

The accounts formulator has three places to present relative information, primarily, to financial position, performances and cash movements of the enterprise:

- in the body of synthetic documents;
- in additional notes;
- in a supplement information.

The synthetic documents constitute a formal and structured mean of communication. An information item can be present in the synthetic documents if it answer to the heading definition and satisfy a number of criteria for recognition (finding) and evaluation (measurement). At the same time, he must have been entered in the accounting records and have been passed through double entry accounting system.

The additional notes, generally, give explanations or details concerning the details of the synthetic documents. If the information contained in the synthetic documents provides an incomplete picture of the financial position, performance and cash movements of enterprise, the information necessary to complete overview of the images related to the entity described will be presented in the notes. It is not imperative that the information presented in the notes to be purely numeric. It can be supplied in current language. As an example of the additional notes, we can quote: describing accounting policies (conventions), describing the processing (treatments) used for measuring and accounting items presented in the synthetic documents, relative explanations to uncertainties and contingencies and statistics or details that deals too much space to be incorporated into the synthesis documents. Information presented on the notes is not only useful, but also it can be essential in understanding the relative data to the wealth and enterprise activities.

The supplement information includes data showing a different perspective from that of the synthetic documents. In this regard, it may be regarded to very relevant numerical information, but less believable (reliable) or to useful information, but not essential. The best example of additional information comes to a situation where an enterprise is confronted with price increases (inflation). The "supplement" refers to data and images showing the effect of changes in prices (indexed historical cost and the actual costs information). Also, the information supplements may contain explanations of company management regarding financial data and an analysis of their significance.

The synthetic accounting documents are retrieved under the name of financial statements. Moreover, for reasons of terminology uniformity, it will be used especially the financial statements term (and less annual accounts and synthetic documents terms). A complete set of financial statements includes the following components:

- a) the balance sheet;
- b) the profit or loss account;
- c) a statement showing:
 - either all changes in equity;
 - either the variations in equity, except those from capital transactions to owners and distributions in their favor;
- d) the cash flow;
- e) the accounting policies and explanatory notes.

Beyond these financial statements, enterprises are encouraged to provide critical management points of view by describing and explaining the main features of the financial performance and financial position and the principal uncertainties they face. This report should include the following elements:

- the main factors and influences which determine performance, including changes in the environment in which an enterprise operates, its reply to such changes and effects, its policy for investment to maintain and improve the performance of which, separately, are appropriate to present policy on dividends;
- the funding sources of enterpris, the policy on indebtedness rate and management policy in terms of risk;
- the solidity of the enterprise and its resources, elements of which value expression is reflected in the balance sheet in accordance with international accounting referential.

Furthermore, businesses can submit additional statements such as environmental reports and value added statements especially where these represents industries where environmental factors are significant and employees are considered an important user group.

In terms of information selection presented in the financial statements, the accounting practices consist of providing those elements that are so important as to influence professional judgment and therefore decisions of knowledgeable users. The selection is governed by the principle of materiality action or good information. This principle recognizes that the nature and scope of the information presented in the financial statements arising very often from a series of compromises. The manufacturer accounts must catalyze efforts to produce situations sufficiently detailed to present all aspects that can influence the judgment of users, and sufficiently fused to be easily read and interpreted by a balance between costs preparation, presentation and publication, on the one hand, and the benefits provided by the use of statements, on the other hand.

The objective of financial statements is to provide information about the financial position, performance and changes in financial position of the company, which is useful to a wide range of users in making economic decisions.

Financial statements prepared for this purpose meet the common needs of most users. However, financial statements do not provide all the information they need for making economic decisions since they largely reflect the financial effects of past events and do not provide, ordinarily, non-financial information.

The financial position of an enterprise is influenced by:

- a) economic resources they control;
- b) its financial structure;
- c) its liquidity and solvency;
- d) the ability to adapt to changes in the operating environment.

Information about the economic resources controlled by the enterprise and its capacity in the past to modify these resources are useful to predict the company's ability to generate cash or cash equivalents in the future.

The information about financial structure are useful for anticipating future lending needs and the way in which future profits and cash flows will be distributed among those who have an interest in the enterprise.

The information about liquidity and solvency are useful to predict the company's ability to honor its outstanding financial commitments. The liquidity refers to the availability of cash in the near future after taking into account the financial obligations associated with this period. The solvency concerns on cash over a longer period in which to honor outstanding financial commitments.

The information on financial position are provided primarily by the "balance sheet".

The financial statements users need information in the decision making about the enterprise performance and, in particular, about its profitability. It is necessary to assess potential changes in the economic resources that the company will be able to control them in the future. Also, these information are useful for anticipating enterprise's ability to generate cash flows to existing resources and to formulate judgments about the effectiveness with which the company can use the new resources.

The information related to performance are provided primarily by the "profit and loss account".

The knowledge of changes in financial position of an enterprise is useful to assess its operating, financing and investment activities in the reporting period. These information provide the user a basis for evaluating the company's capacity to generate cash or cash equivalents and the needs of the enterprise to utilize those cash flows.

The information about changes to the financial position are provided by the "statement of cash flows".

The financial statements components interrelate because they reflect different aspects of the same transactions or other events.

The company's financial objectives and goals can be approached from different points of view. A first approach aims at maximizing profits by streamlining financial decisions, which is reflected in the increase of wealth undertaking positive impact on shareholder value of shares and shareholders' wealth. From another perspective, the management, the objectives and purposes are primarily aimed at achieving economic growth, financial stability and financial liquidity.

The analysis, as self-contained scientific system, using information provided by financial statements and relying on its own methodology, interprets all these information with the purpose of economic and financial objectives proposed to undertake the firm.

Towards financial analysis, the financial statements information should be supplemented with additional information regarding the specific business, technical and human potential, market potential, intensity of competition and the company's market position, the company's image and its products, etc.

The financial analysis aims to determine how to achieve the financial balance and cash accumulation stages, the profitability of his business.

The balance sheet, as synthetic document, which shows the company's financial position is used in the financial analysis in two respects, namely:

- static; and
- dynamic.

In *static* point of view, balance sheet is considered as an important data source for assessing the overall financial situation of an undertaking, in particular, its solvency.

For a *dynamic* analysis, it shall proceed to a restatement of property items based on the fundamental circuits of the business and achieve operational balance that highlights resources and their uses.

Conclusions

The economic and financial performance of an enterprise is a particularly important issue for both the undertaking concerned and for external users of financial statements information provided in general and especially in the income statement.

The economic and financial transactions that occur within an enterprise are reflected in the financial statements as stocks and flows. Stocks have a temporary or lasting impact on the financial balance, on necessary funds for operations management and on the company's solvency. The financial flows have a direct influence on the financial results of the company.

The financial flows take the form of revenue and expenditure for the financial year. They are generated by the activity performed by any enterprise and are presented as operating flow, cash flow and extraordinary flow. The structure of a business activity on three levels allows to present indicators of profit or loss account and allows, on this basis, the establishment of indicators known as **intermediate management balances**.

Bibliography

1. Albu, N., Albu, C., *Performance management tools*, Economica Publisher, Bucharest, 2010
2. Caraiani, C., Dumitrana, M., *Accounting and Management Control*, InfoMega Publisher, Bucharest, 2004
3. Cernusca, L. – *Accounting policies and strategies*, Economica Publisher, Bucharest, 2004
4. Epuran, M., Babo, V., Grosu, C., *Accounting and Management Control*, Economica Publisher, Bucharest, 2009
5. Florinel, M., Sgârdea, *Management Control*, Academy of Economic Sciences Publisher, Bucharest, 2009

Abbreviations

FASB - **Financial Accounting Standards**

ASB - Accounting Standards Board

IASC - International Accounting Standards Committee

The Main Aspects of Implementing the Accumulation Function by the Financial Markets of European Countries

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Significant changes, which happened in the last decades in the structure of the society as a whole and in its economic and financial fields in particular, have determined the necessity of creating new modern analysis tools. In the article, using elaborated by the author indicative and functional method of assessment of financial market development, it is performed the analysis of realization of accumulation (mobilization) function by the capital market and banking sector institutions, both in terms of economic recovery, and in times of crisis.

Keywords: economic growth, financial market development, system of indicators, indicative and functional approach, commercial banks, capital market

JEL Code: G1, G2

1. Introduction

Research of any field of economic activity, collection and analysis of full and objective information, which timely reflects both positive tendencies and negative processes, are impossible to perform without a scientifically based *indicator system*, which necessitates serious methodological and analytical studies and existence of relevant tools. This assessment must rely on the analysis of the market's structure and its dynamics, on the system of generalizing indicators of function, development, as well as on evaluation and management of corresponding risks.

In the last decades appeared a significant number of researches, dedicated to the assessment of the level of capital market development and determination of the degree of their influence upon the national economic growth [1, 4, 5]. The research of such scientific literature demonstrates the lack of a *single concept* on the analysis tools used by authors, which does not allow the performance of generalization and comparative analysis of the results obtained within these articles. This issue clearly appears especially in cases, when it is performed market analysis of countries, with different levels of economic development.

As Stiglitz J. etc. noted "There have been many attempts at building indicators of sustainable development... The situation therefore appears to be characterized by an excess bounty, rather than by scarcity. But this is not necessarily good news, especially when different indicators provide diverging messages" [9, p. 5].

2. Aims of research

The aim of this research consists in the elaboration, under existing analysis methods, of a new methodology of estimation of financial market development of developing countries, including the Republic of Moldova, and of evaluation of their influence upon the national economy, both in the conditions of its growth and in crisis periods.

3. Research theoretical aspects

The performance of study of modern empiric and theoretical researches has revealed that in order to solve this task, it is best to apply the approach, which allows with the help of the systemic methodology to bring to light the level of development of capital market and banking sector, through evaluation of the degree of their influence upon the development of economy, based on the estimation of realization by corresponding markets of their peculiar functions.

For the first time the possibility of evaluating the level of financial systems development through the study of realization by financial markets of their peculiar functions, was declared in the research of Levine R., where he has highlighted five basic functions of financial systems: facilitate the trading,

hedging, diversifying, and pooling of risk, allocate resources, monitor managers and exert corporate control, mobilize savings, facilitate the exchange of goods and services [7, p. 697].

Subsequently, in his scientific researches this scientist has developed this direction of analysis. For instance, in the research from 2013, Levine R. and others have ascertained the functions of financial systems, which determine the level of their financial development: "At a broader level, financial development can be defined as improvements in the quality of five key financial functions: (1) producing and processing information about possible investments and allocating capital based on these assessments; (2) monitoring individuals and firms and exerting corporate governance after allocating capital; (3) facilitating the trading, diversification, and management of risk; (4) mobilizing and pooling savings; and (5) easing the exchange of goods, services, and financial instruments" [8, p. 6].

Also, an attempt was made during this research to highlight categories of indicators, allowing performing the evaluation of financial development. Particularly, the authors of the work have made this attempt "to construct measures of four important characteristics of financial systems: (1) depth; (2) access; (3) efficiency, and (4) stability" [8, p. 8].

But the indicator system, which could allow estimating the realization by financial systems of their peculiar functions, still was not proposed.

According to the author of this article, the main disadvantage of the abovementioned analysis methods was the fact that: 1) an entire range of main functions of financial systems was not set out; 2) financial development of financial systems was examined separately from the evolution of main indicators of economic development of the countries analyzed. Thus, it was impossible to objectively evaluate the degree of effectiveness of the researched financial systems' functioning, and the influence they have upon the national economic growth.

4. Proposed research method

The performed research of modern approaches to highlighting the main functions of the financial market as a whole and of the capital market, as one of its basic components [8, 11, 12], as well as the author's personal scientific researches [10], have allowed underlining (suggesting) the following functions of financial systems:

General market functions: price forming function; information function; commercial function; regulating function.

Specific functions: accumulation (mobilization) function; investment function; redistributive function (function of assuring the best capital allocation); function of influence on currency circulation; privatization function; anti-inflationary or saving function; function of speeding up of capital circulation; insurance function; regulatory (supervision) function; diversification function; function of corporate management upgrading and investors' interest protection; social function; integration function.

Taking into account the large range of financial instruments, circulating on the contemporary financial market and multitude of actors, who perform their activity there, which significantly adds complexity to the task of fulfilling the single aggregate evaluation, with the aim of ensuring the *comprehensive analysis* of the financial market under the *synthesis of instrumental and institutional* aspects of research, the author suggests using the *indicative and functional approach*, created by him [10], which allows *studying the level of development* of the financial market by means of *assessing the level of its influence upon the national economic growth*.

It is suggested to perform a research with such influence from two aspects:

- from the aspect of *quantity* or *quality* evaluation of the realization de facto by the market of any given function;

- from the aspect of evaluation of *existence* on the national open market of *objective assumptions*, favoring the realization of the function examined.

For the evaluation of realization by the financial market of its functions in the national economy, by using the *indicative and functional approach*, under the generalization of indicators, which are more examined in scientific literature, as well as of indicators, used within the analysis of financial markets by international organizations as the International Monetary Fund [6], Bank of International Settlements [3], European Central Bank [2] etc., it is proposed:

1. The evaluation of performance by the market of the *accumulation and investment functions*, must be executed by using:

- *absolute indicators*, like: number of emissions, volume of means, engaged in primary markets of financial debt and equity instruments, volume of engaged bank deposits and given credits, which can be analyzed additionally, depending on the aims of research. For example, within the performed

analysis, the fulfilled emissions can be studied in the section: of sector profile of the issuer, way of distributing capitals (closed emissions, public emission), bank deposits can be studied depending on the terms of deposit (fixed deposits, recurring deposits, tax saving deposits etc.), types of banking credits (secured, unsecured etc.), earning power during distribution, credit interest rates. The structure of investors can be studied depending on: the country of their origin (national and foreign investors); ownership ratios (majority and minority owners); the type of investors (state, corporate, individual).

- *relative indicators*, allowing evaluating the participation of the primary capital market and banking sector in the economic growth, by means of determining their shares in the formation of any given macroeconomic indicator, like: ratio of volume of capital, attracted in stock and/or bond markets in GDP, volume of foreign investments in GDP, volume of capital obtained as result public initial offering (IPO)/GDP, as well as bank deposits/GDP, market capitalization + debt outstanding + domestic credit/GDP, domestic credit provided by the financial sector/GDP, domestic credit to private sector/GDP etc.

The perspectives of increase of volumes' growth engaged on the financial market of capital, can be evaluated through analysis of existence of: a wide range of financial instruments available for investment, effectively working financial intermediaries, total assets of credit institutions (MFIs)/GDP, evolution of market concentration (CR5 and Herfindahl index), developed infrastructure, legislative framework, which ensures protection of investors' rights, transparency and stability of market etc.

2. The realization by the national financial market of the *redistributive function (function of assuring the best capital allocation)* is proposed to evaluate:

- *by absolute indicators*: number and volume of exchange transactions performed in the section of separate types of securities, number and volume of contracts and transactions for derivatives, number and volume of signed agreements (contracts) for banking credits and deposits, number and value of daily (weekly) transactions in the different financial instruments, average bid-ask spread, intermediation costs liquidity of the financial market, number of companies included in listing, market tightness, speed of its reaction, dynamics of exchange capitalization and indexes, bank assets;

- *relative indicators*: volume of trades / GDP in the section of types of securities, market capacity (relation of the average daily number of sale-purchase operations to the total volume of securities, allowed for circulation on the market), share on the market of ten companies with a greater part of capitalization and transactions volume, share on the market of ten banks with a greater part of capitalization (operation volume), as well as bank assets/GDP, number of per capita banking operations (credit cards issued etc.), evolution of Lerner indexes of market power (relative banking margins) for different banking products (loans to non-financial firms, loans to households, consumer loans, overnight deposits, time deposits) etc.

3. Performance by the financial market of the *privatization function*, is proposed to be made, using the following indicators: volume of state auctions exposed for privatization, their ratio in privatized JSCs, types and methods of privatization (auctions, IPO), placement volumes, price relation – par value / offer price / market value etc.

4. Realization by financial market of the *insurance function* is determined by the existence of derivative financial instruments, as well as other modern innovation instruments, allowing transforming uncertainty into risk (for instance, security mechanism). Its quantity evaluation can be performed under the analysis of: number and volume of signed agreements (contracts) on derivatives, on secured requirements etc.

5. Fulfillment of the *anti-inflationary or saving function*, characterizes: the difference between the average revenue obtained by the investor from operations with securities, revenue from bank deposits and level of inflation, difference between the growth rates of the stock index and growth rates of consumer prices, cost to income ratio, as well as the correlation of earning power of debt and equity instruments, bank deposits to central bank's interest rates.

6. Realization of the *function of speeding up of capital circulation* can be evaluated through the level of depositing infrastructure development, calculations and clearance of funds, payments and settlements systems (for credit transfers, direct debt, cards payments, cheques, bank orders), number of ATM and POS per inhabitant.

7. Accomplishment by the market of the *social function* characterizes: structure of property on equity capital (share of individual investors and so on), the volume and types of households' funds deposited with the banks, the volume and types of households' banking credits (loans, credit card, installment credit, service credit, revolving credit etc.), number of branches of banks/thousand population, retail payments transactions per capita, the volume of loans to non-financial firms, loans to

households, consumer loans, loans for house purchase, effectiveness of institutional investors' work, level of investment culture and financial capability of the population etc.

8. Fulfillment of the *function of corporate management upgrading and investors' interest protection* can be determined by the level of institutional development of the financial market, its ability to ensure imminence of agreements' (contracts) respect, high degree of investors' rights protection. The performance of this function can be considered effective, if the managerial staff ensures the company's growth of income and its fair distribution, which characterizes: return on equity, payout ratio, investment yield in funds, price/ earnings ratio. The implied indicator can be the share fraction, freely circulating on the market (free float);

9. Realization of the *regulating and monitoring or supervision function* characterizes: the level of development of self-regulating and state regulating institutes, formal rules and non-binding norms, ensuring transparency and stability of the capital market, protection of investors from manipulations and fraudulent practices, in conditions of equal and just attitude towards all of the market's actors etc.

10. Accomplishment of the *integration function* can be evaluated under the progress: international debt issuances (liabilities) over total debt issuances, debt investments (assets) and debt issuances (liabilities) in total foreign debt, investment funds debt holdings issued by other countries, global indicator of financial integration (foreign assets+foreign liabilities)/GDP, breakdown by intra (Eurozone/EU-15) and extra (rest of the World), cross-country inequalities (standard deviation) in interest rates of different banking products (loans, overnight deposits, time deposits), cross-border banking activity as percentage of total banking activity (domestic + cross-border) in different products (noninterbank deposits, interbank deposits, loans to non-financial firms etc.), domestic presence (number of firms) in national markets of foreign financial institutions, market share of foreign firms, internationalization of the portfolio composition of investment funds, indicators of β - and σ -convergence etc.

5. Research empirical aspects

In order to ascertain the main aspects of implementing the accumulation and investment function by the financial markets of European countries, including the Republic of Moldova, it was calculated for the period of 2005-2014 the share of capital, engaged throughout bank credits, stock issues, and corporate bonds of European countries in national GDP.

Financial markets of European states with developed capital markets took part in the analysis: Austria, Germany, Great Britain, Spain and states with developing markets: Bulgaria, Czech Republic, Romania, Poland and Republic of Moldova (figure 1, 2, 3). The indicators of Great Britain were analyzed for the years 2008-2014, pursuant to the lack of open access to corresponding data for the previous years.

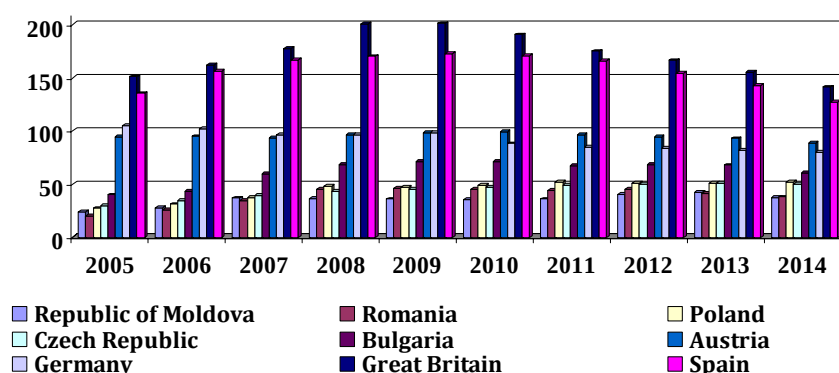


Figure 1. Capital share, engaged throughout bank credits in GDP, %

Source: developed by the author on the basis of [14].

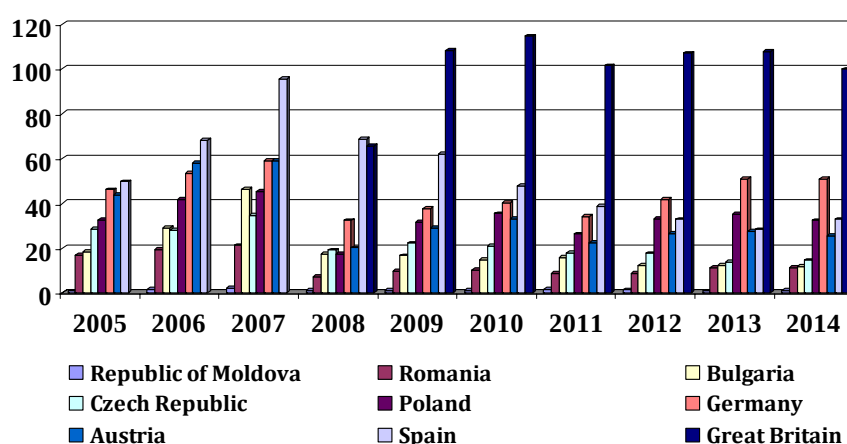


Figure 2. Capital share, engaged on stock markets in GDP, %

Source: developed by the author on the basis of [13, 15].

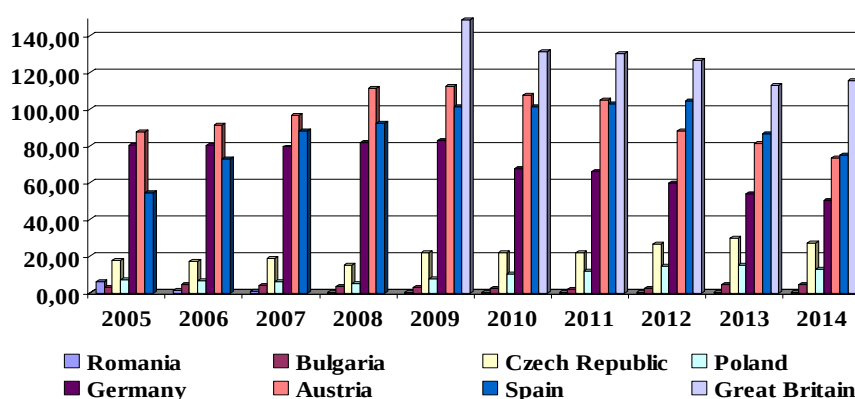


Figure 3. Capital share, engaged on non-state obligations markets in GDP, %

Source: developed by the author on the basis of [15].

The research on implementing the accumulation and investment function by the financial markets of European countries and Republic of Moldova demonstrates that the capital share, engaged throughout bank credits in GDP of the analyzed countries significantly exceeds the volumes of attracted capital on stock markets and non-state obligation markets, and reaches 150% in Great Britain and Spain, 100% in Germany and Austria, and in developing countries the figures of this indicator varies between 35% and 50%.

In this context, in the periods of financial crisis, in comparison with the markets of developed countries, the share of investments attracted in economy through bank credits in GDP of developing states has changed insignificantly. It should be noted that the meaning of this indicator for the Republic of Moldova weighs with indicators of other European developing states.

The capital share engaged on the stock market in the national GDP of the majority of European states is significantly lower than the share of bank credits, and even in the periods of economic growth it does not exceed 50%. Except Great Britain – a state where the capital market plays a traditionally important role in attracted capital in economy, and Spain, with maximum indicators of capital share, engaged on the stock market in GDP – 115% and 90%, respectively. In the Republic of Moldova the stock market share in GDP is insignificant and generally consists of no more than 1,5%.

The volume of capital, obtained by companies on the market of non-state obligations in GDP of European developed and developing countries significantly differs, and if during periods of economic growth in developed states this indicator exceeded 80%, in many developing countries it did not even reach 20%. If we take into account the fact that in the calculation also took part obligations, issued by financial corporations, it can be concluded that for corporate obligations this indicator is lower. There are no non-state obligations in the Republic of Moldova.

The results, obtained within the preparation of this article, in many aspects coincide with the results, obtained in the research [5], where it was determined that in the years 2000-2006 capital volume, attracted on the European market of corporate obligations has increased twice – from 797 billion US dollars up to 1500 billion US dollars. Although, after 2006 this indicator's decrease was recorded, which meaning in 2013 did not exceed 1000 billion US dollars. Altogether, the general number of European companies issuing obligations has increased from 623 in 2000 until 798 in 2013.

Germany's share in an aggregate volume of corporate bonds issued by European states, from 2001 to 2013 has decreased twice - to 19%, while the share of the Czech Republic and Poland has increased, and the share of Great Britain has changed insignificantly.

The volume of capital engaged during placement of bonds, issued by nonfinancial corporations in relation to financial institutes, has increased. The share of investments attracted by companies on stock markets in a general volume of the engaged capital in the economy of the majority of European countries, has increased, but in many countries it is less than 35% from the engaged assets.

Altogether, it can be noted that small and middle-size companies of European states suffer from the lack of possibility of engaging long-term debts on financial markets [5].

6. Conclusion

The analysis of main aspects of implementing the accumulation and investment function by the financial markets of European countries and Republic of Moldova demonstrates that the main share in attracted capital in the economy of the studied countries (except Great Britain) comes from bank crediting. The latter has an especially great impact upon the economic growth of European developing countries. The main factors establishing the dominant role of banks in the development of these countries' economy can be named the following: historically formed structure of the financial market, significant share in the national business of small and middle-sized enterprises, and the insufficient level of institutional development.

Among all the studied countries the minimal role in the implementation of the accumulation and investment function belongs to the capital market of the Republic of Moldova.

One of the main reasons of a low trust of potential investors (contributors) in the safety of performing investments on the financial market of the Republic of Moldova, are repeated violations, which took place on this market in the last years.

Taking into account the abovementioned facts, with the aim of recovering the trust of both large (including foreign) and retail investors (including medium-sized and small-sized enterprises and natural persons), we consider that it is necessary to accomplish in the very near future a range of activities, contributing to the increase of reliability, transparency and effectiveness of the national financial market. We recommend continuing improving the systems of regulation, supervision and control on the capital market of the Republic of Moldova in accordance with the legislative framework of the European Union, principles and recommendations of international designated organizations. During the fulfillment of the abovementioned activities, particular attention should be granted to the implementation of best practices of financial markets of European states with developing economy, which for a short period of time have worked their way up from planned to market economy, and have ensured the accordance of national markets with the requirements of the European Union.

More upgraded supervision and regulation will contribute to the stimulation of competence and transparency on the financial market, will ensure a more flexible and timely settlement of conflicts, will assist in the increase of quality of financial services and decrease of their cost, will prevent corruption in the distribution of loan capital, creating conditions for attracting significant volume of capital in the national economy.

References

1. ADAROV, A., TCHARIDZE R. *Development of Financial Markets in Central Europe: the Case of the CE4 Countries. In: IMF Working Paper. WP/11/101, May 2011*
2. AGRESTI, A., BAUDINO, M., POLONI, P. *The ECB and IMF indicators for the macro-prudential analysis of the banking sector a comparison of the two approaches, ECB, occasional paper series, no 99/november 2008*
3. BIS, *Indicators to Support Monetary and Financial Stability Analysis: Data Sources and Statistical Methodologies, Proceedings of the Seventh IFC Conference, 4-5 September 2014, IFC Bulletin, No 39, 2015*
4. FITZGERALD, V. *Financial development and economic growth: a critical view, Oxford University, Background paper for World Economic and Social Survey 2006*
5. GIOVANINI, A., MAYER, C., MICOSSY, S., DI NOIA, C., ONADO, M., PAGANO, M., POLO, A. *Restarting European Long-Term Investment Finance. A Green Paper Discussion Document, CEPR Press, 2015*

6. IMF, BIS, ECB. *Handbook on securities statistics* International Monetary Fund, Bank for International Settlements, European Central Bank. Washington, D.C.: International Monetary Fund, 2015
7. LEVINE R. *Financial Development and Economic Growth: Views and Agenda* *Journal of Economic Literature* Vol. XXXV. June 1997, pp. 688–726
8. LEVINE, R., ČIHÁK, M., DEMIRGUC-KUNT, A. FEYEN, E. *Financial development in 205 economies, 1960 to 2010. National Bureau of economic research, 1050, Massachusetts Avenue Cambridge, MA 02138, April 2013, Working Paper 18946*
9. STIGLITZ, J., SEN, A., FITOUSSI, J. *The measurement of economic performance and social progress revisited* OFCE N° 2009-33, december 2009, Available: <http://www.ofce.sciences-po.fr/pdf/dtravail/WP2009-33.pdf>
10. БИЛЮКАЯ, С. *Развитие рынка ценных бумаг Республики Молдова в контексте европейской финансовой интеграции* (Securities Market Development in the Republic of Moldova in the Context of European Financial Integrations), PhD dissertation, Chisinau, 2015. 149 p.
11. МИРКИН, Я. *Российский рынок ценных бумаг: влияние фундаментальных факторов, приоритеты и механизм развития.* post-doctoral dissertation, Moscow, 2003. Available: <http://www.mirkin.ru/>
12. ЖЕЛЕЗНОВА, Н., ХЫНКУ, Р., ЖЕЛЕЗНОВА, Е. *Основы функционирования рынка капитала. (manual)*, Chisinau, ASEM, 2011, 318 p.
13. NCFM, *Annual Reports, 2007-2014 з.з.* [online]. Available: <http://www.cnpf.md/md/rapa/>
14. WORLD BANK, *Indicators.* [online]. Available: <http://data.worldbank.org/indicator>
15. ECB, *Statistical Data Warehouse,* [online]. Available: <https://sdw.ecb.europa.eu/browse.do?node=17119>

Impact of the NYSE Shocks on the European Developed Capital Markets

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This paper explores the impact of the large stock prices increases (positive shocks) and decreases (negative shocks) from the New York Stock Exchange on the returns and volatility of some European developed capital markets. We found that more than a half of shocks from these European stock markets were related to the shocks from US capital market. The results of GARCH models suggest that only the negative shocks from New York Stock Exchange increased the volatility of the European developed capital markets.

Keywords: Shocks, International stock markets linkages, Volatility transmission

JEL Classification: F30, G14, G15

1. Introduction

The study of the linkages among international capital markets is useful from the perspective of stock prices prediction and of the financial risk management by international portfolio diversification. The significant positive correlation of stock returns is among the main premises of some models applied in the prediction of stocks returns. On the other hand, the international portfolio diversification strategies are based on the premise of weak linkages between the evolution of domestic and foreign assets prices (Grubel, 1968; Levy & Sarnat, 1970; Grauer & Hakansson, 1987; French & Poterba, 1991; De Santis & Gerard, 1997). In the last decades, the financial integration strengthened the linkages among the international capital markets (Brennan & Cao, 1997; Stulz, 1999; Bekaert et al, 2002; Kaminsky & Schmukler, 2003; Goetzmann et al, 2005; Bekaert et al, 2009). Obviously, this evolution increased the role of the prediction based on linkages between capital markets but hampered the international portfolio diversification strategies.

Together with the expected returns, the stock prices volatility is one of the main aspects of the decisions to invest in capital markets (Poterba & Summers, 1984; French et al, 1987; Engle & Ng, 1993; Glosten et al, 1993). In the financial integration context, the volatility transmission among the international capital markets intensified (Hamao et al, 1990; King & Wadhwani, 1990; Solnik et al, 1996; Miyakoshi, 2003).

Some researches focused on the particularities of the co-movement of international financial market in stressful circumstances. They found that, during turbulent periods, the linkages between international markets could suffer significant changes (Lee & Kim, 1993; Forbes & Rigobon, 2002; Bae et al, 2003; Connolly & Wang, 2003; Barberis et al, 2005; Lasfer et al, 2007; Ehrmann, 2011). The large stock prices increases or decreases, known as positive or negative shocks, are among the main symptoms of the turbulent periods. Such shocks could influence the investors, inducing them behaviors that are significantly different to those from quiet periods (Longin & Solnik, 2001; Lasfer et al, 2003; Rigobon, 2003; Menezes & Dionísio, 2011; Charles & Darné, 2014). In these circumstances, a shock from an important international market, such as the New York Stock Exchange (NYSE), which usually generates many breaking news in the international mass media, could significantly affects the returns and the volatility of other developed and emerging markets.

In this paper we approach the impact of NYSE shocks on some European developed capital markets between 2007 and 2015. The period of the analysis was marked by some significant crisis, such as the Financial Crisis of 2007-08, the European Debt Crisis of 2010-2012 or the Great Recession of 2008-2012, which induced substantial turbulences on the capital markets (Schwert, 2011; Kotkatvuori -Örnberg et al, 2013). We investigate the influence of the shocks of Dow Jones Industrial

Average (DJIA), one of the most representative indexes of NYSE, on the returns and volatility of some indexes from European developed capital markets.

The rest of the paper is organized as follows: the second part describes the data and methodology employed to investigate the impact of NYSE shocks on European developed capital markets, the third part presents the empirical results and the fourth part concludes.

2. Data and Methodology

In our investigation on the impact of NYSE shocks on the European capital developed markets we employ the closing daily values of eight indexes: Dow Jones Industrial Average (DJIA) from NYSE, AEX from the Euronext Amsterdam, ATX from the Vienna Stock Exchange, BEL 20 from Euronext Brussels, CAC 40 from the Euronext Paris, DAX from the Frankfurt Stock Exchange, FTSE 100 from the London Stock Exchange and SMI from SIX Swiss Exchange. The sample of data, provided by Yahoo! Finance, covers the period January 2007 – December 2015. During this period for all the eight stock markets the ascendant and descendant trends alternated (Figure 1).

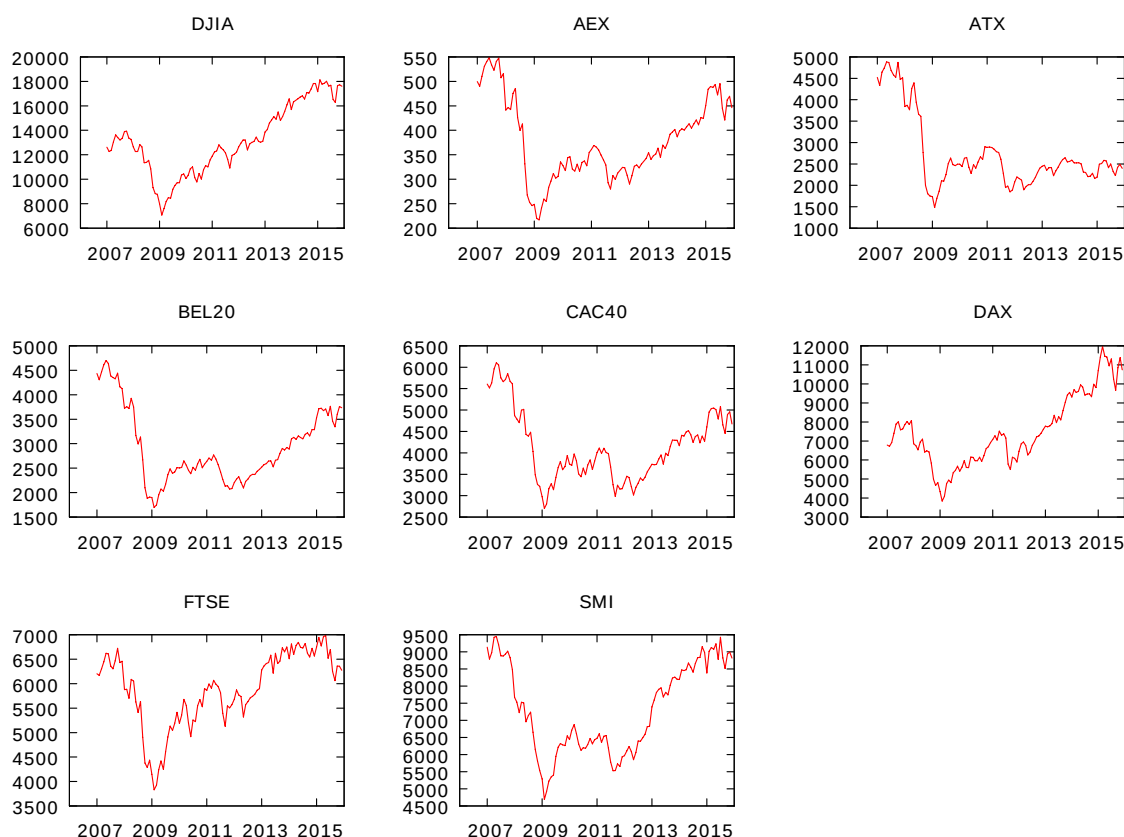


Figure 1 - Evolutions of eight indexes between 2007 and 2015

For each index, we compute the simple return ($R_{i,t}$), expressed in percents, by the formula:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \times 100 \quad (1)$$

where P_t and P_{t-1} are the closing values of the index i on the days t and $t-1$, respectively.

Table 1 – Descriptive statistics of the eight indexes simple returns

Index	Mean	Median	Minimum	Maximum	Standard Deviation	Skewness	Excess kurtosis	Jarque-Bera test
DJIA	0.019	0.053	-7.873	11.080	1.254	0.095	10.052	9692.1***
AEX	0.005	0.036	-9.145	10.548	1.455	0.045	7.803	5838.7***
ATX	-0.014	0.033	-9.745	12.773	1.750	0.018	5.287	2600.3***
BEL 20	0.002	0.021	-7.983	9.660	1.367	0.041	5.621	3034.8***
CAC 40	0.004	0.033	-9.037	11.176	1.455	0.045	7.803	3379.5***
DAX	0.032	0.076	-7.164	11.402	1.490	0.218	6.179	3667.1***
FTSE 100	0.008	0.005	-8.848	9.839	1.275	0.056	7.666	5711.6***
SMI	0.007	0.033	-8.671	11.391	1.219	-0.015	8.562	6989.1***

The descriptive statistics of the eight indexes simple returns reveal some differences among them. DAX and DJIA have the largest averages of the returns, while the mean for the ATX returns is negative. ATX and DAX experienced the largest volatility, while DJIA and SMI have the smallest standard deviations. The values of the Jarque-Bera test suggest the non-normality of the returns for all eight indexes (Table 1).

For each index, we consider that a positive shock occurs when the simple return is larger than 1%, while a negative shock occurs when the simple return is lower than -1%. We consider that a shock from a European capital market is related to a shock from NYSE that occurs in the same days or preceded it by less than two working days.

We investigate the impact of NYSE shocks on the volatility of seven European capital markets by GARCH models with two dummy variables:

- PS_t , taking value one if in the day t a positive shock occurs on NYSE and zero otherwise;
- NS_t , taking value one if in the day t a negative shock occurs on NYSE and zero otherwise.

We test the stationarity of the eight indexes returns using Augmented Dickey – Fuller (ADF) unit root tests with intercept as deterministic term (Dickey & Fuller, 1979). The number of lags of ADF regressions is chosen by Akaike (1973) Information Criteria. The classic GARCH model includes two equations expressing the conditional mean and the conditional variance equation (Engle, 1982; Bollerslev, 1986).

The first equation has the form:

$$R_{i,t}^{EUR} = \mu_0 + \mu_1 \times PS_t + \mu_2 \times NS_t + \sum_{k=1}^n (\xi_k * R_{i,t-k}^{EUR}) + \varepsilon_t \quad (2)$$

where:

- $R_{i,t}^{EUR}$ is the simple return of the European index i ;
- μ_0 is a constant term;
- μ_1 is a coefficient which reflects the impact of the positive shocks on the $R_{i,t}^{EUR}$;
- μ_2 is a coefficient which reflects the impact of the negative shocks on the $R_{i,t}^{EUR}$;
- ξ_k is a coefficient of the k -order lagged simple returns of the European index;
- n represents the number of lagged simple returns of the European index;
- ε_t is the error term.

The number of lags is chosen by Akaike (1969) Final Prediction Error Criterion.

The conditional variance equation has the form:

$$\sigma_{i,t}^2 = \omega + \nu_1 \times PS_t + \nu_2 \times NS_t + \sum_{k=1}^q \alpha_k * \varepsilon_{t-k}^2 + \sum_{l=1}^p (\beta_l * \sigma_{t-l}^2) \quad (3)$$

where:

- σ_t^2 is the conditional variance of the $R_{i,t}^{EUR}$;
- ω is a constant term;
- ν_1 is a coefficient which reflects the impact of the positive shocks on the $R_{i,t}^{EUR}$ volatility;
- ν_2 is a coefficient which reflects the impact of the negative shocks on the $R_{i,t}^{EUR}$ volatility;
- α_k ($k = 1, 2, \dots, q$) are the coefficients associated to the squared values of error term lagged values from the conditional mean equation;
- q is the number of error term lagged values;
- β_l ($l = 1, 2, \dots, p$) are coefficients associated to the lagged values of the conditional variance;
- p is the number of lagged values of conditional variance.

The values of q and p are chosen by Akaike (1973) Information Criteria.

For each GARCH model we investigate the presence of the ARCH in the errors by performing Lagrange Multiplier (LM) tests.

3. Empirical Results

The numbers of shocks identified for DJIA and the seven European indexes are presented in the Table 2. The positive and negative shocks from DJIA are less numerous than those from the European indexes.

Table 2 - Positive and negative shocks identified for the eight indexes

Index	Positive shocks	Negative shocks
DJIA	315	321
AEX	411	393
ATX	514	487
BEL 20	423	397
CAC 40	456	455
DAX	442	424
FTSE 100	348	357
SMI	333	331

For each European index, we found that more than a half of the positive shocks were related to positive DJIA shocks (Table 3). Most of them occurred in the same days with the shocks from US capital market.

Table 3 - Positive shocks of European indexes related to positive NYSE shocks

Index	Positive shocks occurring in the same days with a positive NYSE shock	Positive shocks preceded with one working day by a positive NYSE shock	Positive shocks preceded with two working days by a positive NYSE shock	Number of positive shocks of the European index related to positive NYSE shocks
AEX	181	87	14	282
ATX	149	113	21	283
BEL 20	159	86	32	277

Index	Positive shocks occurring in the same days with a positive NYSE shock	Positive shocks preceded with one working day by a positive NYSE shock	Positive shocks preceded with two working days by a positive NYSE shock	Number of positive shocks of the European index related to positive NYSE shocks
CAC 40	196	74	28	298
DAX	189	85	22	296
FTSE 100	159	76	24	259
SMI	152	86	19	257

More than a half of the negative shocks of European indexes are related to negative NYSE shocks (Table 4). Most of them occurred in the same days with the negative shocks of DJIA.

Table 4 - Negative shocks of European indexes related to negative NYSE shocks

Index	Negative shocks occurring in the same days with a negative NYSE shock	Negative shocks preceded with one working day by a negative NYSE shock	Negative shocks preceded with two working days by a negative NYSE shock	Number of negative shocks of the European index related to negative NYSE shocks
AEX	194	88	22	304
ATX	157	122	31	310
BEL 20	140	94	34	268
CAC 40	209	88	17	314
DAX	189	92	25	306
FTSE 100	162	90	21	273
SMI	149	109	29	287

The results of the ADF tests, presented in the Table 5, indicate the stationarity of the eight indexes returns.

Table 5 - Results of ADF tests for the indexes returns

Index	Number of lags	Test statistics
DJIA	17	-11.8212***
AEX	16	-10.8495***
ATX	26	-8.3738***
BEL 20	17	-11.3930***
CAC 40	4	-23.9825***
DAX	4	-22.9976***
FTSE 100	5	-21.6143***
SMI	6	-20.6271***

Note: *** means significant at 0.01 level.

The parameters of the GARCH conditional mean equations suggests the significant impact of the dummy variables PS_t and NS_t on the simple returns of seven European indexes (Table 6).

Table 6 - Coefficients of the GARCH conditional mean equations

Index	μ_0	μ_1	μ_2	ξ_1
AEX	0.0576*** (0.0202)	1.1725*** (0.0663)	-1.2708*** (0.0706)	x
ATX	0.0328 (0.0293)	0.8751*** (0.0859)	-0.9438*** (0.1010)	0.0439** (0.0214)
BEL 20	0.0496** (0.0207)	0.9097*** (0.0689)	-0.9325*** (0.0771)	x
CAC 40	0.0626*** (0.0231)	1.3413*** (0.0730)	-1.4830*** (0.0775)	x
DAX	0.0904*** (0.0215)	1.2405*** (0.0750)	-1.3750*** (0.0797)	x
FTSE 100	0.03705** (0.0188)	0.9328*** (0.0591)	-1.0765*** (0.0693)	x
SMI	0.0362** (0.0178)	0.9316*** (0.0522)	-0.9330*** (0.0626)	0.0517*** (0.0199)

Notes: Standard errors are in brackets; ***, ** mean significant at 0.01 and 0.05 levels, respectively.

The coefficients of the GARCH conditional variance equations indicate, for the volatility of each European index simple returns, a significant impact of the variable NS_t (Table 7). Instead, no significant influence of the variable PS_t was revealed.

Table 7 - Coefficients of the GARCH conditional variance equations

Index	ω	v_1	v_2	α_1	β_1	ARCH LM tests for the residuals of GARCH models
AEX	0.0305*** (0.0093)	0.0008 (0.0482)	0.3489*** (0.0854)	0.1029*** (0.0169)	0.8355*** (0.0262)	7.0041
ATX	0.0400** (0.0188)	-0.1036 (0.0805)	0.2937*** (0.112)	0.0874*** (0.0230)	0.8844*** (0.0327)	16.8242
BEL 20	0.0389*** (0.0141)	0.0285 (0.0450)	0.3769*** (0.1218)	0.1224*** (0.0196)	0.813494*** (0.0360)	12.2058
CAC 40	0.0548*** (0.0161)	-0.0084 (0.0718)	0.4772*** (0.1082)	0.1065*** (0.0189)	0.8182*** (0.0292)	8.6007
DAX	0.0415*** (0.0141)	-0.0283 (0.0602)	0.4139*** (0.1025)	0.0939*** (0.0157)	0.8433*** (0.0270)	14.1774
FTSE 100	0.0279*** (0.0093)	0.0158 (0.0275)	0.3057*** (0.0884)	0.1157*** (0.0190)	0.8215*** (0.0328)	12.0615
SMI	0.0386*** (0.0096)	-0.0600 (0.0371)	0.4316*** (0.0835)	0.1143*** (0.0215)	0.7933*** (0.0329)	17.3741

Notes: Standard errors in brackets; ***, ** mean significant at 0.01 and 0.05 levels, respectively.

4. Conclusions

In this paper we investigate the impact of NYSE shocks on the returns and volatility of seven European developed capital markets between 2007 and 2015. More likely, some circumstances of this period, especially the crisis, influenced the impact of NYSE shocks on the European stock markets.

We found that more than a half of the shocks from these European stock markets were related to DJIA shocks. The GARCH model results also suggest a significant impact of the DJIA shocks on the European developed capital markets simple returns. In these circumstances, NYSE shocks could be employed in the short term forecast of the European developed stock markets evolutions. They could be also used in the identification of buy or sell signals for some investment strategies.

The GARCH models revealed that negative DJIA shocks increased the volatility of the European developed capital markets simple returns, while the positive shocks had no significant effects on the conditional variance. These results, which suggest that investors are more sensitive to the bad news from NYSE than to the good news, should be taken into consideration in the analysis of the risks associated to short term investments on the European developed stock markets.

References

1. Akaike, H. (1969). Fitting autoregressive models for prediction. *Annals of the Institute of Statistical Mathematics*, 21(1), 243-247.
2. Akaike, H. (1973). Information theory and an extension of the maximum likelihood principle, in B. Petrov and F. Csáki (eds), *2nd International Symposium on Information Theory*, Akadémiai Kiadó, Budapest, 267-281.
3. Bae, K. H., Karolyi, G. A. & Stulz, R. M. (2003). A new approach to measuring financial contagion. *Review of Financial Studies*, 16(3), 717-763.
4. Barberis, N., Shleifer, A. & Wurgler, J. (2005). Comovement. *Journal of Financial Economics*, 75(2), 283-317.
5. Bekaert, G., Harvey, C. R. & Lumsdaine, R. L. (2002). Dating the integration of world equity markets. *Journal of Financial Economics*, 65(2), 203-247.
6. Bekaert, G., Hodrick, R. J. & Zhang, X. (2009). International stock return comovements. *The Journal of Finance*, 64(6), 2591-2626.
7. Bollerslev, T. (1986). Generalized autoregressive conditional heteroskedasticity. *Journal of Econometrics*, 31(3), 307-327.
8. Box, G. E. P., Jenkins, G. M. & Reinsel, G. C. (1994), *Time Series Analysis, Forecasting and Control*, Third Edition, Prentice Hall, Englewood Cliffs, New Jersey.
9. Brennan, M. J. & Cao, H. H. (1997). International portfolio investment flows. *The Journal of Finance*, 52(5), 1851-1880.
10. Charles, A. & Darné, O. (2014). Large shocks in the volatility of the Dow Jones Industrial Average index: 1928–2013. *Journal of Banking & Finance*, 43, 188-199.
11. Connolly, R. A. & Wang, F. A. (2003). International equity market comovements: Economic fundamentals or contagion?. *Pacific-Basin Finance Journal*, 11(1), 23-43.
12. De Santis, G. & Gerard, B. (1997). International asset pricing and portfolio diversification with time-varying risk. *The Journal of Finance*, 52(5), 1881-1912.
13. Dickey, D. A. & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association*, 74(366a), 427-431.
14. Dumitriu, R. & Stefanescu, R. (2015), Volatility Transmission from S&P 500 to the Bucharest Stock Exchange Indexes, *Vanguard Scientific Instruments in Management*, 10 (1), 19-31.
15. Engle, R. F. (1982). Autoregressive conditional heteroscedasticity with estimates of the variance of United Kingdom inflation. *Econometrica: Journal of the Econometric Society*, 987-1007.
16. Engle, R. F. & Ng, V. K. (1993). Measuring and testing the impact of news on volatility. *The Journal of Finance*, 48(5), 1749-1778.
17. Ehrmann, M., Fratzscher, M., & Rigobon, R. (2011). Stocks, bonds, money markets and exchange rates: measuring international financial transmission. *Journal of Applied Econometrics*, 26(6), 948-974.
18. Forbes, K. J., & Rigobon, R. (2002). No contagion, only interdependence: measuring stock market comovements. *The Journal of Finance*, 57(5), 2223-2261.
19. French, K. R. & Poterba, J. M. (1991). Investor diversification and international equity markets. NBER Working Paper No. 3609.
20. French, K. R., Schwert, G. W. & Stambaugh, R. F. (1987). Expected stock returns and volatility. *Journal of Financial Economics*, 19(1), 3-29.
21. Glosten, L. R., Jagannathan, R. & Runkle, D. E. (1993). On the relation between the expected value and the volatility of the nominal excess return on stocks. *The Journal of Finance*, 48(5), 1779-1801.
22. Goetzmann, W. N., Li, L., & Rouwenhorst, K. G. (2005). Long-term global market correlations, NBER Working Paper No. 8612.
23. Grauer, R. R., & Hakansson, N. H. (1987). Gains from international diversification: 1968–85 returns on portfolios of stocks and bonds. *The Journal of Finance*, 42(3), 721-739.

24. Grubel, H. G. (1968). *Internationally diversified portfolios: welfare gains and capital flows*. *The American Economic Review*, 58(5), 1299-1314.
25. Hamao, Y., Masulis, R. W. & Ng, V. (1990). *Correlations in price changes and volatility across international stock markets*. *Review of Financial Studies*, 3(2), 281-307.
26. Hartmann, P., Straetmans, S. & De Vries, C. G. (2004). *Asset market linkages in crisis periods*. *Review of Economics and Statistics*, 86(1), 313-326.
27. Kaminsky, G., & Schmukler, S. (2003). *Short-run pain, long-run gain: the effects of financial liberalization*, NBER Working Paper No. 9787.
28. King, M. A., & Wadhwani, S. (1990). *Transmission of Volatility between Stock Markets*. *Review of Financial Studies*, 3(1), 5-33.
29. Kotkatvuori-Örnberg, J., Nikkinen, J. & Äijö, J. (2013). *Stock market correlations during the financial crisis of 2008–2009: Evidence from 50 equity markets*. *International Review of Financial Analysis*, 28, 70-78.
30. Lasfer, M. A., Melnik, A., & Thomas, D. (2003). *Stock Price Reaction in Stressful Circumstances: An International Comparison*. *Journal of Financial Economics*, 40.
31. Lasfer, M., Lin, S. & Muradoglu, Y. G. (2007). *Market Behaviour of Foreign Versus Domestic Investors Following a Period of Stressful Circumstances*. *The Second Annual Conference on Asia-Pacific Financial Markets (CAFM) of the Korean Securities Association (KSA)*.
32. Lee, S. B., & Kim, K. J. (1993). *Does the October 1987 crash strengthen the co-movements among national stock markets?*. *Review of Financial Economics*, 3(1), 89.
33. Levy, H., & Sarnat, M. (1970). *International diversification of investment portfolios*. *The American Economic Review*, 668-675.
34. Ljung, G. M., & Box, G. E. (1978). *On a measure of lack of fit in time series models*. *Biometrika*, 65(2), 297-303.
35. Longin, F., & Solnik, B. (2001). *Extreme correlation of international equity markets*. *The Journal of Finance*, 56(2), 649-676.
36. Menezes, R., & Dionísio, A. (2011). *Globalization and long-run co-movements in the stock market for the G7: An application of VECM under structural breaks*. *Chinese Science Bulletin*, 56(34), 3707-3716.
37. Miyakoshi, T. (2003). *Spillovers of stock return volatility to Asian equity markets from Japan and the US*. *Journal of International Financial Markets, Institutions and Money*, 13(4), 383-399.
38. Poterba, J. M. & Summers, L. H. (1984). *The persistence of volatility and stock market fluctuations*. NBER Working Paper No. 1462 (Also Reprint No. r0820).
39. Rigobon, R. (2003). *On the measurement of the international propagation of shocks: is the transmission stable?*. *Journal of International Economics*, 61(2), 261-283.
40. Schwert, G. W. (2011). *Stock volatility during the recent financial crisis*. NBER Working Paper No. 16976.
41. Solnik, B., Boucrelle, C. & Le Fur, Y. (1996). *International market correlation and volatility*. *Financial Analysts Journal*, 52(5), 17-34.
42. Stefanescu, R. & Dumitriu, R. (2015). *Impact of the Shocks from NYSE on the Romanian Capital Markets*. *Risk in Contemporary Economy*, 371-376.
43. Stulz, R. M. (1999). *Globalization, corporate finance, and the cost of capital*. *Journal of Applied Corporate Finance*, 12(3), 8-25.
44. Taylor, S. J. (1994). *Modeling stochastic volatility: A review and comparative study*. *Mathematical Finance*, 4(2), 183-204.

Corporate Social Responsibility between the Aim and the Reality of Implementation in the Romanian Companies

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Taking into account the reality of the latest EU regulations regarding the non-financial reporting [1, European Parliament, 2014], according to which the companies with more than 500 employees will have to publish relevant information regarding environmental and social aspects inside their annual reports, the current study aims to identify the extent to which the Romanian entities are preoccupied with corporate social responsibility (CSR).

Keywords: corporate social responsibility, Romanian entities, the sample, public policies.

JEL classification: F02, M14

1. Introduction

The CSR concept has been approached in various forms, ranging from "a commitment to improve community well-being through discretionary business practices and contribution of corporate resources" [2, R. Kotler and N. Lee, 2005], "continuous commitment of the business to behave ethically and to contribute to the economic development by improving the quality of the labour force and the community" [3, R. Watts and L. Holmes, 1999 cited in R. Sims, 2003], to "the process by which managers within an organization think about and discuss relationships with stakeholders as well as their roles in relation to the common good, along with their behavioral disposition with respect to the fulfillment and achievement of these roles and relationships" [4, K. Basu and G. Palazzo, 2008] and "doing well by doing good" [5, B. L. Rawlins, 2005]. Aside from the variety of approaches, the basic premise from which CSR starts is that profits, people and environment can be harmonized inside a strategic corporate approach, so that the company becomes viable from an economic point of view, socially responsible and careful to ecological aspects. The features typical to the CSR process show the complexity of the phenomenon considered, as it follows:

- ✓ CSR as a process requires that entities willingly adopt measures by means of which they contribute to the settlement of social and ecological problems;
- ✓ CSR actions are not assimilated to mere donations of money during some charity events, as the element making the difference between CSR and charity is precisely the strategy developed by the organization in terms of its involvement in the community, while from the partnership relation which is created everyone has something to gain;
- ✓ CSR actions undertaken by organization are not an optional *accessory* of their main activities, but a way of making business;
- ✓ between the CSR phenomenon and the sustainable development process there is a strong connection, as the current business includes the economic, social and environmental impact in all the actions performed.

The European initiative of CSR allows for making operational the notion of sustainable development for entities. In a practical way, the term of corporate social responsibility is associated to the concept of "*triple-bottom-line*": *economic prosperity, environmental respect, social cohesion respect and improvement*. Consequently, the development of a firm is represented by the existence of the following objectives: an *economic* one (creating wealth for everyone, on the basis of production means and a lengthy consumption), an *ecological* one (the resources preservation and management) and a *social* one (equity and participation of all social groups).

At an international level, CSR has already become a part of current business. Reputed international companies invest important shares from their turnover in these kinds of social programs. The budgets allocated by organizations for the development of partnerships with the community often reach quotas which, at a first glance, seem unreal. However, these amounts represent a safe investment in the opinion of the managers of the companies involved, generating significant results for the business. The importance and relevance of the CSR concept, which has become a global one, are justified also by the efforts made by the experts and observers within 99 member states of ISO and 42 private institutions and organizations which have contributed to the elaboration of a *new paradigm* - The ISO 26000 Standard for Social Responsibility. This initiative is meant to uphold all the societies in the *"accomplishment of long term benefits, by supporting social reduced costs and generating minimal harmful effects upon the environment"*.

The main challenge faced by the Romanian companies is the awareness that social responsibility is not only an instrument for maximizing value by constructing an image, but particularly an essential element for long-term success, directly connected to social and environmental performance of the community on the whole [6, A. Dinită, 2006].

2. The motivation of the research

If at an international level corporate social responsibility constitutes a goal for companies and an important premise for the business environment, as Michael Porter, a first degree authority in the field of competitive strategy, has argued in one of his articles *"social responsibility has become a priority impossible to avoid by the business leaders from every country and from whatever field"*, this concept is still at the beginning in Romania [7, CSR Media.ro, 2015], also as a result of the following aspects [8, General Secretariat of the Romanian Government, National Strategy CSR 2011-2016]:

- ✓ the absence of some studies related to the awareness and enforcement degree of the CSR in Romania,
- ✓ the weak practice of socially responsible investments and procurements,
- ✓ the reduced awareness and the insufficient enforcement of the consumers rights,
- ✓ corruption, with direct effects upon the business environment and its capacity to apply CSR practices,
- ✓ the lack of the representation capacity and the manifestation of the companies interests by CSR,
- ✓ the insufficient development of a business culture focused on moral values,
- ✓ the absence of some coherent public policies for the CSR promotion,
- ✓ the absence of a coherent and comprehensive legislative framework,
- ✓ the difficulties existing in the enforcement of legislation,
- ✓ the insufficient support and involvement of public central and local authorities in the CSR enforcement and promotion,
- ✓ the lack of budgetary funds for promoting the CSR enforcement.

In agreement with what has been stated above and given the dynamism of CSR at an European and international level, Romanian companies have the opportunity to learn, take and adapt good practices from the experience of other more developed countries, at the same time with the necessity to adopt a socially responsible attitude particularly for managing to resist on the market.

In this context, the motivation of the current study resides in identifying and evaluating, albeit in a partial manner, the degree to which the Romanian companies analysed resolve important issues related to social responsibility, such as: sustainable development and consideration of environmental preoccupations, respect of human rights, enforcement of labour standards, fight against corruption and maximization of transparency.

3. The sample

In our research study, we have checked the CSR profile of the companies with Romanian and mixed capital activating on the local market (<http://www.responsabilitateasociala.ro/companii>); our aim was to create a sample for testing the application within the Romanian territory of the principles and techniques typical to the corporate social responsibility. Although the data obtained (from both the annual reports published by the entities and the website mentioned above) has not been externally checked for most of the companies, there being no information on the quality of reporting, we considered appropriate to create a first sample of entities preoccupied with this new reporting field.

According to CSR profile, the sample analysed is composed of 42 companies: Antibiotice S.A. Iași, Aerostar S.A., Arctic S.A., Avon Cosmetics România, BDR - Groupe Societe Generale, BCR, Boromir S.A. Buzău, Banca Transilvania, Banca Comercială Carpatica, Carpatcement Holding, Coca-Cola HBC

România, Dacia Groupe Renault, Denkstatt România, Enel România, Eco - Rom Ambalaje, Electromagnetica S.A. Bucureşti, Gdf Suez Energy România, GSK România, Holcim România, KMG International, Lafarge România, Mol România, Orange România, OTP Bank România, Petrom, Praktiker România, Raiffeisen Bank, Romstal, Ropharma S.A. Braşov, Smithfield Prod România, Siveco România S.A., UniCredit Bank, Unilever România, Ursus Breweries, UPC România, Terapia Ranbaxy, Teraplast S.A., Tuborg România, Transgaz, Vel Pitar, Vodafone România, Zentiva[9].

4. A critical analysis of the factors leading to the sampling limitations

The central idea of the proposed study was affected by the modest knowledge and promotion of the CSR concept at the level of local business, so that the number of the companies sampled was modified. Therefore, small and medium-sized enterprises could not be sampled, as they had not developed their own culture of corporate social responsibility and the CSR concept was too little known in this sector.

While performing the sampling procedure, several *limitations* appeared, which took the form of *weak points*, regarding the implementation and application of the CSR instruments in Romania. These were the following:

a) *from the perspective of making responsible and involving the decisional factors at several levels, usually ministerial*, a strong lack of coordination and communication from those involved and responsible could be noticed in the field of promoting public policies related to social responsibility, as well as the absence of some public coherent policies.

b) *the low involvement of the population and society by means of the local cooperation between local public and private authorities, non-governmental organisations and other parties interested* in knowing and analyzing the CSR process, except for the some multinational companies like Unilever, Enel România, GSK România, which activate on the Romanian market and organized several actions and public campaigns for citizens, consumers and companies, regarding the meaning, purpose and benefits of CSR.

c) *the absence of some mechanisms for consulting employees* on the important problems related to corporate social responsibility, such as follows: c1) the observance by the companies of the fundamental human rights, including those enjoyed by underage persons, disabled persons and women, as they are presented in the international convention and the Romanian legislation; c2) the observance by the companies of the way health and work safety standards are enforced, which protect employees' safety and health; c3) promoting the enforcement of good practices related to CSR, including models for the cooperation with employees and their representatives.

d) *the absence of initiatives coming from the Romanian state for granting facilities* to those companies effectively taking part in CSR related actions and of the proposals for implementing some public policies for this matter.

e) *the absence of initiatives from the Romanian state for preventing and actively fighting corruption* by means of warning and reporting procedures, of the promotion of a proactive approach in the field, including by means of the financing from non-refundable funds.

f) *the absence of interest coming from the Romanian state to elaborate and promote guidelines and methodologies regarding the application of social responsibility*, to be addressed mostly to companies.

5. Results interpretation

After interpreting the information collected from the sampled companies, the following *strong points* have been identified in the application of CSR techniques and instruments:

✓ The adoption by the organisations of policies related to CSR, which apart from the economic development of companies are also aimed to ensure the respect, protection and promotion of human rights, culture, customs and community values; the improvement of life standard inside the communities where companies carry out their activity; insuring health and safety for all employees; improving the quality of the life of employees and their families; the protection of environment and last but not least the people's involvement and the promotion of social entrepreneurship.

✓ The elaboration of *CSR Reports*, either in an independent manner, or by integrating them in the Annual reports structured mainly on actions of *social internal responsibility* (the development of the potential of human resources possessed by the entity, health and work safety, the involvement of employees in the social causes carried out by the company) and actions of *external social responsibility* (environmental protection, social partnerships). We would like to remind here the preoccupation of some organisations with Romanian capital like Banca Comercială Carpatica, Banca Transilvania,

Romstal, and Teraplast which, starting with 2010, integrated in the annual reports the information concerning the CSR process, hence taking the road of implementing the CSR techniques and concepts.

✓ The existence in the structure of CSR Reports – in about 80% of the companies – of an Ethical Code which promotes general healthy and solid principles, such as: non-discrimination (impartiality), involvement of shareholders in the decision making process, protection of employees, confidentiality of personal data, transparency of information, loyal competition and responsibility towards environment and community.

✓ The involvement of companies in complex CSR projects going beyond local communities and focusing particularly on the national level; we are speaking about those organisations with a mixed capital which have developed a strong culture in the CSR field, confirming the existence of a social contract on the virtue of which corporations get in line with social objectives.

✓ An overwhelming majority of 82% of the companies involves employees in different CSR actions, which means that Romanian firms have understood that their employees are the more motivated the more their company is active by means of CSR projects. It is largely accepted that CSR projects have a significant impact upon the motivation, development and keeping of employees.

✓ When evaluating the impact which the involvement in the community has upon companies/communities, more than 55% of the organisations making up the sample use international report standards (GRI standards), 32% use their own evaluation systems, while only 13% resort to evaluation made by partners (NGO-s)

The current research project has also identified some *weak points*, representing elements related to social corporate responsibility which must be improved, such as:

✓ The absence in about 35% of the companies of an internal process for identifying the relevant topics for the company in the CSR field. Inside each company, at the top management level or within the CSR team, an action plan should be elaborated, to identify the action/intervention fields within the community – education, culture, environment, health – by taking into account the culture and context of each particular organisation. But since the initiatives related to CSR are only at the beginning in Romania, we believe that it is only a matter of time until Romanian organisations will adopt the CSR initiative, by considering it more than a program or campaign and rather a philosophy and a way to behave ethically and responsible in regard to all the elements involved in their activity.

✓ A reduced number of persons involved in the CSR team, in about 30% of the companies in 2014. It has been noticed an average of 4.5 per company (full time employees), showing nonetheless an increase of 25% as compared to the average registered in 2013, which was of only 3,6 persons. Responsible corporate practices generate additional costs, which are quite hard to bear by the emerging Romanian firms, which cannot dedicate enough staff for CSR.

✓ A reduced number of internal trainings to approach topics related to corporate social responsibility organized by the companies between 2012-2014 and published on websites or identified in the CSR reports published each year. Except for Unilever Romania, Enel Romania and GSK Romania, which organized an average of 3 internal trainings related to CSR (Unilever Romania organized the last debate regarding sustainability at Bucharest, on 26th May 2015), the other companies tested organized at most one annual training.

✓ The quite little knowledge by the public of the CSR related activities carried out by companies, although these activities can be easily accessed on the websites of the concerned companies. The reason is the relatively recent character of the CSR concept in Romania, but also the weak involvement and promotion of it by the public local/central authorities towards consumers and the public at large.

✓ The annual budgets allocated to CSR related actions by the companies have registered certain involution trends in the last years, starting particularly from 2013, a situation encountered at the companies with Romanian capital. This phenomenon is generated by the absence of a coherent and solid legislative framework to allow the facilities for those firms which promote CSR actions, but also by the difficult crisis situations currently experienced by the Romanian society, always confronted with insufficient resources. Since in Romania about 51% from the CSR budget of companies comes from amounts of money deductible from the state budget [10, CSR Trends and Realities in Romania, 2015], the result is an involution phase who affecting the annual amounts of money allocated by the companies to CSR.

✓ The absence of some coherent public policies for the promotion of CSR has led to the fragmentary application of the provisions of the "National Strategy for the Promotion of Corporate Social Responsibility in 2015-2016" in Romania, generating discontinuity and deep gaps in understanding the strategic impact of CSR actions, but also the benefits corresponding to them.

✓ By far, one of the most important weak points of the CSR process within Romanian organisations is the absence of a check-up of the external data gathered from the companies websites and from the Annual published Reports regarding corporate social responsibility, but also the inexistence of information regarding the quality of reports, having consequences upon their validity and credibility.

6. Conclusions

Lately, corporate social responsibility has become a discussion topic for more and more sources within the Romanian literature, but also for several companies with mixed and local capital activating on the Romanian territory. Nonetheless, we can speak of social corporate responsibility in some circumstances in which this process is only at the beginning, being neither applied within small and medium-sized enterprises, nor known by the public at large and, as a consequence, not that much appreciated as in other countries. A well justified motivation coming from specialized literature [11, McWilliams, A., Siegel, D., 2001] of the fact that the practices related to corporate social responsibility are associated rather with big multinational world companies, comes from the fact that the involvement in social initiatives generates additional corporate costs, which are resented differently among firms and industries: the companies producing more and with a more varied activity field obtain lower unitary costs than smaller firms, with a reduced area of products, hence the possibility of a deeper involvement from multinational firms in socially responsible actions, as compared to small and medium-sized enterprises. For the reason stated above, the main future preoccupation for small and medium-sized romanian enterprises will be to identify that mechanism allowing them for a reduction of costs associated to CSR, in order for them to efficiently benefit from this profitable business strategy.

And even if the current research initiative has not covered the field of small and medium-sized enterprises, the research has pointed out the favorable impact of the various CSR programs upon the sustainable development of the companies tested. In order to keep this increasing trend, it is necessary a careful monitoring of the way in which Romanian authorities will enforce the actions contained by the National Strategy for the Promotion of Corporate Social Responsibility 2011-2016 and the specific priorities initiated for orienting CSR actions.

References

1. European Parliament, *The Directive No. 2014/95/UE*, 15 April 2014,
2. Kotler, R., & Lee, N., *"Corporate social responsibility"* Hoboken, New Jersey: John Wiley & Sons, 2005,
3. Sims, R., *"Ethics and corporate social responsibility: Why giants fall."* Westport, CT: Praeger, 2003,
4. Basu, K., & Palazzo, G., *"Corporate social responsibility: A process model of sensemaking"*, *Academy of Management Review*, 2008, 33, p. 122-136,
5. Rawlins, B. L., *"Corporate social responsibility"*, In R. L. Heath (Ed.), *Encyclopedia of public relations* (p. 210-214), Thousand Oaks, CA: Sage, 2005,
6. Dinită A., *"Responsabilitatea socială în România - de unde și încotro?"*, 2006, available on www.responsabilitatesociala.ro,
7. CSR Media.ro, *"Tendinte și realități CSR în România"*, edition 2015,
8. General Secretariat of the Romanian Government, 2011, *'The National Strategy for the Promotion of Social Responsibility 2011-2016'*,
9. McWilliams, A., Siegel, D., *"Corporate Social Responsibility: A Theory of the Firm Perspective"*, *The Academy of Management Review*, Vol. 26, No. 1, p. 123, *Academy of Management*, New York, USA, 2001,
10. www.antibiotice.ro,
11. www.aerostar.ro,
12. www.arctic.ro
13. www.avoncosmetics.ro,
14. www.brd.ro,
15. www.bcr.ro,
16. www.boromir.ro,
17. www.bancatransilvania.ro,
18. www.carpatica.ro,
19. www.heidelbergcement.ro,
20. www.coca-colahellenic.ro,
21. www.daciagroup.com,
22. www.denkstatt.ro,
23. www.enel.ro,
24. www.ecoromambalaje.ro,
25. www.electromagnetica.ro,
26. www.gdfsuez.ro,

27. www.gsk.com,
28. www.holcim.ro,
29. www.rompetrol.com,
30. www.crhromania.com,
31. www.molromania.ro,
32. www.orange.ro,
33. www.otpbank.ro,
34. www.omvpetrom.com,
35. www.praktiker.ro,
36. www.raiffeisen.ro,
37. www.romstal.ro,
38. www.ropharma.ro,
39. www.smithfield.ro,
40. www.siveco.ro,
41. www.unicredit.ro,
42. www.unilever.ro,
43. www.ursus-breweries.ro,
44. www.upc.ro,
45. www.sunpharma.com,
46. www.teraplast.ro,
47. www.tuborg.ro,
48. www.transgaz.ro,
49. www.velpitar.ro,
50. www.vodafone.ro,
51. www.zentiva.ro,
52. www.responsabilitateasocială.ro/companii.

The Governance of the Operational Risk Indicators

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Management has won much its status of science as it is the scientific approach of solving many problems that the leadership of any entity currently has and, as such, it continues to fuel many controversies and debates. Management is the process meant to coordinate, to plan and to control the activities in an organization so as it is able to ensure its goals with maximum efficiency. Under these circumstances, future uncertainties and risks cause revolutionary mutations in approaching most of the economic and social paradigms that humankind were too long accustomed to, so that also the management processes and procedures system is exposed to corresponding changes. Operational Risk Management is not an integrated process but rather a set of fragmented activities that treat and resolve a variety of risks facing the firm/company as a whole, which determines facing the process from a holistic perspective of the whole business.

Keywords: management of the risk, banking, operational risk, credit risk, exposure to risk, risk indicators

JEL classification: E58, G21, O11, O12

Introduction – Management Essentials

Equally responsible and productive, management is an activity which, by definition, is both a physical and mental work that requires great expertise and specific instruments of work and also uses certain characteristic techniques and procedures.

Based upon theoretical and practical reasons, the management process as a category which characterizes the entire complex and complete management system, reflect the temporal parameters of the management of any entity and also its components in terms of its development and change in space.

Incidentally, in full explosion and rapid expansion of the IT technologies communication and operation, the temporal parameters gained both in weight and importance, thus requiring more detailed and from multiple perspectives study of the management process.

Management process has a set of features that reflect the temporal component and the psychosocial participants' profile involved in the organizational management.

♦ *Dynamism* is given by the continuously changing directions, and scalability issues in which the management process is accomplished. Cooperation between the various stages and operations is dynamic, because the management process involves the cooperation between different managerial links and the ability to anchor the new problems and to use new and adequate instruments and methods.

♦ *Stability* means constant use of certain channels, in this case – those that serve to setting its structurally natural base according to outline conceived by the organizational acts and as a systematizing factor for the management process.

♦ *Continuity* is manifested depending both on the level at which the management is exerted and on the organization's particularities. Specifically, it is typical to achieve consistency all its stages: the purpose, situation, problem, decision. Each of these phases is mandatory and has a major role in the effectiveness of the entire management entity.

♦ *Cyclicity* is the very corollary of the whole process and points out that when every influencing act ends at a certain moment and that the system moves to a new status, which requires a new goal to be set, or perhaps just a correction or an addition to the previous aim and whose accomplishment needs a new or influencing act to be developed.

The psycho-social component of the entire management process is no less important and it highlights the participants' mood, their motivation, habits and even their thinking stereotypes.

Participation appears as a conscious, legal and psychological commitment which involves permanent and organized concern in the management process.

Organizational management studies the management processes and relationship aiming at discovering the regularities and principles that govern them, so that new systems and methods should be designed afterwards, new techniques of management should be reformed, leading to obtaining, maintaining and increasing the firm's competitiveness.

Starting from the nature of the assumed tasks and considering how they would be achieved, the process can share the managerial functions or attributes. Even nowadays, literature and practice remain tributary to H. Fayol's work, despite the subsequent numerous specialists' interventions. Their induced contribution or nuances largely left these features the same content.

Cyclicity remains usually the premises of the management process. In achieving each cycle, the manager is required to perform certain operations in a specific sequence and consistent with this sequence. Each managerial process is divided into several steps that are needed to succeed with a particular order.

Management functions are defined according the content of the operations which are carried out at every stage and at this time of the discourse, an appeal to the theoretic substrate of a holistic vision is necessary, precisely because it imposes approaching the operational risk management.

Prediction function brings together work processes which determine the main objectives of the organization, and its components, as well as the mainly necessary means to achieve them.

Prediction answers the question about *what should and can* be done within the organization, under the specific conditions and also designating the necessary resources, simultaneously. The objectives should reflect the specificity of the organization, must be measurable and realistic. The results are divided into forecast, plans or programs, depending on the time horizon, level of detail and obligation to be accomplished.

Organizing function means all the management processes that establish and limit the physical and mental work processes, their components and grouping into certain positions, labor formations or departments, assigning certain and appropriate economic, technical or social managerial staff's criteria, in order to achieve the forecasted targets.

Organizing answers the questions about *who and how* contributes to the organization's objectives, thereby combining human resources with those material, informational and financial, at the level of the simplest jobs, through the departments and up to the organization as a whole.

Coordinating function materializes in all the efforts for harmonizing the decisions and actions within the previously established framework of the organizational management system.

It is a "*dynamical organizing*" whose necessity, on the one hand, clearly results from the dynamism of the organization itself and also from its business environment which might be impossible to be fully reflected in the organizational system's forecasts, and, on the other hand, from the complexity, diversity and even novelty of the feedback-type reactions, able to ensure appropriate operational decisions and also the interdependence of the implemented actions.

Certainly, an appropriate communication at all the levels of the management is the necessary prerequisite for an effective coordination, but an effective communication depends on a number of factors reflecting both the quality of management – the realism of the objectives, the managers' level of training and their performances, their interest and involvement in solving the problems and also their responsiveness to new. Both coordination forms are important: the *bilateral* one – which runs between the manager and subordinate, as well as the *multilateral* one – which is a process involving the simultaneous communication between a manager and several subordinates, a method that is widely used in meetings.

Drive function incorporates all the working processes which determine the organization's staff to set and achieve the forecasted targets considering the motivating factors.

This function answers the question about the reason why the organization's staff participates in setting and achieving the objectives as established. The foundation of the drive function is the motivating drive, meaning correlating the staff's needs and interests with the objectives and tasks assigned.

The motivation could be positive or negative, depending on how satisfactory are staff's results and on what ground were they achieved. Scientific management feature is designing the motivation and hence the drive on motivational scales, i.e. taking into account the interest of the organization's constituents, their needs, ordered according to the sequence that they should be considered.

Control and evaluation function can be defined as a set of processes by which the performance of the organization, of its subsystems and components are measured and compared with

the initially set goals and standards, in order to eliminate the deficiencies and ensuring the integration of the positive deviations.

This feature answers the question about what results has concluded the work, as the evaluation closes the whole cycle of the process management, and also forecasting new other goals or conducting to reorganizations. The control & evaluation function must have a highly preventive character, as to prevent the possible deficiencies and to correct them when occurred. The control & evaluation processes involve measuring the achievements, comparing them with the objectives and standards which were initially set, highlighting the deviations, determining the causes that generated them and therefore, making the necessary corrections, as much as possible, including also upon the causes that generated the negative deviations.

Stagnant control & evaluation disappeared in the modern organizations, being replaced by an assessment based on the analysis of cause-effect relationships, an active control that leads to effective decisions and actions of management.

Risk management—a vital pillar in bank management

As an overall shape that a company describes its future, the *concept of risk* must be distinguished from the *concept of danger*, because, whereas *the risk* shows a loss caused by someone's decision, *the danger* shows the possibility of losses caused by indecision.

Given the overcrowding and interdependencies between different types of risk, efforts for the risk management and also for improving bank performance increased and diversified. Therefore and for many several reasons, the current era is rightly surnamed as the *era of the risk management*:

- the banking and financial systems continue to be exposed and vulnerable to the inherent risks and uncertainties which are specific for the financial transactions;
- the lenders still rely on incomplete or distorted information;
- the valuation of the assets continues to be uncertain;
- the new tools and players induce both uncertainty and risk, and frequently,
- the banks still manifest breaches in their precautionary strategies.

During their activity, banks are subject to a variety of risks, which can be categorized variously, according to the origin and the purpose of the assessment, mitigation and prevention.

Basically, there are two broad groups of risks:

a) *Pure risks*, meaning significant losses for a bank if not properly anticipated and managed; this includes also the potential loss of liquidity, solvency risks and the like, most often associated with the actions of lending.

b) *Exogenous or speculative risks*, that are the losses caused by incorrect or inappropriate expectations usually based on financial arbitrage; this includes currency risk, the price or market position risk and all the potential losses caused by or resulting from the fluctuations interest rate generally.

Any performing banking strategy should cover those programs and procedures for risk management, actually aimed at minimizing the probability of occurring such potential bank exposure risks, against the background of another economic principle, namely, that of maximizing the profit.

As a general rule, bank management objectives are designed to maximize the profitability, to minimize the exposure to risk and also to comply with the applicable regulations. An effective management of the risk that threatens a bank put its mark on the public image of that bank.

Banking risk management – methodology and logics

In the management of the bank risks, the known literature recommends a methodological procedure in the following four steps:

a) **Identifying and analyzing the risk** – working to identify the risks becomes very important; some risks seem obvious to everyone, while others can not be identified, in spite of the taken precautions, until they simply appear and cause serious losses. Therefore, extreme caution is recommended to identify any possible risk up to the maximum limit of unidentified risks. Businesses are not static problems, meaning that in certain time the data change and thus determine new types of risk.

Changes in banking services and products have increased the necessity for such an analysis. Any new product or service requires a new procedure in detecting and anticipating new risks. Risk analysis is continuous, it never ends, and it is as continuous as the changes in the banking transactions are. Risk management process begins by deciphering the risk profile of different range of banking products for major banking activities. Then they should be compared with the bank's risk profile.

If the bank's risk profile is less bold than the identified risk profiles, the banking conglomerate has a synergistic value which is positive for the shareholders.

Correlated with the annual management report and other accounting reports, organizational frame of the bank can be greatly helpful in establishing the departments that can increase the bank's exposure to risk and therefore, these departments have the task of analyzing the types of the involved risk and of determining their *treatment* consequently.

Analyzing the financial records may lead to discover the risk even after its appearance, while the permanently open communications between bank departments and which may expose the bank to risk, may lead to the detection of the risk even before they become a reality.

b) The control and elimination of risks – As the risk is identified, a second phase may proceed, consisting in eliminating or controlling the risk as much as possible.

Usually, the best time to trigger the risk control is when launching an action, such as certain and carefully negotiated contract provisions, the most accurate time for mastering many and various risks.

Additionally, the risk control is both individual and permanent task that takes place within each bank, but it is also ensured by the central bank, through its specialized supervisory departments.

The departments which are involved ought to check:

1. the right time and the legal form the guarantees were established;
2. the compliance of the agreement with the contract with the legal limits of the amount and duration of repayment;
3. certain incidents both for their own client's payments due to others and for the current payments between different bank's customers.

Regularly, when banks reject applications for the lacks of coverage, these are usually reported to the central banks. This is enabled to issue rules for governing the risk exposure and thereby, it controls the financial units and the commercial banks.

c) Assuming the risk – Although the bankers are familiar with day-to-day activity of granting loans, they are definitely reluctant to wholly or partially accidental risks. But when it really comes, this ought to be well-based on information and a conscious assumption.

However, unconscious assumption of the risk may happen, but it is usually caused because that risk might be overlooked or simply unidentified. So, the identification of all possible sort of risks is of an utmost importance and they may result from the thorough analysis of a wide variety of indicators.

d) Transferring the risk – the insurance policy is frequently considered a proper tool for transferring the risk as many banks do, as well as other forms and means added for the same purpose. Referring to the risk management, it should be more widely understood as an action plan, but also as certain persons specially enabled and responsible for the identifying and monitoring the large diversity of risks.

The size of the bank crucially determines the manner of understanding, and thus – conceiving and organizing such a specialized department, because there are logical differences between a smaller, middle and a large bank in the way that the risk management might be organized. This issue must be also related to the staff's adequacy according to the tasks that it should assume and solve.

The staff's components must be seriously taken into account, because it specifically indicates the level of the risk to which each bank might be exposed. From the moment in which the concept of risk management is accepted by the bank's specialized department, the related procedure should be settled as to underlying this activity and the responsible persons in charge, with a view to eliminating the accidental misunderstandings with other levels of management. Such a system should not be rigid; it should allow better adapting to the ever new conditions on the market.

A complete system of lending rules is usually in force at the level of each bank, and, in addition to the lending conditions, these rules also regulates the maximum risks to which the bank might be exposed both to a borrower or a group of borrowers.

Generally, the banking policy ought to meet the following requirements simultaneously:

- the bank must be protected against the accrual losses in any financial year that could significantly affect its assets or income,
- and
- the total cost of the risk should be always kept to a minimum.

The recent financial turmoil raised the question whether the grading / rating marks do reflected the true risk, especially in light of the situation on the US mortgage market.

Findings, Discussions, Practices

Each bank's own risk management is structurally organized depending on the bank size and on the size and range of the services which are offered to its customers. Actually, the bank's future security itself depends on this department.

Banks do not sell explicitly on commission many of the offered services, so that their value must be considered by comparing the interest rates on loans and deposits as a measure of the opportunity cost of that capital. Moreover, the recent theoretical work showed that risk taking is not a productive service itself. Instead, the determination of lending to customers and the risk assessment could be a real productive activity that truly requires capital, labor, and costs of intermediation.

Bearing the risk through holdings the bonds or the treasury bills is not a productive activity for those banks and hence, the whole systemic risk on the bank loans and deposits should also be excluded from the banking final production.

Therefore, it is necessary to assess the value and necessity of that credit from a customer perspective and assuming the risk in this particular case is really productive, as it requires work, money and other intermediate inputs.

Bearing the risk through holding bonds or firms' capital can not be considered a productive service and as such, the systemic risk related to loans or bank deposits should not be included in the category of a bank's production.

Therefore, it is crucial to align the banks' reference interest and in this prospective the impact of this choice is substantial as the empirical research demonstrates that as well. The Bank considers that its exposure to risk could be its prerequisite for profitability on the banking market.

Under these circumstances, by all means it should act to minimize its exposure to risk, while maintaining the profitability that would ensure a strong market position; from the managements' point of view, it means new and sophisticated forms and methods of monitoring and preventing also new and insidious future.

As noted in many works of the financial literature, in the period that immediately followed the launching of the Eurozone, the general trend was the launch a tough competition in the banking sector and also a thorough control and more appropriate supervision in assuming the risks related to capital requirements

The European banking market has become very integrated in the decades before the 2007 credit crisis. The two twin forces of deregulation and technologies have greatly contributed to the gradual process of financial integration and also they increased the competition in the financial services industry.

As a result of this process, it has been a spectacular increase in the importance and high efficiency of the banking sector. This has led banks to operate with greater attention to the good practices or to their productive function.

Increased competition could also lead to a greater, even excessive tendency to taking over the risks, largely because the increased competition reduces market power of banks as a rule, and hence, their value of their charter value.

It can be concluded that banks with a solid capital would tend to further capitalize more on the future, and therefore they could get efficiency, meaning positive scores and results.

In the recent years, the analysis of the evaluation of the financial stress currently faced by the banks under controversial circumstances is of utmost interest. There is already a comprehensive literature attempting to commensurate as accurate as possible the stress that banks might perceive under the threat of a growing multitude of diverse risks.

Specialists' works from the European Central Bank are worth to be mentioned for their efforts to develop an indicator measuring financial stress (FSI) in the euro area, an improved formula of a previously proposed indicator by USA in 2006. Based on a wider area of data consisting of individual variables, the new indicator would estimate the bank's performance as well, recorded under the conditions that recently adopted measures might alter the results. This new indicator ought to point out the stress in an optimum time and with high accuracy, avoiding any false alarms. The indicator is meant to detect and distinguish the stress in the turbulent periods from the quiet ones and can be used to:

a) evaluate the current state of financial markets in the euro area in due time, so as to provide snapshots of these markets, and to

b) relate its data with other information signals obtained from models or other sources.

FSI indicator can be used both to assess the situation in real time and to interact with other models in a more formal way. Moreover, it is a fact that from time to time, rare events may occur, and

their measurement could be less than satisfactory. The bank's strategy envisages the accepting of the individual risk or the accumulation of risks that can not be measured (calculated) or whose final incidence could jeopardize the bank's market position putting into question even that bank's very existence.

However, in the context of these requirements, a bank may assume a certain risk if:

1. the exposure can provide an adequate profit to that risk;
2. any losses may be incurred in the profit, without devastating effects which could influence the situation of that year;
3. the losses could be covered by the previously-made provisions, and if
4. the activity for which that risk has been assumed were becoming bankrupt, that risk may occur in a normal banking activity, so that the produced loss would not affect the bank's image both internally nor externally, and thus, the bank will take risks for specific banking activities only.

Based on alternative namely subordinated plans, bank has an alternative also in applying the measures that could increase its independency against the large sources of funding. Moreover, it can be considered a permanent objective of the bank's management in the context that there are many risks that may affect various items in their balance sheet.

Among the main risk categories that (any) bank may face is:

- liquidity risk;
- credit risk;
- interest rate risk;
- capital risk;
- currency risk.

Last few years banking policies greatly supported these strategic objectives, and the rules and procedures followed by the leadership of any bank, their defense against the risks is significantly strengthened. As a rule, the risk management would be organized in those directions in which those risks could be assumed, and the general activity for the risk management is led by a specialized agency at the central bank directly.

One of the bank's instruments used to monitor the above mentioned risks is represented by the plans and forecasts that any bank develops, for example, the foundation for its assets could correspond with its current liabilities, meaning that the current assets could meet the current liabilities.

Changes that may occur in the interest rate, under the economic volatility or in the interest rate structural fluctuations are also included in the different tools any bank can use to protect against any possible risk.

Key Risk Indicators' Role in Operational Risk Management and Measurement

A. - Fundamentals of the KRIs (Key Risk Indicators) Programme

In general, the management of the credit risk is the basis of the vast majority of banks' survival.

The credit risk can be defined as the risk that the interest rate, credit or both might not be repaid on maturity or be partially reimbursed. This risk is specific for those banks whose important function in the economy is lending.

In comparison with other operational risk management and measurement tools such as loss data (internal, public and consortium), risk-and-control assessments, capital allocation and performance measurement, *key risk indicators* (KRIs) remain one of the out-standing action items on most firms' to-do lists, along with scenario analysis. KRIs is measurable metrics or indicators that track exposure or loss. Anything that can perform this function may be considered a risk indicator. In operational risk, we are interested in KRIs that monitor operational risk.

Operational risk can be defined as the risk of loss resulting from inadequate or failed processes, systems, human performance or external events.

The number of customer complaints is an example of a *risk* indicator. As customer complaints increase, the probability that there are some underlying and potentially systemic mistakes and errors of judgement being made is likely to rise. In other words, there is a rationale for thinking that, at least in some ranges; changes in the value of this indicator are likely to be associated with changes in operational risk exposure or operational loss experience.

B. – Uses for KRIs – Financial institutions are interested in KRI programmes for many reasons.

The highest priority of this Programme objective is to use KRIs to report risk profiles to senior management. The next-highest objectives were to create a no-surprise environment and to integrate risk management and measurement effectively. If KRIs are focused on the areas of most significant risk, then they should provide managers with reasonably clear direction as to what levers to pull to reduce exposure, as well as quick feed-back on their effectiveness.

The most popular objectives are to aggregate, analyse and report risk profile changes at the corporate level and to report control performance at the business-unit level. Also, most organisations intend or already use KRIs with specific thresholds that trigger intervention or escalation.

C. – Value of a common language and structure for KRIs –

KRIs are not new, but they are very topical at the moment, being widely viewed as having the potential to make operational risk management a more effective discipline. Financial services regulators in particular have expressed interest in KRIs as a potentially important tool to manage operational risk. To achieve this, some standardization is required across the firm and, ideally, across the financial services industry, in terms of both language and approach to KRI implementation. The first step in standardization should be use of a common language around risks, business activities and products or business lines.

Benefits to the firm in developing this kind of common understanding include:

- permitting indicators to be related to specific risks in a clear and consistent way;
- permitting alignment of internal and external loss data, risk-and-control assessment results, capital and scenario analysis with KRI data for much more powerful management information and operational risk management reporting capabilities;
- reducing confusion when it comes to ensuring robust, complete coverage of all risks, be it for self-assessment, KRIs or collection and classification of loss data; and
- with the use of common KRI definitions, both internal and external benchmarking becomes much easier.

So, if one can agree that there is great potential business value for a KRI programme, particularly if it is implemented in a systematic way across the organization, with a common language and structure, some of the fundamentals in getting such a programme follow below.

D. – Properties of a good indicator –

Key to the effectiveness of any KRI programme is the quality of the KRIs themselves. Given the inherent subjectivity implicit in most KRI programmes, there is a strong case for establishing a framework for assessing effectiveness.

Effectiveness - Indicators should:

- □ apply to at least one specific risk and one business function or activity;
- □ be measurable at specific points in time;
- □ reflect objective measurement rather than subjective judgement;
- □ track at least one aspect of the loss profile or event history, such as frequency, average severity, cumulative loss or near-miss rates; and
- □ provide useful management information

Comparability - Indicators should:

- □ be quantified as an amount, a percentage, or a ratio;
- □ be a reasonably precise and definite quantity;
- □ have values that are comparable over time;
- □ be comparable internally across businesses;
- □ be reported with primary values and be meaningful without interpretation to some more subjective measure;
- □ be auditable; and
- □ be identified as comparable across organisations (if in fact they are)

Ease of use - Indicators should:

- □ be available reliably on a timely basis;
- □ be cost-effective to collect; and
- □ be readily understood and communicated

The ideal features of KRIs are that they are effective in tracking the risk, they are comparable within and outside the organisation and they are practical and easy to use. Indicators can be leading,

lagging or current in nature. Most managers want leading or preventative indicators – to predict problems far enough in advance to prevent or eliminate them or at least mitigate the damage.

Unfortunately, prevention of incidents is a desired but rarely achieved forward-looking aspect of operational risk management, because, context is everything. It is usually beneficial to know the underlying trend of an indicator, as well as to look at it in the context of other KRIs and other management information, in order to really understand the story the numbers are suggesting.

E. – KRI selection –

Having a good understanding of the desirable characteristics of a KRI, they must be selected and bundled into a programme for a business area or unit or the organisation overall. They can then be filtered and aggregated for reporting to more senior management. Accordingly, the construction of a KRI programme ideally starts with an individual business unit.

Because KRIs are supposed to track key risks, the first step in KRI selection is to identify areas of highest risk for the business unit in question. It is important to have a consistent and comprehensive approach to this analysis. It can be done by risk mapping or profiling each business unit, or leveraging risk-and-control assessment programmes already in place.

Usually, it is helpful to ask the managers to focus on the expected loss in the worst year over an understandable time horizon, for example, 10 years - this captures the effect of a typical economic cycle on risks, is reasonably easy for most participants to conceptualise and embraces the time horizon of most strategic initiatives and the majority of banking obligations.

Generally, the good practice requires that assessments should include the impact of reputation damage as well, as these are real impacts to the organisation, if a little harder to quantify. In order to keep the number of KRIs being monitored to a manageable number, it will be necessary to select the few that best reflect the business unit's collective understanding of the key causes of each potential problem.

This is an art rather than a science at the moment, but, in the hands of experienced practitioners in the business, should represent a reasonable start. Of course, fine-tuning the KRIs will naturally occur over time as the business learns and gains experience with these relationships.

The next step is to establish bands of acceptance that essentially codify risk appetite, and triggers for escalation and/or some other form of action. Indicators are then assessed on an ongoing basis against this frame of reference. Thresholds and escalation triggers are an important risk management tool.

Managers will become more experienced at setting the appropriate level of threshold over time.

Concerning a reasonable number of KRIs, many financial institutions have a very large number.

It is very important to have an appropriate strategy for reporting and aggregating KRIs to senior management and the board. Key elements of a robust structure for KRI aggregation and reporting are:

- clear objectives for the reporting and aggregation mechanism;
- common data dimensions and classification;
- content appropriate to the required level of analysis and decision making; and
- timeliness and accuracy to the required level of materiality.

There is a clear difference between data and management information. Data can be fairly "raw" and of little or no use to any manager. Information is the result of transforming the data into meaningful and incisive management tools for the better management of operational risk exposures in a timely manner. When so-called indicators are being collected *without a clear view* about what they are reported for, or *to whom* or *where* they are reported, the firm has a problem. Few KRI reporting frameworks will succeed if they are implemented merely with the objective of regulatory compliance.

Data collection without risk management decision making will provide the businesses and functions with negative added value: they will implement a reporting framework for a cost without benefit. Most firms will have already defined a number of *core data dimensions* that are integral to aggregating and reporting KRIs, such as:

- □ *incident* (historical and potential), normally consisting of:
 - □ one or more causes;
 - □ one or more events (as in a chain of events);
 - □ financial and non-financial (i.e., reputational) impact on profit and loss; and
 - □ risk categories;
- □ *process*, with a clearly defined hierarchical level consisting of:

- □ end-to-end processes, typically referred to as a complete business function;
- □ sub-process components;
- □ process types;
- □ function domains (HR, finance, compliance, IT, communications and so on);
- □ shared processes; and
- □ hand-offs between departments or business functions;
- □ *control*, consisting of:
 - □ control types (i.e., reconciliation, accounting, review, management);
 - □ control attributes (i.e., automated, manual); and
- □ preventative and detective controls;
- □ *product*, consisting of:
 - □ business lines; and
 - □ product and service groups;
- □ reporting entity:
- □ branch, territory, function, business line, legal entities, joint ventures, outsourcers and so on.

The regulators have defined the scope of operational risk and have provided, for regulatory reporting purposes, an event-type classification. Each manager should be receiving KRI information that allows them to proactively identify problems within their area of concern, and take appropriate action, even if that is simply to escalate or delegate to the next level up or down.

KRI reporting needs to be customised within each business unit and at each level of the organisation, similar to other kinds of management reporting. When KRIs point at causes that could lead to multiple events across all event types, the CEO will be very interested.

In essence, these multi-event indicators, analyzed by cause rather than specific potential events, provide early-warning signals regarding unexpected losses and a flag to senior management to start asking some pointed questions. If a KRI analysis results in the conclusion that there are insufficient management skills in any specific unit or location, this is an issue appropriate for the attention of senior rather than lower levels of management.

If a KRI breaches the thresholds or trigger points previously established, then it is usually escalated to the next level of management, depending on the materiality of the situation.

Then, the senior manager must decide whether to accept the risk and increase the threshold or reduce the risk indicated by the management information. Some managers also set triggers at an earlier point, when the indicator *starts* to trend upwards or accelerate towards the threshold level.

Top-down KRIs are generally set in conjunction with group functions and may relate to general causes or specific potential process failures or events. In some cases, top-down and bottom-up KRIs can be directly linked together to form a chain in the operational risk exposure management process.

At the end of the day, the mitigation of the risk by investment or the acceptance of the exposure needs to be the responsibility of the business unit head or the CEO. The CEO can put pressure on the business unit head based upon the KRI of outstanding audit points. They can also assist with a reallocation of resources as required, if the exposure to operational risk is above that desired.

Ideally, through the application of the above principles, each manager will end up with a portfolio of KRIs that reflects the risks of most importance to their mandate.

In summary, a strong KRI aggregation and reporting programme will have as its clear objective the effective management of operational risk, and will be founded on data dimensions and a classification system that are common to the entire operational risk framework, as well as many elements of the firm's general management reporting structure. While one could understand that senior management desires predictability and conciseness in reporting, every risk manager will know this dream is not achievable through the selection of (only) 10 operational risks KRIs.

Many KRIs currently collected by businesses and functions are for managing expected rather than unexpected losses. Setting relevant and reliable indicators is a challenge. They should be linked to the causes of operational risk incidents so that operational risk managers can monitor the drivers of operational risk exposures on an ongoing monthly or quarterly basis. It will not be known whether the indicators are "*key*" until they are refined in the light of experience.

While the benefits of a robust, dynamic and comprehensive set of KRIs across the organisation coupled with strong aggregation and reporting are worthy objectives on their own, they also open the door to some more "advanced applications" and opportunities. Most of the KRIs and management information used to manage the risk-and-control environment identify the more routine "unexpected"

risks - those that occur once every 5-10 years - through the typical operational, investment, market, credit or economic cycle. This is appropriate because these are the risks that management can realistically imagine resulting in an event, and that they can actively influence.

However, one exciting area for operational risk index development currently under exploration is the establishment of **indexes for external factors**. Examples could include:

- white-collar crime;
- blue-collar crime;
- payment systems stability;
- weather events; and
- terrorism ratings.

Many of these exist today as governmental outputs on socio-economic conditions. They represent information on the external environment in which an institution operates, and the deterioration in such an indicator would surely be a worthy input into a measure of the risk environment of a firm for a location in which it operates. That access to the collective experience and knowledge of the entire industry, as well as through the various regional and business line working groups, is a powerful tool for enhancing any firm's operational risk management.

Conclusion

Risk indicators in general, or KRIs programme in special, have one very specific quality that no other operational risk management or measurement tool offers: quasi real-time exposure information.

- Loss data, whether internal, provided by a public source or obtained from a data consortium;
- Risk-and-control assessments are periodic subjective evaluations of the state of affairs;
- Scenario analysis allows you to consider what could happen to you, it certainly cannot provide an accurate barometer of real-time conditions, and

□ setting aside economic or regulatory capital as a safeguard is the ultimate fail-safe – any firm that gets to the point where it needs to employ these measures is in such deep trouble that it is probably too late to contain much if not most of the collateral damage from what has already happened. Insurance is also an uncertain safeguard, with some potential relief triggered after the event has occurred.

Therefore, a KRI programme is the only way to provide management with the real-time targeted feedback they need to make mid-course adjustments as required.

And that is essential to the achievement of business goals and the safety of the organization.

References

1. BADIU POPA, D. S. (2010), *Banking și performanță bancară. Metodologii manageriale moderne*, Edit. EUROPLUS Galați, <http://www.europlusgalati.ro/ro/autori?start=3>
2. BLIX GRIMALDI, M. (2010), „*Detecting and Interpreting Financial Stress in the Euro Area*”, ECB, Working Paper Series, no. 1214;
3. BURDUS, E. (2005), *Tratat de management*, Edit. Economică, București;
4. CEAUȘU, I. (2000), *Dicționar enciclopedic managerial*, Edit. Academică de Management, București;
5. DAVIES Jonathan, FINLAY Mike, MCLENAGHEN Tara, WILSON Duncan (2006), *Key Risk Indicators – Their Role in Operational Risk Management and Measurement*, Risk Business International Limited Session, **Risk Management Association**, 2005, "Report on a Survey of KRI Programmes" www.Finlay.qxd.
6. DRUCKER P. (1974), *Management, Tasks, Responsibility, Practices*, Heineman, London;
7. FIORDELISI F., MARQUES-IBANEZ D., MOLYNEUX P. (2010), „*Efficiency and Risk in European Banking*”, ECB, Working Paper Series, no 1211;
8. IONESCU, L. (2005), *Analiza financiară și riscul de creditare*, Institutul Bancar Român, București;
9. MATIȘ Eugenia-Ana (2009), *Managementul performanței și riscului în băncile comerciale din România*, Edit. Casa Cărții de Știință, Cluj-Napoca;
10. POPA I. (2004), *Managementul strategic*, Edit. Economică, București;
11. POPOV, Alexander, UDELL, Gregory F. (2010), „*Cross-Border Banking and the International Transmission of Financial Distress during the Crisis of 2007-2008*”, ECB, Working Paper Series, no. 1203;
12. ROXIN, L., (2001), *Gestiunea riscurilor bancare*, Edit. Didactică și Pedagogică, R. A., București;
13. SCHAECK, K., CIHAK, M. (2008), „*How does Competition Affect Efficiency and Soundness in Banking? New Empirical Evidence*”, ECB, Work Paper Series, no. 932;
14. STOICA, M. (2003), *Management bancar*, Edit. Economică, București;
15. SUSANU, M., IOAN, V. (2010), „*Projections of Management & Marketing Practice in Modern Banking*”, Analele Universității „Dunarea de Jos”, Galați, Fascicula Economie și informatică aplicată, Vol. 2.
16. VERBONCU I., POPA I. (2001), *Diagnosticarea firmei – teorie și aplicații*, Edit. Tehnică, București;
17. WEIHRICH, H., KOONTZ, H. (1993), *Management: a Global Perspective*, McGraw-Hill, New York.

1. <http://www.bcr.ro/>
2. <http://www.bnr.ro/>
3. <http://www.erstebank.hu/>
4. <http://www.sparkasse.at>
5. <http://www.corporatenews.ro/>
6. <http://www.dailybusiness.ro/>
7. <http://www.capital.ro/>
8. <http://www.banknews.ro/>
9. <https://www.workiva.com/blog/operational-risk-key-risk-indicators-kris>
10. <http://www.KRleX.org>

A Study of Segment Reporting Practices: Empirical Evidence from Romania's Banks

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Banking and capital market liberalization has substantially increased the level of information required to achieve financial stability, while providing useful information, appropriate to participants and their transactions has become essential for maintaining orderly and efficient markets. This requires banks to provide appropriate and timely information that will satisfy the requirements of every user of the banking and financial information. Disclosure provided by banks has gradually improved on the one hand by Basel Agreement, and on the other hand by the International Financial Reporting Standards. This paper investigates the adoption of IFRS 8 by the Romanian banks, providing a detailed image of the segment of information in accordance with this standard. The study shows that the primary format for segment reporting in banks is represented by the segmentation activities. At certain banks, because some operations carried out were not a subject to similar risks and benefits, both in terms of the economic environment and in terms of the type of activity, there has been no identification of segments which should be reported separately under the provisions of IAS 14 neither nor since applying IFRS 8.

Key words: segment reporting, performance, transparency, banks.

JEL classification: M41, M42

1. Introduction

The changing environments in which the banks operate, provide increased opportunities for them, but also pose complex and variable risks. Bank's ability to operate safely and productively in its business environment is determined by financial assessments, and extensive portfolio of financial risk analyzes. Risk analysis based on financial data of the banks provides information on the entire activities of banks, because it highlights market trends and affairs. Evaluation of financial condition and viability of a bank is usually focused around the analysis of particular aspects such as ownership structure, risk profile and management, financial statements, structure and quality of the portfolio, policies, human resources and information capacity.

In normal circumstances, providing useful information could help the bank receive an advantage, materialized in leading investors and depositors providing capital. The desire to hide information - especially those reflecting weak results, turns into lack of transparency. Calls to greater transparency often indicate a failure to provide useful and timely information, and this is most urgent when the sought or provided information is negative.

Disclosure requirements for financial information usually focus on quantitative and qualitative publication of information in the financial statements of a bank, drawn on an individual or consolidated basis.

2. Considerations for investors and users of financial reporting information

"From a historical perspective, Romanian accounting records were strongly influenced by the use of information for tax compliance purposes. The main function of data collection and recording of financial / accounting data was seen by many Romanian entities and management / their employees (both state and private) as being for taxation compliance and tax reporting.

As a consequence, the reported information tended to reflect a presentation in which "form prevails over substance", respectively it prevails the existence of certain documents or registration in a

way, rather than it reflects "true" financial position of the company at a given time or it indicates whether the results of the period are an appropriate representation of what happened."¹²⁸

„In contrast, in existing analytic research on financial reporting, the choice between recognition versus disclosure, and between equivalent forms of disclosure or reporting, has no effect on investor perceptions. In principle, the form of presentation of an information item could signal other information possessed by the firm to investors”¹²⁹

Disclosure requirements related to financial statements have always been a pillar of solid regulation. Presenting information is an effective mechanism of exposure of banks to market discipline. IAS developments followed the international financial markets developments. Over time, IAS coverage was extended, both to include new topics and to develop existing international standards. In recent years, accounting information users are concerned with detailed reporting of the position and financial performance of each segment of an entity.¹³⁰ „Segment reporting is one of the key issues pursued by investors and other users of accounting information in the financial statements.”¹³¹

3. IFRS 8 Operating Segments

IFRS 8 "Operating Segments" came into force to annual periods beginning after 1 January 2009, replacing IAS 14 "Segment Reporting" and presents management approach regarding the segment reporting. The reported information should be the one that management internally uses internally for evaluating the performance of operating segments and allocating resources for these segments. Information may differ from those reported in the balance sheet and income statement, and as a result, entities must provide explanations and reconciliations of the differences. It applies to those entities whose debt or equity instruments are traded in a public market or who submit or are in the process of submitting financial statements to a regulatory organization for the purpose of issuing any class of instruments in a public market.

In recent years, major changes have occurred in the financial reporting of banks. Since 2006 banks are required to prepare consolidated financial statements under IFRS, and from starting 2012, to also comply the separate financial statements. The implementation of IFRS as accounting basis (since 2012) represents the completion of the implementation process of accounting standards in the banking system in Romania. According to the specific activity being carried out, business segment reporting is not applicable to savings banks and lending for housing. Table 1 shows the main changes between IAS 14 and IFRS8

Table 1: Major changes IAS 14 - IFRS 8

	IAS 14	IFRS 8
Segment identification	- it was asking the company to identify two sets of segments (business and geographical), using an approach of risk and benefit. The internal financial reporting to key management personnel of the enterprise serves only as a starting point in identifying these segments. - limited reporting segments to those who get most of the revenue from sales to third parties and did not required that the different stages of a vertically integrated company to be identified as separate segments.	- demands that the operating segments to be identified on the basis of internal reports related to parts of the company, reviewed regularly by the decider management in order to allocate resources towards the related segment and to evaluate its performances. - requires that a component of the company that sells primarily or exclusively to other operating segments, plays the role of segment reporting if the enterprise is organized this way.
Measurement segment information	- required that the segment information to be prepared in accordance with accounting policies adopted for preparing and presenting consolidated financial statements.	- requires that the reported amount for each segment item to be the reported value to the decider manager, with the purpose of allocating resources to that specific segment and to evaluate its performances.

Source: Information based on data extracted from IFRS 8 and IAS 14

¹²⁸ Ernst & Young SRL, "Raportarea financiară în România", 2009

¹²⁹ Hirshleifer D., Siew Hong Teoh, "Limited attention, information disclosure, and financial reporting", Journal of Accounting and Economics 36 (2003) 337–386, available to www.sciencedirect.com

¹³⁰ Nobes C., Parker R., Comparative International Accounting, Tenth Edition, Pearson Education Limited Edinburgh Gate Harlow, 2008,

¹³¹ Albu N., Albu C., Mateescu R., "Analiza pe segmente - cazul societăților cotate la BVB", Revista CAFR, 2013, Disponibil pe site – <http://www.cafr.ro/uploads/AF%2010%202013-8944.pdf>

From Table 1 we can see that IFRS 8, unlike IAS 14, does not define revenue segments, expenses segments, segment revenues, segment assets and segment liabilities, it just demands an explanation concerning how to measure the profit or loss for each reportable segment or segment assets and segment liabilities. The consequence of using internal reporting practices is a greater discretion in determining what is included in profit or loss per segment. New emerging is information on how to identify business segments and the types of products and services for each segment generating revenue. It clarifies that segment assets and segment liabilities should only be reported when those assets and liabilities are included in the reports used by the chief operating decision maker.

„One of the main differences between IAS 14 and IFRS 8 is that under IFRS 8 the segment results are disclosed in the financial statements as they are used by the CODM for the purposes of making decisions about allocating resources to the segment and assessing performance.”¹³²

Until now, IASB has made several amendments to IFRS 8 which included new or revised requirements on segment reporting for total assets and total liabilities - 'Improvements to IFRS (cycle 2009-2011)' published by the IASB on May 17, 2012, for aggregation of operating segments and reconciliation on segment assets reportable to the entity's assets - 'Improvements to IFRSs (cycle 2010-2012)', the latter is applicable from February 1, 2015.

„Segment reporting involves breaking down the enterprise into its constituent parts or segments and reporting financial information for each of these. A company can segment its operations in a number of ways, but the most common are segmentation by industry or type of business (often called line of business, or LoB), by geographical area (either in terms of location of operations or location of customers) or by a combination of both of these.”¹³³

According to IFRS 8, an operating segment is a component of an entity¹³⁴:

- ✓ that engages in business activities from which it can achieve revenue and expenses;
- ✓ whose results of activities are examined regularly by the entity's chief operating decision maker in order to take decisions about allocating resources per segments and assessing its performance;
- ✓ for which separate financial information is available.

Segment information is required to be presented for each operating segment that meets the following quantitative starting points:

- ✓ reported income, coming from external customers, but also between segments or transfers, is at least 10% of the total revenue of the enterprise;
- ✓ absolute size of profit or loss reported is at least 10% of the maximum, in absolute value, of the total reported profit of all reportable segments that did not report loss and total loss of all reportable segments that reported a loss;
- ✓ its assets are at least 10% of total assets of all segments.

If the total revenue reported by operating segments represent less than 75% of total enterprise revenue, then additional operating segments should be identified as reportable segments until at least 75% of total revenue is included in reportable segments.

An entity has to provide information to enable users of its financial statements to evaluate the nature and financial effects of the business activities in which they engage and the economic environments in which it operates, such as:

- ✓ factors being used to identify reportable segments of the entity, including the basis of organization (for example, if the management has chosen to organize the entity as the differences between products and services, geographical areas, regulatory environments, or a combination of factors and whether the operating segments have been aggregates), and
- ✓ types of products and services from which it achieves its income each reportable segment.
- ✓ information about the reported segment profit or loss, including specified revenues and expenses contained in the reported segment profit or loss, segment assets and segment liabilities and the valuation basis.
- ✓ revenues from external customers;
- ✓ revenue from transactions with other operating segments of the same entity;
- ✓ interest income;

¹³² Dumbrava P., Sucala L., Bochis L., Breban L., IFRS8 – Operating segments,

¹³³ Nobes C., Parker R., Comparative International Accounting, Tenth Edition, Pearson Education Limited Edinburgh Gate Harlow, 2008,

¹³⁴ IFRS 8

- ✓ interest expense;
- ✓ depreciation and amortization;
- ✓ entity's interest in the profit or loss of associates and joint ventures accounted for using the equity method;
- ✓ expenses or income tax on profits; and
- ✓ significant non-cash items other than depreciation and amortization.

Regarding the reporting of income and expenses Interest, IFRS 8 clarifies that companies must report interest income separately from interest expense for each reportable segment, unless the majority of segment revenues are proceed from interest, and the chief operating decision maker is based especially on net interest income to evaluate segment performance and to make decisions about resources to be allocated to that segment. In this case, an entity can report segment interest income from which there were deducted the interest expenses and disclose that fact.

4. Research Methodology

Studies of both Romanian and foreign authors analyzed the compliance of financial reporting with IFRS 8 based on publicly listed companies, the banking sector being excluded due to the particularity of the type of activity. Therefore, this article intends to pursue this topic for banks listed on the stock market in Romania (BSE). By 2015, three banks were listed: BRD-Groupe Societe Generale S.A. (BRD), Banca Comerciala Carpatica (BCC) and Banca Transilvania (BT).

Banca Transilvania (BT) is one of the three largest banks in Romania. It was established in 1993 in Cluj-Napoca, by a group of local businessmen, with 79% Romanian capital and 21% foreign and it is the first bank in Romania which that was listed on the Bucharest Stock Exchange in 1997. Banca Transilvania consolidated third place among the largest banks after BRD Bank. It is the financial institution that has not recorded any loss during the crisis, posting in 2013 growing financial results compared to the previous year;

BRD - Groupe Société Générale ("BRD") was established on 1 December 1990 as an independent commercial bank under the legal form of a joint stock company, with majority shareholder owned by the Romanian state, by acquiring the assets and liabilities of the Investment Bank. In March 1999 Société Générale (GS) acquired a stake representing 51% of the share capital, increasing its holding to 58.32% by buying in 2004, the stake of the Romanian state. On 31 December 2014, SG held 60.17% of the share capital. In 2001, BRD was listed on the Bucharest Stock Exchange in the first category, quickly becoming one of the most traded companies. In 2014 BRD took second place among the largest banks in Romania.

Banca Comerciala Carpatica S.A. (BCC) is a Romanian bank that started its activity in 1999 in Sibiu, as a mid-level bank. Market share at the end of 2014 in terms of assets, was 0.9%, ranking it as a small bank. It is listed on the Bucharest Stock Exchange, first category, starting from 2005, with a market capitalization of 50 million euro in December 2014.

The main objective of this study is to characterize the segment reporting practices for Romanian listed banks on the Bucharest Stock Exchange.

The research hypotheses we want to test are as following:

H1: what segments are disclosed and what is the level of compliance with the standards

H2: what information is required by IFRS8 and how much of this information is disclosed by segment

H3. what are the effects of shifting from IAS14 IFRS8.

5. Analysis of results

Analyzing individual financial statements published by banks on their website, we noticed that the primary format for segment reporting in banks is the segmentation activities. For banks, an operating segment is a distinct component of the bank, providing products or services (business segment) or providing products and services in a particular geographical environment (geographical segment) and is subject to risks and rewards that are different from those of other segments.

For the banks identified in our sample, Table 2 represents the business segments disclosed by banks over the last year of application of IAS 14 and for the next six years of application of IFRS 8.

Table 2 Extract of Segmental Reporting Disclosure subject to IAS 14 and IFRS 8

Commercial Bank	IAS14	IFRS 8					
	2008	2009	2010	2011	2012	2013	2014
BCC	No declaration			The information categories are presented according to the group's activities. The group has defined the following business segments: Individuals: the group makes available to individuals a wide range of financial products and services (loans, current accounts, deposits, settlement services, asset management, etc. Corporate: it refers to businesses (SMEs and corporations). The group provides them banking services, consultancy in lending and funds management, cash management services, financial consulting and investment services, asset management, etc. Treasury activities - treasury and financial services related to investment activities, management of assets and liabilities, etc. Other activities of the group incorporates financial services offered by companies within the group (investment management, brokerage, real estate, treasury) and other central functions (tangible and intangible assets). Unallocated assets and liabilities refer to assets / liabilities of the group and respectively asset / liability resulting from deferred tax.			
BRD	Operations carried out by entities within the group are subject to similar risks and benefits, both in terms of the economic environment and in terms of the type of activity. Therefore, the Bank has not identified segments which should be reported separately.			The business segments used for management purposes are based on products, services, customer type and size, as follows: Individuals - The group offers individual customers a wide range of banking products such as savings and deposit products, consumer loans and housing, overdrafts, credit cards facilities, funds transfer and payment facilities etc. Liberal professions - The group offers customers in this category, a wide range of banking products such as deposits and savings products, loans and other credit facilities; this segment includes freelancers and companies with a turnover below 0,1 million euro. Small companies - The group offers to very small businesses, a wide range of banking products such as deposits and savings products, loans and other credit facilities. Very small companies are companies with annual turnover between 0,1 and 3 million euro. SMEs - The group offers SMEs a wide range of banking products such as deposits and savings products, loans and other credit facilities. SMEs are companies with annual turnover of between 3 and 50 million euro. Great customers - within corporate banking, the Bank offers clients a wide range of banking products and services, including lending and deposit taking, cash management, financial			

		planning, securities, project and structured finance transactions, syndicated loans and transactions asset-backed. Great clients are clients with a turnover exceeding 50 million euro.
BT	Segment reporting information is presented according to the Bank's activities. Transactions between business segments are conducted at normal market conditions. The bank consists of the following business segments: <i>Corporate Clients</i> - Within corporate banking services, the Bank provides a wide range of corporate financial products and services, which include lending and deposit formation, providing cash management services, financial consulting investment, financial planning, project and structured finance transactions, syndicated loans, asset management and asset-backed transactions. <i>SMEs</i> - constitute a component for which the Bank has developed and made available to customers personalized products, easy to access and quick to come to meet the needs of their business: credit, savings products, customer account transactions. <i>Individuals</i> - for individual clients, the Bank provides a wide range of financial products and services as follows: credit products (consumer loans, purchases of cars, personal loans and mortgages), deposits and savings instruments, payment services and transactions in securities. <i>Treasury</i>: The Bank incorporates in this category the treasury business services. <i>Other</i>. The bank incorporates in this category services offered by financial companies in which the Bank holds participations.	

Source: Information based on data extracted from individual financial statements published by banks on their websites

From Table 2 we note that neither before 2009 nor after 2009 (the year of applying IFRS8), banks traded in Romania make no reference to segment reporting, only Banca Transilvania (BT) alone has identified segments operation both under applying IAS 14 and under IFRS8. The common point from which banks begin to disclose segment information is 2012, which marked the implementation of IFRS for the preparation of financial statements and consequently disciplined disclosures.

When we studied in Table 3 how many reported segment types are disclosed under IFRS 8, we noticed that all banks have identified an average number of five operating segments, segment nature differing from bank to bank.

Table 3 Operating segments for BSE banks

OPERATING SEGMENTS	Number		
	BCC	BRD	BT
Individuals	X	X	X
Corporate	X		-
SMEs	-	X	X
Corporate – Great customers	-	X	X
Small companies	-	X	-
Liberal professions	-	X	-
Treasury activities	X	-	X
Other activities	X	-	X
Unallocated assets and liabilities	X	-	-

Source: Information based on data compiled from individual financial statements published by banks on their websites

From Table 4 we find that of the three banks, only two reveal and report information on the operating segments under IFRS 8, BRD being the only one that disclosed for the reportable segments identified in the notes, information on the value of loans and deposits resulting from transactions.

Although the role of IFRS 8 has been to provide clearer information for identifying and measuring information, management of traded banks in Romania did not present in the notes which are the factors used to identify reportable segments, including the basis of organization. In connection with the assets and liabilities reported by banks segments, these include both items directly attributable to those segments and items that can be allocated using a reasonable basis. Unallocated items comprise mainly corporate assets, head office expenses and tax liabilities or assets. Important elements of income and expenses reported by banks towards IFRS 8 were commission income and expenses.

The implementation of IFRS 8 has brought further specifications in the notes of the financial statements of individual banks, but did not bring any changes in the recognition and measurement information.

Conclusion

Because banks participate in both the domestic financial systems as well as in the international ones and play a leading role in national economies, the information provided by banks may supply clues on the economic situation.

In Romania, the banks perform banking transactions delivered mostly on the Romanian market, so their management considered that the inherent risks and benefits of specific banking are not significantly different between customer categories and between different geographical regions, and therefore did not consider that it should be identified separate reporting segments. Although IFRS 8 requires geographic information reports related to banks, we find this information in the notes on credit risk management

The results show that the primary format for segment reporting in banks is the segmentation activities. At some banks, because some carried out operations have not been subject to risks and similar benefits, both in terms of the economic environment and in terms of the type of service, there were no identifiable segments which should be reported separately under the provisions of neither IAS 14 nor starting with the application year of IFRS 8. Business segments were determined by banks, based on products and services, or the type of served customer, and this reflects the way in which financial information is currently evaluated by management.

When IFRS 8 has been issued, the IASB was anticipated an increase in the number of reportable segments. For publicly traded banks in Romania, the number of reported segments has not significantly changed with the application of IFRS 8. The study shows that banks that have recognized the scope of IAS 14 segments reported, kept them also under IFRS 8. Banks that have not identified reportable segments under IAS 14 have not identified any with the start of year of applying IFRS 8. However, we find that since 2012, year that marked the alignment of financial statements under IFRS, these banks started to disclosure segment reporting in their notes. The volume of information presented in each segment has not diminished, although some information (such as the amount of debt and equity) are not submitted by banks except for Banca Transilvania. Of the banks identified in our sample, only one bank (BRD) provides voluntary information.

Refereces

1. Albu N., Albu C., Mateescu R., "Analiza pe segmente - cazul societăților cotate la BVB", Revista CAFR , 2013, Disponibil pe site –ul <http://www.cafr.ro/uploads/AF%2010%202013-8944.pdf>
2. Crawford L., Extance H., Helliard C., Powe D., *Operating segments: The usefulness of IFRS 8*, ICAS, 2012,
3. Dumbrava P., Sucala L., Bochiș L., Breban L., IFRS8 – Operatin segments, articol disponibil pe site-ul <http://steconomiceuoradea.ro/anale/volume/2009/v3-finances-banks-and-accountancy/158.pdf>
2. Ernst & Young SRL, "Raportarea financiară în România", 2009
3. Hirshleifer D., Siew Hong Teoh, "Limited attention, information disclosure, and financial reporting", *Journal of Accounting and Economics* 36 (2003) 337–386, available to www.sciencedirect.com
- IFRS 8
4. Ibrahim K., Jaafar H., *Corporate Governace and disclousure on segment reporting: evidence from Nigeria*, *Global Review of Accounting and Finance*, vol. 5, no.2, septemeber 2014, p98
5. Nobes C., Parker R., *Comparative International Accounting*, Tenth Edition, Pearson Education Limited Edinburgh Gate Harlow, 2008,
5. PricewaterhouseCoopers, *A practical guide to segment reporting*, September 2008, disponibil pe site ul <https://www.pwc.com/gx/en/ifrs-reporting/pdf/segment-reporting.pdf>
6. www.bvb.ro
- www.brd.ro
7. <https://www.bancatransilvania.ro/>
8. <https://www.carpatica.ro/>

The Determinants Factors of the Capital Cost – Evidence from 5 EU Countries

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The aim of the paper is to highlight the importance and complexity of the company's capital and its components and the extent to which its cost is influenced by several factors. In order to achieve this goal we have made a study on a sample of 15 companies from Romania and other 4 EU countries: Italy, Spain, France and Finland. All are SME's and micro-enterprises that acting in the sector of "Growing of spices, aromatic, drug and pharmaceutical crops". For the study of capital cost determinants were selected five variables: return on equity, return on assets, general indebtedness, taxation and firm's size in order to determine their influence on the cost of capital.

Key words: weighted average cost of capital, return on assets, return on equity, taxation, regression analysis.

JEL Classification: G30, G32.

1. Introduction

To survive any enterprise must have a goal. This goal can only be achieved by following a decisive lever which should be given a required attention. Therefore we can say that this leverage which we can call it "the soul of the enterprise" is its capital. Further, we consider that a company can achieve its objective by studying the most important influencing factors contributing to the lowest cost of capital.

The value of the enterprise is undoubtedly one of the most exciting topics and most controversial of modern finance. The cost of capital is the most difficult subject of practical finance and certainly the most controversial in theoretical finances (Brezeanu, 2002). Moreover, the question that is often seen is: whether changes to the financial structure affect the cost of capital?

Achieving an optimal capital structure seems to be the most controversial and interesting problem in corporate finance and focuses the attention of many economists and researchers ever since appeared remarkable theory of Modigliani and Miller (1958).

The ratio of total indebtedness both the short term and the medium and long term, and equity of the enterprise is, in fact, the general rate of indebtedness, namely the financial leverage. This is highlighting the link between return on equity, return on assets and average interest rate. The financial risk is arising from the variability of the difference between the return on equity (total risk) and economic return on assets (operating risk) (Bărbuță-Mișu, 2010).

The company faces another risk, namely the one related to the structure of operating costs, both fixed and variable, respectively the economic risk (operating). Operating leverage ratio is an indicator with which it can assess and evaluate economic risk being called balancing degree of company operation.

The determinants of capital structure, after their origin can be classified in internal factors (specific companies) and external factors (represented by the economic implications related to the country in which the company operates).

The internal factors are:

- ❖ Endogenous factors (economic - financial variables): tangible assets share in total assets of the firm, firm size, profitability, sales instability growth rate, tax, liquidity, unique product or industry classification;
- ❖ Exogenous factors (interest group): managers' attitude, the attitude of lenders and rating agencies, control of the company.

External factors are: inflation, cyclical factors, international factors, cultural factors.

It is not easy for a company to meet and take into account, in a friendly way, of all the factors mentioned above, but finding a middle way between and among the two main sources of capital (debts and equity) and maintaining a interest between managers, creditors and shareholders can be "key to success".

2. Literature Review

There has been much researches related to determinants of capital structure for the last two decades and the effect of capital structure on financial performance. While conducting this study, we have been made a thorough literature review and there were extracted various variables after searching through various literatures.

Arindam and Anupam (2014) have tried to determine the influence of independent and the dependent variables on the firms belonging to the Indian iron and steel industry. The independent variables taken into consideration for the study are: dividend payout, financial leverage, the size of the firm, business risk, the degree of operating leverage, growth rate, debt service capacity and firm's age. The dependent variable is represented by return on asset (ROA). From the result it was found that debt service capacity, financial leverage and size of the firm are statistically important for determining the profitability of the firms on the Indian iron and steel industry, while the others indicators seems not having a significant influence.

On the other hand, Hussein *et al.* (2012) shows in their analytical study of capital structure determinants and financial performance in Arabia Saudi Market, that there is a negative relationship between leverage ratio and ROA. Besides, the results show that there is no relationship between capital structure determinants and return on equity (ROE), same thing between leverage ratio and ROE. They found a positive relationship between size, growth, liquidity and ROA.

Investigating the Karachi stock exchange of Pakistan, Fahad *et al.* (2013) found that the firms listed at this stock market should use more equity in their capital structure in order to enhance their profitability. They have been studying the relationship between capital structure and the profitability of engineering firms.

Also, Muritala and Oguntade (2013) found in the evidence from Nigeria firms that capital structure has a significant effect on the indicators ROE and return on investment (ROI), and debt ratio, asset turnover and size of the firm has significant and positive relationship with firm's performance.

How do firms choose their capital structure? This is the question that still remains unanswered. Antoniou *et al.* (2002) explain in their empirical study that the effects of the determinants of capital structure are country-specific. In their paper, they try to explore the factors responsible for the different capital structure of the selected companies in France, Germany and United Kingdom. However, the big difference between these factors is maintained by the financial environment and tradition of the country.

From his side, Muzir (2011) find that both macroeconomic conditions and industry type directly affects capital structure choice and firm performance, in a study of triangle relationship among firm size, capital structure and financial performance in some evidence from Turkey. Furthermore, he said that Turkish firm focuses too much on debt financing because of the absence of a developed capital market thereby exposing them to a dangerous financial risk.

Investigating the Baltic Listed Companies (Lithuanian companies, Latvian companies, Estonian companies), Norvaisiene (2012) show us again how capital structure can clearly influence the performance efficiency. More accurate, he reveals that a high level of financial debt leads to lower levels of profitability and solvency indicators while a higher level of non-financial debt has a positive impact on fixed assets and turnover.

In a study of an international perspective such as firm value, growth, profitability and capital structure of listed real estate companies, Liow (2010) conclude that successful real estate companies are generally of larger size, so firm size has an overwhelming influence. Moreover, the financial variables that influence successful performance are largely similar for all countries and regions, but differ in degree.

The research of several companies in Romania made by Contolencu M. (2011) indicates that the factors that influence total debt ratio are firm size, profitability and tangibility of assets. The coefficient for firm size is positive and significant for indebtedness indicating that large Romanian companies have access to the best loan contraction, as they have a good reputation and are less likely to enter bankruptcy. Regarding asset tangibility, the coefficient for this variable is negative and significant statistically for total indebtedness.

Similarly, Dragota and Semenescu (2008) has observed in their study made on a number of Romanian companies that between the tangible assets and the leverage is a negative correlation, the firm size is positively correlated to financial debt, also the profitability has a negative correlation with total and commercial leverage.

3. Methodology

The main reason for selecting agricultural sector is that agriculture is the second leading branch of the global economy, the primary activity of people. She is practiced today in all countries from all over the world, regardless of weather conditions, and in 50% of them, agriculture remains the main branch of activity and not least in this sector are employed over 47- 48% of the active population. Agriculture plays a key role in economic development; agricultural production is the main source of food, basic human existence and basic raw material for a range of industries. The need to develop and modernize is arising from its vital food needs of the population of all countries of the world.

Agriculture is a competitive field in Romania, being ranked the fifth in the European Union in terms of arable land and also the studies shows that Romania could become the third country in the European Union, in agriculture if they adopt a long-term capable strategy.

In this paper we tried to analyse the influence of the determinants factors to the weighed average cost of capital (WACC), on a sample of 15 companies from Romania and other four EU countries: Italy, Spain, France and Finland. All are SME's and micro-enterprises that acting in the sector of "Growing of spices, aromatic, drug and pharmaceutical crops". Data were extracted from Amadeus database provided by Bureau van Dijk. The WACC is calculated as:

$$WACC_L = K_E \times \frac{E}{E+D} + K_D \times \frac{D}{E+D} \times (1-t), \text{ where:}$$

K_E = cost of equity, that is ROE;

K_D = cost of debt, that is interest rate;

E = equity;

D = debts

t = tax profit rate.

If taxation is present, the weighted average cost of capital will decrease because of increasing debt ratio in the capital structure. The weighted average cost of capital is all the greater as increase the tax rate under a given level of indebtedness.

In order to identify the factors influence we used the **score method**, with the general form

$Z = \sum_{i=1}^n a_i \times X_i$, where: a_i = weighting coefficient for variables X_i ; X_i = variable i and i = number of variables used, $i=1 \div n$.

4. Regression Analysis

In this world, all enterprises want to be performant. However, this term is quite complex and requires a thorough analysis of all factors involved in its definition. In our quest to find the main factors that influence both capital cost and financial performance, in its true sense, we have analyzed a number of indicators for a sample of 15 SME's and micro-enterprises, both in Romania and in other countries: Italy, Spain, France and Finland. We have choose the study on different enterprises from EU countries to reflect the widest possible at European level, of these indicators, and these five countries are significant in the domain of "Growing of spices, aromatic, drug and pharmaceutical crops".

To perform this analysis of factors that influence the cost of capital of an enterprise, we have chosen the most representative of the sector, which will be presented depending on the country (table 1).

TABLE 1. The most representative enterprises for the analyzed sector

No.	Country	Enterprise name	Turnover (31-12-2013) EUR	Total assets (31-12-2013) EUR
1	Romania	- Solarplant L.L.C.	7.767	61.994
		- Tehno-top L.L.C.	20.187	21.053
		- Ianmarc com L.L.C.	72.305	71.672
		- Anima plant L.L.C.	10.654	5.911
		- Agroplant L.L.C.	498.674	153.153

No.	Country	Enterprise name	Turnover (31-12-2013) EUR	Total assets (31-12-2013) EUR
		- Herbarium plus L.L.C.	48.083	72.316
2	France	- Helianthe international L.L.C. - Societe cooperative agricole des plantes aromatiques et medicina les du diois L.L.C.	252.601 1.030.359	2.830.829 1.248.476
3	Italy	- M. & T. Green power societa' agricola L.L.C.	686.578	3.287.032
4	Spain	- Todoli jardins L.L.C. - Tene hierba L.L.C. - Desneeltur L.L.C. - Plantaroma L.L.C.	792.965 475.809 335.455 283.841	1.253.113 610.553 343.756 261.549
5	Finland	- Caraway Finland L.L.C. - Kivila invest L.L.C.	2.349.000 295.000	1.559.000 570.000

Source: made by author using data from Amadeus Database

The companies presented in the table 1 were chosen as the most relevant companies in the country related to each and also they are the most well known companies in the market of medicinal and aromatic plants.

Many indicators from the financial literature can be used to determine which factors influence the cost of capital to the fullest extent. In this study, to discover the determinants factors of the capital cost of a company, we used five variables considered most significant for this calculation model. They are: return on equity, return on assets, leverage, taxation and ultimately company size.

As dependent variable of this model we chose **weighted average cost of capital** because it is the most affected by the oscillation of the five selected indicators. WACC is represented by the discount rate determined as the weighted average market value of the costs of all sources of financing in the capital structure of a company.

The return on equity measures the efficiency of using the capital by its owners and also measures the performance of all net capital of the company: current profit, profit unclaimed (reserves, retained earnings), capital brought by investors. A too high value of this indicator can mean a low value of the share capital of the company. The return on equity is calculated as: $\text{Return on equity} = \frac{\text{Net profit}}{\text{Equity}}$. The reason for which we have chosen the return on equity as first variable is that is a

significant indicator for economic and financial performance evaluation. Starting from the consideration that the financial rate of return expresses the efficiency of equity or permanent capital use of the company we can state that it is of particular importance to the shareholders of the company, which considers according to it's level whether their investments are justified and they will continue to support the business development through raising of fresh capital or abandonment for a limited period to one part of the dividends due (Caruntu and Lapadusi, 2009).

The return on assets is the second variable that we have chosen and is obtained by dividing the operational profit to total assets:

$\text{Return on assets} = \frac{\text{Operational profit}}{\text{Total assets}}$. It measures the operational performance of the company's assets

and show the financial performance independent of financial activity and taxation.

The third variable that is taken into account is **leverage** which is calculated in accordance with the formula: $\text{Leverage} = \frac{\text{Total debt}}{\text{Equity}}$. The leverage highlights the degree to which the activity of the

company is financed by its own capital and also highlights the extent of its financial autonomy. This rate connects the debt financing of the company and its own funding.

The company's taxation is calculates as: $\text{Taxation} = \frac{\text{Taxes}}{\text{Turnover}}$ and it measures the share of income tax in the turnover of the company and also the tax expenses which it supports the company.

The last variable analysed is **the size of the firm** which is computed as: Firm's size = Natural Logarithm of the turnover and is an important factor to determine the capital structure of the firm. It significantly influences the capital cost of a company.

To analyze the influence of these factors on the total cost of the company in the sector of "Growing of spices, aromatic, drug and pharmaceutical crops" we gathered data of all 15 companies listed above in a group. We started to emphasize in Table 2 the mean values (corresponding to the 15 companies) of the main indicators required to calculate the variables above. Values were calculated by adding each country indicators.

TABLE 2. Mean values of the sector related indicators (Euro)

No.	Indicators	2009	2010	2011	2012	2013
1	Net profit	194404	3565	555227	498896	379199
2	Equity	858763	938119	1441863	1921099	4475822
3	Operating result	454854	146450	732850	385186	133818
4	Total assets	5705209	8680854	8737239	9634739	12350408
5	Total debts	4845442	7746739	7293311	7713634	7873585
6	Taxes	181320	96650	145169	60958	203444
7	Gross profit	375726	100214	700399	559858	582644
8	Equity and similar	859676	937117	1443928	1921101	4475822
9	Turnover	6783610	5443873	7505360	7790362	7159279
10	The cost of equity	0.2264	0.0038	0.3851	0.2597	0.0847
11	Cost of debt	0.0236	0.0071	0.0102	0.0237	0.0150

Source: Calculus made by author using data from Amadeus Database

In the Table 3 we presented the results of the variables calculated using the indicators in the table above, for the sector, for all the five years analyzed: 2009-2013.

TABLE 3. The sector related variables results

No.	Variables	2009	2010	2011	2012	2013
1	Equity and similar/total assets	0.1507	0.1080	0.1653	0.1994	0.3624
2	Total debt/total assets	0.8493	0.8920	0.8347	0.8006	0.6376
3	Weighted average cost of capital	0.0510	0.0057	0.0708	0.0678	0.0388
4	The financial profitability	0.2264	0.0038	0.3851	0.2597	0.0847
5	The economic profitability	0.0797	0.0169	0.0839	0.0400	0.0108
6	General indebtedness	5.6358	8.2634	5.0510	4.0152	1.7591
7	The company's taxation	0.0267	0.0178	0.0193	0.0078	0.0284
8	The size of the firm	15.7300	15.5100	15.8311	15.8684	15.7839

Source: Calculus made by author using data from Amadeus Database

For the relationship calculation we used six sector related indicators that we have chosen: weighted average cost of capital, return on equity, return on assets, leverage, the taxation level and last but not least, firm's size. Besides these indicators, we chose five coefficients of the model estimation, namely: a, b, c, d, e. Therefore we have:

$WACC = a \cdot ROE + b \cdot ROA + c \cdot L + d \cdot T + e \cdot S$, where:

WACC = weighted average cost of capital for analysed sector

ROE = financial profitability for analysed sector

ROA = economic profitability for analysed sector

L = general indebtedness for analysed sector

T = taxation for analysed sector

S = firm's size for analysed sector

To find solutions for the coefficients: a, b, c, d, e we have replaced the equation presented above with the indicators values obtained for this sector, thus obtaining five equations, one for each year analyzed, with 5 unknowns, creating a system of equations, as it follows:

$$2009: 0.0510 = a \cdot 0.2264 + b \cdot 0.0797 + c \cdot 5.6358 + d \cdot 0.0267 + e \cdot 15.7300$$

$$2010: 0.0057 = a \cdot 0.0038 + b \cdot 0.0169 + c \cdot 8.2634 + d \cdot 0.0178 + e \cdot 15.5100$$

$$2011: 0.0708 = a \cdot 0.3851 + b \cdot 0.0839 + c \cdot 5.0510 + d \cdot 0.0193 + e \cdot 15.8311$$

$$2012: 0.0678 = a \cdot 0.2597 + b \cdot 0.0400 + c \cdot 4.0152 + d \cdot 0.0078 + e \cdot 15.8684$$

$$2013: 0.0388 = a \cdot 0.0847 + b \cdot 0.0108 + c \cdot 1.7591 + d \cdot 0.0284 + e \cdot 15.7839$$

By calculating the system thus obtained, we have found the solutions of the coefficients: a, b, c, d, e, which we will use in expressing the regression function. And therefore, the solutions are: a = 0.024408; b = 0.498573; c = - 0.007076; d = - 1.249864; e = 0.005021.

The estimation of regression function thus obtained in this study is:

$$WACC = 0.024408 \cdot ROE + 0.498573 \cdot ROA - 0.007076 \cdot L - 1.249864 \cdot T + 0.005021 \cdot S$$

In the equation presented were found two factors (the company's taxation and the leverage) that have a negative influence on the weighted average cost of capital as is showed by the negative values of their coefficients, which show when the leverage of the company and taxation increase, the WACC will be reduced. These influences show the positive effect of leverage. The other three factors (return on equity, return on assets and size of the firm) have a positive influence on WACC due to the positive values of their coefficients, which show when these indicators increase, the WACC will be higher.

In the following we will test this relationship on individual companies and countries. Therefore, we have calculated WACC replacing in our relationship the values of those five indicators of the company or companies in each country.

Further, we have highlighted the two values of the weighted average cost of capital to each enterprise in each country to observe accurately the influence of those five factors on this indicator and to view separate influences on companies and countries. Thus, we will begin the presentation of this indicator on the enterprises from Romania, which are given in table 4:

TABLE 4. Romanian enterprises analysis results

No.	Enterprise name	Year	WACC	WACC estimated
1.	Solarplant L.L.C.	2009	-1.2932	-0.6797
		2010	0.1360	-0.1813
		2011	0.6479	0.2346
		2012	0.3341	-0.2164
		2013	0.3165	0.1749
2.	Tehno-top L.L.C.	2009	0.0034	0.1449
		2010	-0.1757	-0.0114
		2011	0.3327	0.2622
		2012	0.0508	0.0512
		2013	0.0117	0.0230
3.	Ianmarc com L.L.C.	2009	-1.3163	-0.4799
		2010	0.5425	0.3892
		2011	0.2450	0.1539
		2012	0.0897	0.0535
		2013	-0.2401	0.0801
4.	Anima plant L.L.C.	2009	-0.1201	-0.5217
		2010	-0.4465	-0.1894
		2011	-1.1125	-0.4826
		2012	-0.4216	-0.1502
		2013	0.0301	0.0593
5.	Agroplant L.L.C.	2009	-0.0341	0.0173
		2010	0.0856	0.0279
		2011	0.0454	0.0443
		2012	0.8775	0.5572
		2013	0.0154	-0.8676
6.	Herbarium plus L.L.C.	2009	0.0149	0.9502

No.	Enterprise name	Year	WACC	WACC estimated
		2010	0.0418	-0.5854
		2011	0.0393	-0.3789
		2012	0.0315	-1.3101
		2013	-0.2646	-0.0398
7.	Sector results	2009	-0.1995	0.0798
		2010	0.0173	0.1026
		2011	0.1539	0.0539
		2012	0.1121	0.0378
		2013	-0.0361	-4.0851

Source: Calculus made by author using data from Amadeus Database

Analysing the individual companies from Romania, per years, we can observe that there are important differences between estimated value of WACC and real value that means the model doesn't estimate properly WACC. A good estimation appear in 2011 to Tehno-top L.L.C. and Agroplant L.L.C.

If we are looking at the sector level of the countries in Romania we can see that in the first two years studied (2009 and 2010), the estimated WACC is higher than real WACC. Otherwise in the next three years the estimated values are lower. However the differences between the two values are significant, and in 2013 is the higher difference. So, we can say that the relationship identified not properly estimates the WACC.

In the following, we will analyze the enterprises from France to observe the influences of the capital determinants factor over its cost. These issues are presented in Table 5:

TABLE 5. French enterprises analysis results

No.	Enterprise name	Year	WACC	WACC estimated
1.	Helianthe international L.L.C.	2009	-1.6256	-0.7079
		2010	-1.2770	-0.5605
		2011	-1.3704	-0.6113
		2012	0.8316	-0.4035
		2013	0.1393	-0.8701
2.	Societe cooperative agricole des plantes aromatiques et medicina les du diois L.L.C.	2009	0.0059	0.0650
		2010	-0.0179	0.0589
		2011	0.0019	0.0566
		2012	0.0096	0.0503
		2013	0.0033	0.0642
3.	Sector results	2009	-0.1009	0.0605
		2010	-0.1231	0.0396
		2011	-0.0862	0.0423
		2012	0.0992	0.0223
		2013	0.0977	-0.1120

Source: Calculus made by author using data from Amadeus Database

Analysing the individual companies from France, per years, we can observe that there are significant differences between real and estimated values of WACC. There isn't any year or company where the estimation model proposes a value close to real WACC.

In the sector in France, estimated values of WACC are higher in the first three years analyzed and lower in the last two years.

To the enterprise from Italy, namely M. & T. Green Power Societa' Agricola L.L.C., in the period 2010-2013 the estimated values of WACC are lower than the real ones and in 2009 the estimated value is higher. In 2009, and 2011-2013 the difference between the two results are higher so in this case we can say that the relationship doesn't correctly estimates the WACC. These differences can be seen in table 6:

TABLE 6. Italian enterprises analysis results

No.	Enterprise name	Year	WACC	WACC estimated
1.	M. & T. Green Power Societa' Agricola L.L.C.	2009	-0.1397	-0.0232
		2010	-0.0272	-1.2998
		2011	0.1388	0.0635
		2012	0.0728	0.0549
		2013	0.0035	0.0000

Source: Calculus made by author using data from Amadeus Database

In the following, we will analyze our model of calculation on the four countries from Spain. In table 7 we can observe the differences between the two models of calculations for WACC:

TABLE 7. Spain enterprises analysis results

No.	Enterprise name	Year	WACC	WACC estimated
1.	Todoli jardins L.L.C.	2009	0.2208	0.1419
		2010	0.0326	0.0645
		2011	0.0216	0.0677
		2012	-0.0518	0.0391
		2013	-0.1132	0.0562
2.	Tene hierba L.L.C.	2009	-0.1855	0.0158
		2010	-0.0495	0.0443
		2011	-0.0225	0.0449
		2012	0.0555	0.1329
		2013	0.0464	0.0680
3.	Desneeltur L.L.C.	2009	0.0322	0.0676
		2010	0.0239	0.0626
		2011	0.0636	0.0830
		2012	0.0628	0.0897
		2013	0.0310	0.0712
4.	Plantaroma L.L.C.	2009	0.0421	0.0356
		2010	0.2150	0.1759
		2011	0.0163	0.0352
		2012	-0.0314	-0.0136
		2013	0.0296	0.0258
5.	Sector results	2009	0.1251	0.1041
		2010	0.0241	0.0696
		2011	0.0196	0.0703
		2012	-0.0073	0.0704
		2013	-0.0385	0.0628

Source: Calculus made by author using data from Amadeus Database

Analysing the individual companies from Spain, per years, we can observe that there are differences between real and estimated values of WACC. The only good estimation appear in 2013 to Plantaroma L.L.C. In the sector in Spain, in 2009 we see a lower estimated value of WACC, and in the other years the estimated values are higher than real.

In the end, we will analyze the last companies, namely those in Finland, these can be seen in table 8:

TABLE 8. Finland enterprises analysis results

No.	Enterprise name	Year	WACC	WACC estimated
1.	Caraway Finland L.L.C.	2009	0.0824	0.0825
		2010	0.1480	0.1000
		2011	0.1096	0.1107
		2012	0.1061	0.1151
		2013	0.0660	0.0944
2.	Kivila invest L.L.C.	2009	0.2010	0.0362

No.	Enterprise name	Year	WACC	WACC estimated
		2010	0.1641	0.0467
		2011	0.1687	0.0478
		2012	0.1483	0.0300
		2013	0.1315	0.0351
3.	Sector results	2009	0.1168	0.0985
		2010	0.1524	0.0941
		2011	0.1238	0.1133
		2012	0.1153	0.1120
		2013	0.0835	0.0962

Source: Calculus made by author using data from Amadeus Database

Analysing the individual companies from Finland, per years, we can observe that there are lower differences between real and estimated values of WACC. The best estimation of WACC appear in 2013 to Caraway Finland L.L.C. and in 2012 at the level of the sector. In the sector in Finland, we can observe that are the nearest values of estimated WACC than real values compared to other countries.

5. Conclusions

In conclusion, by estimation of WACC using regression function built in this paper using weighted average cost of capital and the five chosen factors: return on equity, return on assets, leverage, taxation and company's size, on the chosen sector, in general, and for each country and company in hand, we have noticed that there are significant differences between estimated WACC and real WACC in each country. That means the study must be improved by including more companies in order to standardize or reduce the influence of companies with values that distort the results; also the study can be improved by including non-financial variables based on leadership attitude and behaviour (Boca, 2011).

References

1. Antoniou, A., Guney, Y., Paudyal, K. (2002). *Determinants of Corporate Capital Structure: Evidence from European Countries*, available at <http://webkuliah.unimedia.ac.id/ebook/files/GMM%28capstru%29.pdf>
2. Arindam, B., Anupam, D. (2014): "Determinants of Corporate Financial Performance Relating to Capital Structure Decisions in Indian Iron and Steel Industry: An Empirical Study", Sage Publications, Paradigm, Vol. 18, Issue I, pp. 35-50;
3. Barbuta-Misu, N.(2009): "Modelling the Financial Performance of The Building Sector Enterprises –The Case of Romania", *Romanian Journal of Economic Forecasting*, Vol. 4, pp. 195-212;
4. Bărbuță-Mișu, N. (2010): „Management Financiar”, Europlus Publishing House, Galați;
5. Brezeanu, P.(2002): "Gestiunea financiară a întreprinderii- elemente inspirate din teoria și practica financiară a uniunii europene", Cavallioti Publishing House, Bucharest;
6. Brezeanu, P.(2009): "Finanțe corporative", vol. 2, C.H.Bech Publishing House, Oeconomica colection, Bucharest;
7. Boca, D.G. (2011). *The 4R model in management production*, International Scientific Conference Young Scientists 2011, Section: Management, Kosice Technical University, Faculty of Economics, Slovakia
8. Contoiescu, M.: "Optimizarea structurii de finantare si evidentierea factorilor determinanti" available at: <http://www.dafi.ase.ro/revista/5/Contolencu%20Mihaela.pdf>
9. Dragota, V., Obreja L., Ciobanu A., Dragota, M.(2003): "Management financiar, vol I, Analiză financiară și gestiune financiară operațională", Economica Publishing House, Bucharest;
10. Dragota, M. and Semenescu, A. (2008). *A Dynamic Analysis of Capital Structure Determinants: Empirical Results for Romanian Capital Market. Theoretical and Applied Economics Journal*, Vol. 4, Issue 521, pp. 65-80.
11. Fahad, N.K., Ghulam, S.K.N., Tayyaba, A.(2013): "Impact of Capital Structure on Firm Financial Performance: A Case of The Pakistani Engineering Firms Listed on KSE", *International Journal of Information, Business and Management*, Vol. 5, No. 2;
12. Gavrilaș, Gh.(2006): "Impactul costului capitalului asupra procesului dezvoltării economice și sociale la nivel macroeconomic privit prin prisma politicii economice", *RFPC magazine*, No.4, pp. 44;
13. Hoanță, N. (1999): "Gestiunea Finantelor Firmei", Economica Publishing House, Bucharest;
14. Hussein, M.S., Khaled, A.A., Bashar, A.(2012): "Capital Structure Determinants and Financial Performance Analytical Study in Saudi Arabia Market 2004-2009", *International Journal of Economic Perspectives*, Volume 6, Issue 4, pp. 18-33;
15. Ivanescu, D.N.(2007): "Factorii determinanți ai structurii financiare", ASE Publishing House, Bucharest;
16. Liow, K.H. (2010). *Firm value, growth, profitability and capital structure of listed real estate companies: an international perspective*, Vol. 27, Issue 2, pp. 119-146.
17. Manolescu, G., Petre, I.(1999): "Finanțele întreprinderii", Fundația „România de Măine” Publishing House, Bucharest;

18. Mihalca, G.(2011): "Efectele conditiilor de piata asupra structurii capitalului entitatilor economice", „BABEȘ-BOLYAI” university, Faculty of economics and business administration, departament of finance, available at: http://doctorat.ubbcluj.ro/sustinerea_publica/rezumate/2011/finante/Mihalca_Brendea_Gabriela_RO.pdf
19. Halpern, P., Weston, J.F., Brigham, E.F.(1998): "Finante manageriale Modelul canadian", Economica Publishing House, Bucharest;
20. Munteanu, C., Hirobet, A.(2003): "Finanțe transnaționale", All Beck Publishing House, Bucharest;
21. Muritala, T.A., Oguntade B.A.(2013): "Does Capital Structure Enhance Firm Performance? Evidence from Nigeria", The IUP Journal of Accounting Research&Audit Practices, Vol. XII, No. 4;
22. Muzir, E. (2011). Triangle Relationship among Firm Size, Capital Structure Choice and Financial Performance, Some Evidence from Turkey. Journal of Management Research, Vol. 11, No. 2, pp. 87-98;
23. Norvaisiene, R. (2012). The Impact of Capital Structure on the Performance Efficiency of Baltic Listed Companies, Inzinerine Ekonomika-Engineering Economics, Vol. 23, Issue 5, pp. 505-516;
24. Stefanita, S.: "Riscul componentă firească în lumea afacerilor,", "Stefan cel Mare" University, Faculty of economics and public administration, Suceava, available at: <http://www.oeconomica.uab.ro/upload/lucrari/820063/28.pdf>

The Dynamics and Structural Changes of Foreign Direct Investments In Romania – before and after the Recent Global Crisis

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In the context of the economic globalisation and level of openness increase of various countries' economies to the rest of world, more and more enterprises extended their activity over their national borders, therefore the foreign direct investments being considered key elements in the process of economic integration, playing a major role in the host country's economy. The aim of this paper consists in realising an in-depth analysis of the FDIs' volume, structure and dynamics in Romania before and after the recent global crisis, on types, sectors and branches, development regions and origin countries, by highlighting in the same time their impact over Romania's balance of trade.

Keywords: foreign direct investments, greenfield, mergers and acquisitions, corporate development

1. Introduction

The foreign direct investments (FDIs) represent without a doubt important forms of achievement and manifestation for the worldwide economy globalisation process.

They are usually favoured by the existence of an investment demand level, in a certain country, superior to the internal economies volume, their attraction making it possible to compensate the internal deficit of financial resources.

The foreign direct investments impact over a country's economy is indisputable, as they are associated with creating new jobs, productivity and competitiveness growth, optimising the resources allocation, stimulating the commerce in the receiving countries, professional qualification and competences growth, transfer of technology and modern management.

After 1990 the foreign investors' perception on the Romanian economy and the foreign direct investment flows suffered a series of modifications. If during the beginning of the transition period their level was almost inexistent, in the following period and mostly after 2004, the FDI volume had a relatively rapid growth in Romania, on the background of the grate opportunities offered to the foreign investors and increase of the Romanian economy's level of openness.

2. Definition and forms of the foreign direct investments

The foreign direct investments, together with the portfolio investments, are part of the international capital investment category. There is a clear distinction between these two types of international investments, materialised mainly in the method of control exercise over the investment. In the economic literature or in the official documents, there are many definitions of the ale foreign direct investments, which are similar in essence.

A suggestive definition is given by OECD "Direct investment is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The "lasting interest" is evidenced when the direct investor owns at least 10% of the voting power of the direct investment

enterprise. Direct investment may also allow the direct investor to gain access to the economy of the direct investment enterprise which it might otherwise be unable to do." [13]

The International Monetary Fund defines Direct Investment as "the category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another economy. (The resident entity is the direct investor and the enterprise is the direct investment enterprise)." [10]

In a similar sense the National Bank of Romania defines Direct Investment as "a long-term investment relationship between a resident and a non-resident entity; it usually involves a significant degree of influence exerted by the investor on the management of the direct investment enterprise in which he has invested. Foreign direct investment includes the paid-up capital and the reserves related to a non-resident investor holding at least 10 percent of the voting power or the subscribed share capital of a resident enterprise, the loans between the investor or the group to which the investor belongs and the direct investment enterprise, as well as the reinvested earnings". [11]

In conclusion, it can be said that all definitions shown above anterior converge to the idea according to which foreign direct investments are made with the purpose of acquiring a significant control over the management of the enterprise benefiting of the investment based in another state than the one where the investor is based, as the latter simultaneously manifests a long-term interest.

3. Types of foreign direct investment

Relating to the foreign direct investment typology and forms, it can be stated that there are more criteria depending on which they can be classified. A first criterion is the one stated by BNR [8] managing to make a differentiation of them, depending on the contribution of the foreign equity participation flow to the share capital in the foreign direct investment enterprises, as follows:

- Greenfield: named also investments on "empty places", these are investments started from zero and held in a big rate by a foreign organisation;
- Mergers and acquisitions: by which the non-resident investors take over integrally or partially enterprises from residents;
- Corporate development: these take place when the foreign investors decide to increase the capital holdings in foreign direct investment enterprises;
- Corporate restructuring: these occur when foreign investors are financing the foreign investment enterprises, which have registered losses, and are performed by contribution to the share capital, as the final purpose is to make such organisations profitable.

Another classification criterion refers to the foreign direct investments which fall under two major categories from the investor's perspective: horizontal and vertical. The horizontal ones "refer to the foreign manufacturing of products and services roughly similar to those the firm produces in its home market. This type of FDI is called "horizontal" because the multinational duplicates the same activities in different countries. [...]. Vertical FDI refers to those multinationals that fragment production process geographically. It is called <vertical> because multinational enterprise separates the production chain vertically by outsourcing some production stages abroad". [2]

In another sense, the foreign direct investments are classified, depending on the investment objectives, in the following categories: resource-seeking FDI, market-seeking FDI, efficiency-seeking FDI and strategic asset-seeking FDI. [1]

The first category, resource-seeking FDI, is most often found in the countries where there are natural resources (minerals, raw materials, and agricultural products), and the demand on the workforce market is high and the supply limited, therefore implicitly determining a low-cost with the specialized workforce.

The second category, market-seeking FDI, has as main purpose the entry on the opportune markets, therefore deriving from investor interest in serving domestic or regional markets.

Regarding the efficiency-seeking FDI, it can be stated that these are found in cases where cross-border markets are open, and also the investors decide for rationalization or integration operations at regional or global level, that leads to cross-border product or process basis. This way the investors seek to benefit of various factors offered by host country, therefore contributing to the growth of their competitiveness on the international markets.

Strategic asset-seeking FDI appears when the investors are interested in purchasing strategic assets, making, for such effect, various acquisitions or alliances with companies based in other country, with the purpose to promote on long term the strategic objectives and to become competitive on a certain market.

As it was previously shown, there are various types of FDIs, although, regardless of the shape they take, they play a crucial role in the economic development of every country, with multiple benefits. Consequently, globally there is a fiercer competition between the countries for attracting them, trying for this purpose to create the most favourable conditions for convincing the foreign investors. Hence, over time was shaped and confirmed the according to which the main condition for attracting the foreign direct investments lays in improving the investment climate and creating a frame agreeable to the economic environment.

4. The FDI evolution during 2004-2014

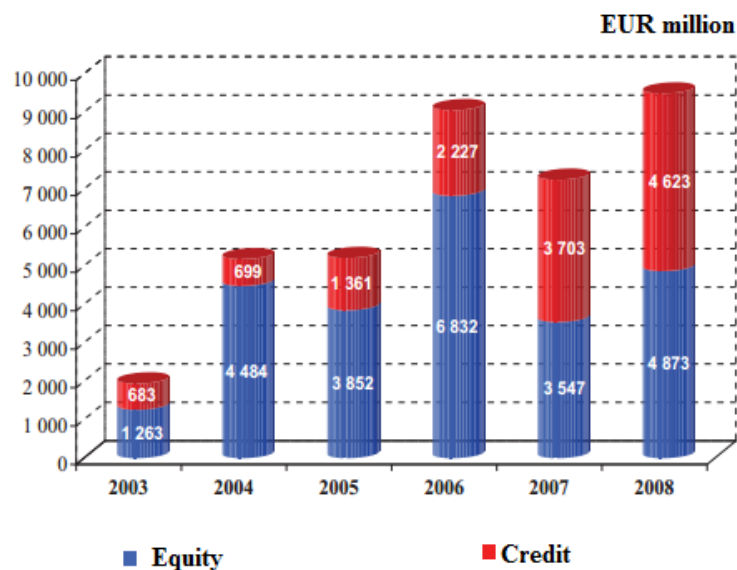
After 1990 the foreign investors' perception on the Romanian economy and the foreign direct investment flows suffered a series of modifications. If during the immediate after period, the FDIs have registered a slow evolution, along with the negotiations for Romania's accession to EU were officially open in 2000, the accession to NATO in 2004 and the accentuation of the privatisation process, the foreign investors' perception improved considerably, and on this background the foreign direct investments had a spectacular evolution.

Therefore, if in 2003 the annual total FDI flows in the form of share capital participations and credits was of EUR 1946 Million (chart 1), in 2004 they had a significant raise of 166,34%, due, in a high rate, to the high increase of the FDI flows in the form of equity participations of the foreign direct investors to the share capital of the direct investment enterprises in Romania, from EUR 1263 Million to EUR 4484 Million (with 255,03%, this reflecting the acceleration of the privatisation process in Romania). The trend was maintained also in the following period, in 2006 the total annual FDI flows registered a value of EUR 9059 Million, increasing with 73,8% towards the previous year, and the ratio of the FDI flows in the form of equity participations of the foreign direct investors to the share capital of the direct investment enterprises in Romania in the total annual FDI flows were on a high level, around 75,42%. In 2007, although the FDI flow suffers a 20% decrease towards the previous year, it stands out a 66,28% increase of the credit received by the direct investment enterprises from the foreign investors. On the opposite plan, the direct investors' equity participations to the share capital of the direct investment enterprises in Romania decreased from EUR 6832 Million to EUR 3547 Million. Another thing to be noticed in 2007 is the high ratio of the credit in the total FDI flows, of 51,08 %. 2008 was without a doubt the top year for FDI, with a volume of EUR 9496 Million, registering a 31% increase towards the previous year, as a result of the ascending trend both of the net equity participations of the foreign direct investors to the foreign investment enterprises' share capital in Romania (a 37,47% increase), and of the credit received by foreign direct investment enterprises from the foreign direct investors (a 24,84% increase).

In conclusion, it can be stated that 2003-2008 was characterised by the registration of some notable results regarding the attraction of foreign direct investments in our country. It must be outlined that these results were obtained on the background of major favouring factors represented by some key sectors of the national economy being privatised, the attraction of foreign capital in existing business corporations and the creation of new business corporations with foreign capital. In this context, the total annual FDI flows have raised from the value of EUR 1 946 Million in 2003, to EUR 9 496 Million in 2008, approximately by 487,98%.

The next period was marked by the inherent effects of the economic and financial crisis manifestation triggered in USA in 2007, because Romania was not spared by them, as a result of certain vulnerabilities existence, built before. In this context the foreign investors' confidence in economy dropped and implicitly the foreign capitals on the Romanian market decreased considerably, and the foreign direct investment flows in 2009 – 2011 registered modest values and a deep descending trend (chart 2), being in the same time materialized especially in share capital additions or increases, required by the crisis effects. Therefore, if in 2008, the foreign direct investment flows level was of EUR 9496 Million, in 2009 it dropped considerably, by 64,65%, registering a value of EUR 3357 Million. In 2010 its decreasing trend line maintained disadvantageous, and in 2011 it was registered the lowest value in the analysed period (2003-2014) that is EUR 1700 Million, hence placing even under the value registered in 2003.

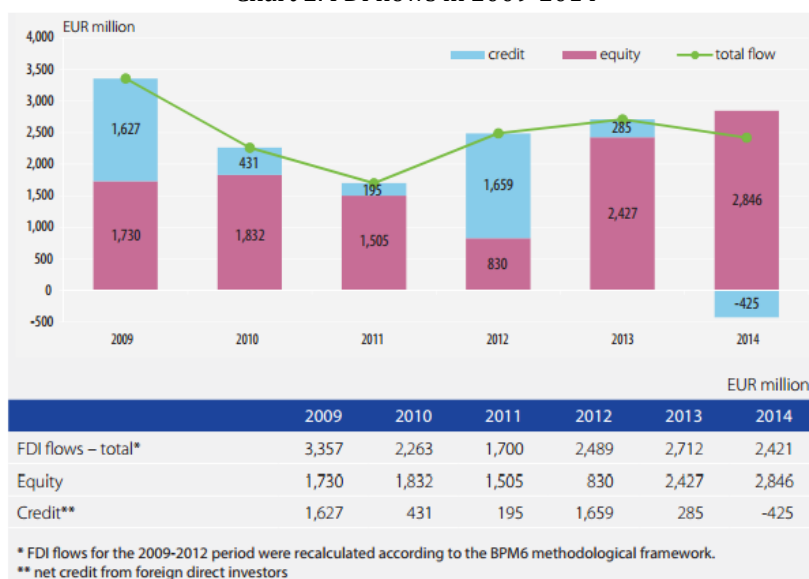
Chart 1. FDI flows in 2003-2008



Source: BNR[7]

Starting with 2012, the foreign direct investment flows were revitalized, as in that year they grew by 46,41% towards the previous year, mainly as a result of the credits received by the direct investment enterprises from the foreign direct investors, of which ratio in the total FDI flows was of 66,65%. The favourable trend was maintained also in 2013, registering an 8,96% increase of the total foreign direct investment flows towards the precedent year. This increase was mainly due to the contributions to the ownership equities of the foreign investors (EUR 2,427 Million, that is 89,49% of the total foreign direct investment flows). It is important to note that, although in 2014 the contribution to the ownership equities had grown, still overall, the total FDI flows have registered a drop as a result of the credit reimbursements previously received from the foreign investors and of granting new credits by the foreign direct investment enterprises to the foreign investors, hence recording a negative value of the credits of EUR 425 Million.

Chart 2. FDI flows in 2009-2014



Source: BNR[12]

Regarding the types of foreign direct investments attracted by Romania, in table 1 can be noticed that in all years which were analysed the highest ratio was held by the foreign direct investments in corporate development. Therefore, both in 2009 and in 2014, this type of foreign direct

investments was over 90% of the total, reaching a value of EUR 3065 million, respectively EUR 3949 million. Regarding the greenfield foreign direct investments, it can be noticed that the highest ratio in the total, in the analysed period, was registered in 2007, that is 17,3%, totalising in absolute sizes EUR 385,05 million and so being placed on the second position in the foreign investors preferences, obviously after the investments made in the corporate development. The greenfield investments dropped considerably in the next period, recording in 2009 only 0,6% of the total foreign direct investments. In 2014, they were noticed to have a higher value that is EUR 77 million, but still their ratio in the total had a low level of only 1,82%. The mergers and acquisitions registered a record level in 2008 reaching the value of EUR 1683,5 million, which represented 32% of the total foreign direct investments. 2009 marked a considerable decrease of the mergers and acquisitions, as they reached the value of EUR 34 million, respectively 1,1%, and in 2014 it can be noticed that they had a higher value, respectively EUR 196 million, that is 4,65% of the total. The foreign direct investments in corporate development were by far on the top position in the foreign investors' preferences during all the analysed years, and their highest value was registered in 2014 when they reached the level of EUR 3949 million.

Table 1. Types of FDI in 2007-2014 period

	Greenfield		Mergers and acquisitions		Corporate development	
	mil. EUR	%	mil. EUR	%	mil. EUR	%
2007	385,05	17,3	233,38	10,5	1601,52	72,2
2008	64,2	1,2	1683,5	32%	3517	66,8%
2009	19	0,6	34	1,1	3065	98,3
2014	77	1,82	196	4,65	3949	93,53

Source: BNR[5]

In terms of the FDI stock distribution by main economic activity, in 2003, 2008, 2009 and 2014 (table 2), it can be noticed that the highest ratio of the foreign direct investment stock in total is found, as expected, in industry. Concurrently, in 2008, compared to 2003 it can be noted a containment of these in industry to the detriment of other fields as constructions, real estate transactions, agriculture, forestry, fishing and trade. The effects of the economic and financial crisis were felt in 2009 in most of the fields, among the affected ones being: metallurgy, food, beverages, tobacco, cement, glassware, ceramics, machinery and equipment, textiles, wearing apparel and leather goods, agriculture, forestry and fishing, post and telecommunications and information technology, trade. By contrast, other fields like oil processing, chemicals, rubber and plastic products, financial intermediation and insurance, services rendered to enterprises, constructions and real estate transactions, transportation, registered in 2009 slight increases, and some of them declined in 2010. An important thing to highlight is that, in the field of financial intermediation, the increase from 2009 can be also justified by a series of measures necessary to be adopted as those of the banking sector recapitalisation.

Table 2. Distribution of FDI stock by main economic activity, during the period 2003-2014 (end of the year)

	2003		2008		2009		2014	
	Value	% of total FDI	Value	% of total FDI	Value	% of total FDI	Value	% of total FDI
TOTAL, of which	9662	100	48798	100	49 984	100	60 198	100
Industry, of which:	4938	51.1	20 138	41,3	20 680	41,4	29 324	48,7
Mining	21	0,2	2 158	4,4	2 221	4,5	3 345	5,6
Manufacturing, of which:	4917	50,9	15 236	31,3	15 555	31,1	19 275	32,0
- metallurgy	1116	11,6	3 391	6,9	2 577	5,2	2 711	4,5
- food, beverages and tobacco	935	9,7	2 210	4,6	2 058	4,1	2 430	4,0
- transport means	527	5,5	1 932	4,0	2 373	4,7	3 244	5,4
- cement, glassware, ceramics	448	4,6	1 762	3,6	1 629	3,3	1 579	2,6
- machinery and equipment	435	4,5	967	2,0	943	1,9	1 432	2,4

	2003		2008		2009		2014	
	Value	% of total FDI	Value	% of total FDI	Value	% of total FDI	Value	% of total FDI
- textiles, wearing apparel, leather goods	427	4,4	794	1,6	717	1,4	983	1,6
- oil processing, chemicals, rubber and plastic products	394	4,1	2 115	4,3	3 132	6,3	3 420	5,7
- wood items, including furniture	274	2,8	891	1,8	962	1,9	1 519	2,5
- Computers, electrical apparatus, radio and TV sets, communications	224	2,3	689	1,4	690	1,4	1 421	2,4
- other manufacturing	137	1,4	485	1,1	474	0,9	536	0,9
-Electricity, natural gas, water	-	-	2 744	5,6	2 904	5,8	6 704	11,1
Agriculture, forestry and fishing	-	-	707	1,4	552	1,1	1 504	2,5
Post and telecommunications and information technologies	1430	14,8	3 283	6,7	3 235	6,5	3 598	6,0
Trade	1106	11,4	6 060	12,4	6 164	12,3	7 058	11,7
Financial intermediation and insurance	882	9,1	3 283	6,7	9 510	19,0	7 798	13,0
Services rendered to enterprises	674	7,0	1 617	3,3	2 299	4,6	3 074	5,1
Construction and real estate transactions	212	2,2	6 155	12,6	6 453	12,9	5 917	9,8
Transportation	133	1,4	500	1,0	684	1,4	1 029	1,7
Hotels and restaurants	109	1,1	181	0,4	213	0,4	541	0,9
Other	178	1,9	131	0,4	194	0,4	355	0,6

Source: BNR[4]

In terms of the FDI distribution by development regions (table 3), it can be noticed that their highest ratio is found in the development region Bucharest-Ilfov (EUR 35665 million representing 59,2% of the total FDI). In a top of the first 5 development regions, it can be stated that there is a big disparity, between Bucharest-Ilfov region and the following regions benefiting of FDI. Therefore, in the Centre region concentrates 9,7 % of the FDI stock, in West region 7,7%, in South-Muntenia 7%, and in North-West region 5,6%. The lowest value of the FDIs is found in North-East region, with only 2,7%, respectively EUR 1624 million.

Table 3. Foreign direct investment in Romania by development region as at 31st of December 2014

	EUR million	% of total FDI
TOTAL, of which:	60,198	100.0
BUCHAREST-ILFOV	35,665	59.2
CENTRE	5,833	9.7
WEST	4,646	7.7
SOUTH-MUNTENIA	4,194	7.0
NORTH-WEST	3,384	5.6
SOUTH-EAST	2,898	4.8
SOUTH-WEST - OLTENIA	1,954	3.3
NORTH-EAST	1,624	2.7

Source: BNR[9]

Regarding the origin countries of FDI, the first five ranked after the ratio held in the FDI stock at 31st of December 2014, are the followings: Holland (23,6 %), Austria (16,1 %), Germany (12,4 %), Cyprus (7,1 %) and France (6,8 %).[9]

In all the analysed years (table 4) the contribution to exports, in percentage, of the foreign direct investment enterprises is superior to the contribution to imports, therefore registering a positive impact of their activity, overall, over the balance of trade of Romania.

Table 4. Exports and imports of direct investment enterprises

	Direct investment enterprises	
	Exports (FOB) % of total sector	Imports (CIF) % of total sector
2007	70,8	59,2
2008	73,0	62,6
2009	69,8	60,1
2014	70,9	64,7

Source: BNR[6]

It is obvious, that the activity of the foreign direct investment enterprises contributed both to the exports and imports with significant ratios. These things reflect the powerful impact of such enterprises over the balance of trade of Romania, highlighting in the same time the role they played in the evolution of the entire national economy. If, overall, the FDI contribution to exports is superior to their contribution to imports, in terms of the sectoral structure of FDI, the situation changes, therefore "a too high ratio of the FDI in the sector of financial and intermediation services, as well as of non-tradable goods may lead to strong trade imbalances. In Romania, FDI predominated in the non-tradable sector, and that strongly activated the internal demand, leading to an unprecedented increase of the imports, therefore the balance of trade deficit and the current account deficit had worsened, which in consequence, increased Romania's vulnerability in the conditions of the global economic and financial crisis" [3]. Under the conditions of a high vulnerability and of the Romanian economy opening, corroborated with the effect of external contagion favoured by globalisation, Romania could not be spared by the global crisis effects. This had affected considerably the FDI flows to Romania, accentuating a certain economic dependency of our country towards the economic evolution of the FDI origin countries, and mostly, the impact of the economic condition in these countries over the Romanian economy.

5. Conclusions

The foreign direct investments represent without a doubt important forms of the materialising and manifestation of the world economy globalisation process, being favoured by the existence of a investment demand level, in a certain country, superior to the internal economies volume, and their attraction makes it possible to compensate the internal deficit of financial resources.

The foreign direct investments, together with the portfolio investments, are part of the international capital investment category, with a clear distinction between these two types of international investments, effected mainly in the method of control exercise over the investment.

There are various types of FDIs, although, regardless of the shape they take, they play a crucial role in the economic development of every country, with multiple benefits. Consequently, globally there is a fiercer competition between the countries for attracting them, trying for this purpose to create the most favourable conditions for convincing the foreign investors. Hence, over time was shaped and confirmed the idea according to which the main condition for attracting the foreign direct investments lays in improving the investment climate and creating a frame agreeable to the economic environment.

After 1990 the foreign investors' perception on the Romanian economy and the foreign direct investment flows suffered a series of modifications. If during the immediate after period, the FDIs have registered a slow evolution, along with the negotiations for Romania's accession to EU were officially open in 2000, the accession to NATO in 2004 and the accentuation of the privatisation process, the foreign investors' perception improved considerably, and on this background the foreign direct investments had a spectacular evolution.

Therefore, 2003-2008 period was characterised by the registration of some notable results regarding the attraction of foreign direct investments in our country. It must be outlined that these results were obtained on the background of major favouring factors represented by some key sectors of the national economy being privatised, the attraction of foreign capital in existing business

corporations and the creation of new business corporations with foreign capital. In this context, the total annual FDI flows have raised from the value of EUR 1 946 million in 2003, to EUR 9 496 million in 2008, approximately by 487,98%.

The next period was marked by the inherent effects of the economic & financial crisis manifestation triggered in USA in 2007, because Romania was not spared by them, as a result of certain vulnerabilities existence, built before. In this context the foreign investors' confidence in economy dropped and implicitly the foreign capitals on the Romanian market decreased considerably, and the foreign direct investment flows in 2009 – 2011 registered modest values and a deep descending trend, being in the same time materialized especially in share capital additions or increases, required by the crisis effects. In 2010 its decreasing trend line maintained, and in 2011 it was registered the lowest value in the analysed period, hence placing even under the value registered in 2003.

Starting with 2012, the foreign direct investment flows were revitalised, mainly as a result of the credits received by the direct investment enterprises from the foreign direct investors. The favourable trend was maintained also in 2013, registering an increase of the total foreign direct investment flows mainly due to the contributions to the ownership equities of the foreign investors. It is important to note that, although in 2014 the contribution to the ownership equities had grown, still overall, the total FDI flows have registered a drop as a result of the credit reimbursements previously received from the foreign investors and of granting new credits by the foreign direct investment enterprises to the foreign investors.

Regarding the types of foreign direct investments attracted by Romania, in the analysed years (both before the economic & financial crisis and after) the highest ratio was held by the foreign direct investments in corporate development. In terms of the FDI stock distribution by main economic activity, in 2003, 2008, 2009 and 2014, the highest ratio of the foreign direct investment stock in total is found in industry.

The effects of the economic & financial crisis were felt in 2009 in most of the fields, among the affected ones being: metallurgy, food, beverages, tobacco, cement, glassware, ceramics, machinery and equipment, textiles, wearing apparel and leather goods, agriculture, forestry and fishing, post and telecommunications and information technology, trade. By contrast, other fields like oil processing, chemicals, rubber and plastic products, financial intermediation and insurance, services rendered to enterprises, constructions and real estate transactions, transportation, registered in 2009 slight increases, and some of them declined in 2010.

In terms of the FDI distribution by development regions, it is noticed that their highest ratio is found in the development region Bucharest-Ilfov, with a big disparity, between this region and the following regions benefiting of FDI.

Regarding the origin countries of FDI, most of them are EU members.

In all the analysed years the contribution to exports, in percentage, of the foreign direct investment enterprises is superior to the contribution to imports, therefore registering an overall positive impact of their activity over the balance of trade of Romania. However, in terms of the FDI sectoral structure, in the Romanian economy predominated the non-tradable goods, contributing to an increase of the internal demand and imports, leading to strong macroeconomic imbalances. On the background of a high vulnerability and of the Romanian economy opening, corroborated with the effect of external contagion favoured by globalisation, Romania could not be spared by the global crisis effects. This affected considerably the FDI flows to Romania, accentuating a certain economic dependency of our country towards the economic evolution of the FDI origin countries.

References

1. Dunning, J.H., *Multinational enterprises and the global economy*. Workingham: AddisonWesley, p. 56-60, 1993
2. Protsenko, A., *Vertical and horizontal foreign direct investments in transition countries*, 1 st. edn. Ludwig Maximilian University, Munich, p. 4, 2003
3. Zaman, G., Vasile, V., Matei, M., Croitoru, C., Enescu, G., *Aspecte ale impactului ISD din România asupra exporturilor și dezvoltării durabile*, *Romanian Journal of Economics*, p. 39-40, 2010
4. Banca Nationala a Romaniei, *Investițiile străine directe în România la 31 decembrie 2003*, p. 3, *Investițiile străine directe în România în anul 2008*, p.8, *Investițiile străine directe în România în anul 2009*, p. 8, *Investițiile străine directe în România în anul 2014*, p.9
5. Banca Nationala a Romaniei, *Investițiile străine directe în România în anul 2007*, p.6, *Investițiile străine directe în România în anul 2008*, p.12, *Investițiile străine directe în România în anul 2009*, p. 12, *Investițiile străine directe în România în anul 2014*, p.12

6. Banca Nationala a Romaniei, *Investitiile străine directe in România in anul 2007*, p.7, *Investitiile străine directe in România în anul 2008*, p.13, *Investitiile străine directe in România în anul 2009*, p. 13, *Investitiile străine directe in România in anul 2014*, p.14
7. Banca Nationala a Romaniei, *Investitiile străine directe in România în anul 2008*, p. 8, 2009
8. BNR, *Investitiile străine directe în România în anul 2014*, p. 5, 2015
9. Banca Nationala a Romaniei, *Investitiile străine directe în România în anul 2014*, p. 11, 2015
10. International Monetary Fund, *Balance of Payments Manual, Fifth edition*, Washington D.C., p. 86, 1993
11. National Bank of Romania, *Foreign Direct Investment in Romania in 2014*, p. 5, 2015
12. National Bank of Romania, *Foreign Direct Investment in Romania in 2014*, p. 18, 2015
13. Organisation for Economic Co-operation and Development, *Benchmark Definition of Foreign Direct Investment, fourth edition*, OECD Publications 2008, p. 17, 2008

Contrarian and Momentum Profits during Periods of High Trading Volume preceded by Stock Prices Shocks

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This paper approaches the opportunities for contrarian and momentum profits during the periods of high trading volume preceded by stock prices shocks. We investigate these aspects for ten stocks from New York Stock Exchange. We found that more than three quarters of the periods of high trading volume were preceded by shocks which occurred less than six working days before. The values of the average excess returns for these periods suggest that opportunities for momentum profits prevailed over those for contrarian profits.

Keywords: Contrarian Strategy, Momentum Strategy, High Trading Volume, Shocks

JEL Code: G11, G12, G14

1. Introduction

The evolution of capital markets after major price increases (positive shocks) and declines (negative shocks) is largely approached in the financial literature. In the Behavioral Finance Theory framework there were revealed two main types of reaction to shocks that could be exploited in successful trading rules: overreaction and underreaction.

Overreaction Hypothesis (OH) developed by De Bondt and Thaler (1985) presumes that traders exaggerate the importance of the recent information, displaying too much optimism in the case of good news and too much pessimism in the case of bad news. The shocks caused by the arrival of such news could temporary move the stock prices far from their intrinsic values. However, after the shocks, the equilibrium tends to be reestablished and the positive shocks are followed by price declines and the negative shocks are followed by price increases (Shefrin & Statman, 1985; Lo & MacKinlay, 1990; Jegadeesh & Titman, 1995). The overreaction phenomenon could be exploited by the contrarian strategies described by two trading rules: the selling after positive shocks and buying after negative shocks (De Bondt & Thaler, 1985; Chan, 1988; Lakonishok et al., 1994; Antoniou et al., 2005). Underreaction Hypothesis (UH) proposed by Jegadeesh and Titman (1993) presumes that investors react slowly to recent information which is incorporated gradually in the stock prices. In that case the positive shocks are followed by price increases and the negative shocks are followed by price declines. Such reactions to shocks could be exploited by momentum strategies which apply two trading rules: the buying after positive shocks and selling after negative shocks (Chan et al., 1996; Daniel et al., 1998; Hong & Stein, 1999; Jegadeesh & Titman, 2001; Lesmond et al., 2004).

OH and UH contradict Efficient Market Hypothesis (EMH) proposed by Fama (1970) which denies the possibility to predict future evolutions of stock prices based on their past values. The empirical researches on the capital markets reactions to shocks led to results that favored OH and UH but also EMH. They also found that some particularities of stocks could significantly influence the reactions to shocks (Zarowin, 1989; Abarbanell & Bernard, 1992; La Porta et al., 1997; Abarbanell & Bushee, 1998; Rouwenhorst, 1998; Hong et al., 2000; Grinblatt & Han, 2002; Chan, 2003; Lasfer et al., 2003; Zawadowski et al., 2006; Agyei-Ampomah, 2007; Galarotis et al., 2007; Spyrou et al., 2007; Chui et al., 2010; Novy-Marx, 2012; Savor, 2012; Caporale et al., 2014; Frisch et al., 2014; Govindaraj et al., 2014; Chaudhury & Piccoli, 2015; He & Li, 2015).

Sometimes, reactions to shocks are accompanied by substantial increase of the trading volume. Several studies found positive correlations between absolute values of returns and the volume

of transactions (Crouch, 1970; Tauchen & Pitts, 1983; Karpoff, 1986; Lakonishok & Smidt, 1986; Karpoff, 1987; Campbell et al., 1992; Gallant et al., 1992; Chordia et al., 2001; Marsh & Wagner, 2004). The trading volume was revealed as an important aspect of the reactions to shocks (Lee & Swaminathan, 2000; Weber & Rosenow, 2006).

The complexity of the reaction to shocks could be associated to the heterogeneous beliefs in financial markets (Zeeman, 1974; Beja & Goldman, 1980; Haltiwanger & Waldman, 1985; Brock & Hommes, 1997; Brock & Hommes, 1998). The Heterogeneous Agents Models (HAM) revealed the different behaviors of different categories of traders: fundamentalists, chartists, noise traders, contrarian investors, momentum investors etc. (DeLong et al., 1987; Schulmeister & Goldberg, 1989; Shleifer & Summers, 1990; Hommes, 2006; Bloomfield et al., 2009; He et al., 2009; Chiarella et al., 2011; Fischer, 2011; He & Li, 2015).

In this paper we investigate the capital markets behaviors during periods of high trading volume preceded by stock prices shocks. We presume that, in such situations, the trading volume increase is caused by the traders who regard the stock prices shocks as opportunities for contrarian or momentum investment. We identify the shocks taking into consideration the opportunist traders perceptions on the stocks evolutions. We presume that these perceptions are made based on the differences between the stock returns and the return of an index which reflect the general evolution of the market (a kind of excess return) for a specific period of time, named the remembering period. However, as time goes, the impact of these excess returns is dissipating so we adjust their values to reflect the distance from the day that follows the remembering period.

We consider that a positive shock occurs when the excess return is significant larger than the maximum of the remembering period, while a negative shock occurs when the excess return is significant smaller than the minimum of the remembering period. We identify a day of high trading volume (DHTV) by comparing with the average of a past period. In a period of high trading volume (PHTD) we include such days but also days with low trading volume under condition that they are framed, at few days, between DHTVs. We associated shocks to a PHTD if they occur during them or precede it by few days.

We study the behavior of share prices for ten companies listed on New York Stock Exchange (NYSE). We investigate the returns from the PHTDs in order to reveal the opportunities of the contrarian and momentum profits.

The remainder of this paper is organized as follows: the second part describes the data and methodology employed to investigate the contrarian and momentum profits during the PHTDs preceded by shocks, the third part presents the empirical results and the fourth part concludes.

2. Data and Methodology

2.1. Data

In this investigation about the contrarian and momentum profits during periods of high trading volume we employ daily closing values and trading volume of ten stocks from NYSE: Alcoa Inc. (AAA), Bank of America Corporation (BAC), The Walt Disney Company (DIS), EMC Corporation (EMC), Freeport-McMoRan Inc. (FCX), The Gap, Inc. (GPS), Pfizer Inc. (PFE), United Health Group Incorporated (UNH), Wells Fargo & Company (WFC) and Williams Companies, Inc. (WMB). We also use the daily closing values of a representative index of NYSE: the well known Standard & Poor's 500 (S&P 500). For all eleven items the data is provided by Yahoo! Finance. The sample of data covers the period January 2012 - March 2016.

2.2. Computing the excess returns

We start by calculating, for each item (the ten stocks and the S&P 500 index), the simple return ($R_{i,t}$) as:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \times 100 \quad (1)$$

where P_t and P_{t-1} are the closing values of the item i on the days t and $t-1$, respectively.

We also determine, for all ten stocks, the excess return ($Z_{i,t}$) using the Standard & Poor's 500 index as a value of a reference asset:

$$Z_{i,t} = R_{i,t} - R_{S\&P,t} \quad (2)$$

2.3. Identifying the shocks

For the shocks identification we take into consideration a 30 days period of remembering that precedes a day t :

$$REM = [t - 1; t - 30] \quad (3)$$

For all the days of a remembering period we adjust the excess returns to reflect their dissipating impact as time goes. We use the formula of a geometric progression with a less than one common ratio (ρ):

$$adj_t^k(Z_{i,t-k}) = Z_{t-k} \times \rho^k, k = 1 \dots 30 \quad (4)$$

where $adj_t^k(Z_{i,t-k})$ is the adjusted excess return for a day from remembering period that precedes with k days the day t . In this paper we use a common ratio $\rho = 0.9$.

For each period of remembering we calculate three values:

- the minimum value of the adjusted excess returns:

$$m_{i,t}^{REM} = \min(adj_t^k(Z_{i,t-k})), k = 1 \dots 30 \quad (5)$$

- the maximum value of the adjusted excess returns:

$$M_{i,t}^{REM} = \max(adj_t^k(Z_{i,t-k})), k = 1 \dots 30 \quad (6)$$

- the amplitude of the remembering period:

$$A_{i,t}^{REM} = M_{i,t}^{REM} - m_{i,t}^{REM} \quad (7)$$

We identify the shocks by imposing the conditions:

$$\text{- for positive shocks: } Z_{i,t} > M_{i,t}^{REM} + 0.2 \times A_{i,t}^{REM} \quad (8)$$

$$\text{- for negative shocks: } Z_{i,t} < m_{i,t}^{REM} - 0.2 \times A_{i,t}^{REM} \quad (9)$$

2.4. Characterizing the periods of high trading volume

In this investigation we reveal some characteristics of PHTDs:

- number and length (in days) of PHTDs;
- the PHTDs preceded by positive or negative shocks;
- excess return for the first days of a PHTD;
- excess return for the whole PHTD.

We consider that a DHTV occurs when the trading volume (VT) exceeds, by 25 percents, the average of the precedent 30 days:

$$- VT_{i,t}^{DHTV} > 1.25 \times AVERAGE(VT_{i,t-30} \dots VT_{i,t-1}) \quad (10)$$

A PHTD includes DHTVs identified but also some days with low trading volume, under the condition that low trading volume couldn't last more than five consecutive days.

We associate a shock to a PHTD only if it occurs during that period or precedes it by less than six working days. In case of multiple shocks that precede a PHTD we chose, for assigning to the positive or negative ones, the earliest shock.

The excess return for the first days of a PHTD could be calculated using the formula (2). For the whole period we compute the excess return (Z_i^{PHTD}) as:

$$Z_i^{PHTD} = \frac{P_{i,f}^{PHTD} - P_{i,-1}^{PHTD}}{P_{i,-1}^{PHTD}} \times 100 - \frac{P_{S\&P,f}^{PHTD} - P_{S\&P,-1}^{PHTD}}{P_{S\&P,-1}^{PHTD}} \times 100 \quad (11)$$

where:

- $P_{i,f}^{PHTD}$ is the closing value of the stock i at the end of PHTD;
- $P_{i,-1}^{PHTD}$ is the closing value of the stock i for the day that precedes the PHTD;

- $P_{S\&P,f}^{PHTD}$ is the closing value of the S&P 500 at the end of PHTD;
- $P_{S\&P,-1}^{PHTD}$ is the closing value of the S&P 500 for the day that precedes the PHTD.

For these excess returns we calculate the averages and we test their significance by employing the t test.

3. Empirical Results

The Table 1 presents the shocks and the high trading volume periods identified for the ten stocks. In general, the number of negative shocks was larger than the number of positive shocks. The results indicate that, for each stock, more than a half of shocks, positive or negative, were associated to PHTD.

Table 1. Shocks of stock prices and high trading volume periods

Stock	Positive shocks of stock prices	Positive shocks associated to high trading volume periods	Negative shocks of stock prices	Negative shocks associated to high trading volume periods
AAA	130	88	173	117
BAC	112	73	187	96
DIS	167	87	173	76
EMC	153	91	142	90
FCX	139	98	171	113
GPS	149	100	161	118
PFE	134	71	162	96
UNH	137	81	153	93
WFC	137	70	170	91
WMB	125	76	197	118

The Table 2 reports some characteristics of PHTDs. For each stock, more than three quarters of PHTDs were preceded by shocks. Excepting one stock, the number of PHTDs preceded by negative shocks and the days included in these periods is larger than in the case of PHTDs preceded by positive shocks.

Table 2. Characteristics of the high trading volume periods preceded by shocks

Stock	High trading volume periods	High trading volume periods preceded by shocks	High trading volume periods preceded by positive shocks		High trading volume periods preceded by negative shocks	
			Number of periods	Number of days	Number of periods	Number of days
AAA	49	44	20	187	24	120
BAC	57	53	22	78	31	131
DIS	57	49	22	76	27	104
EMC	59	52	28	109	24	137
FCX	64	54	24	111	30	121
GPS	59	51	23	115	28	148
PFE	56	47	19	99	28	106
UNH	48	43	14	98	29	125
WFC	48	44	22	108	22	75
WMB	50	48	18	85	30	200

The average values of the excess returns for the PHTDs preceded by positive or negative shocks are presented in the Table 3. For the first day of PHTDs we found, in general, significant positive averages for the periods preceded by positive shocks and significant averages for those preceded by negative shocks. In the case of whole periods the results are mixed. For the PHTDs preceded by positive shocks we found significant positive averages for seven stocks and significant negative averages for three stocks. For the PHTDs preceded by negative shocks we found significant positive

averages for one stock and significant negative averages for eight stocks. These results suggest that, for both positive and negative shocks, the opportunities for momentum profits dominate those for contrarian profits.

Table 3. Average excess returns for the high trading volume periods preceded by shocks

Stock	Average excess return for the first day of the period		Average excess return for the whole period	
	High trading volume periods preceded by positive shocks	High trading volume periods preceded by negative shocks	High trading volume periods preceded by positive shocks	High trading volume periods preceded by negative shocks
AAA	2.1312***	-0.6492*	-1.2514***	-0.1703*
BAC	2.1323***	-0.3722*	2.9010***	-0.4065**
DIS	0.2234*	0.0183	0.2864*	0.4325**
EMC	-0.0506	-0.7194**	-0.2797*	-0.3772*
FCX	2.0080***	-1.9106***	2.3510***	-3.2372***
GPS	1.6446**	-0.8032**	1.1064**	-0.9757**
PFE	0.7839*	-0.5579*	1.3185**	-0.5132**
UNH	0.8118*	-0.6309*	1.7292**	-0.6942**
WFC	0.2031*	-0.2196*	-0.3752*	-0.0796
WMB	1.5182**	-1.8848***	1.8851**	-2.5239***

Note: ***, **, *, mean significant at 0.01, 0.05, and 0.1 levels, respectively.

4. Conclusions

The relation between the shocks and PHTDs is characterized by complexity. In this investigation we found that more than a half of shocks were associated to PHTDs, while more than three quarters of the PHTDs were preceded by shocks. These aspects could be related to the opportunist traders' behaviors which are attracted by shocks. Perhaps most of them could be considered as chartists but, in some circumstances, fundamentalist traders who perceived the stock prices as too under or overvalued could also react to the shocks.

The averages of excess returns indicate that, for most of the stocks, the opportunities for momentum strategies prevail over those for contrarian strategies. However, in the case of long PHTDs (some of them could last for 4-5 weeks) an opportunist trader could pass from momentum to contrarian strategies and vice versa.

This investigation could be extended to other developed or emerging capital markets. It could also approach some aspect of the long PHTDs.

References

1. Abarbanell, J. S. & Bernard, V. L. (1992). Tests of analysts' overreaction/underreaction to earnings information as an explanation for anomalous stock price behavior. *The Journal of Finance*, 47(3), 1181-1207.
2. Abarbanell, J. S. & Bushee, B. J. (1998). Abnormal returns to a fundamental analysis strategy. *The Accounting Review*, 73(1), 19-45.
3. Agyei Ampomah, S. (2007). The Post-Cost Profitability of Momentum Trading Strategies: Further Evidence from the UK. *European Financial Management*, 13(4), 776-802.
4. Antoniou, A., Galariotis, E. C. & Spyrou, S. I. (2005). Contrarian profits and the overreaction hypothesis: The case of the Athens stock exchange. *European Financial Management*, 11(1), 71-98.
5. Baker, M., Ruback, R. S. & Wurgler, J. (2004). Behavioral corporate finance: A survey. NBER Working Paper No. 10863.
6. Barberis, N., Shleifer, A. & Vishny, R. (1998). A model of investor sentiment. *Journal of Financial Economics*, 49(3), 307-343.
7. Barberis, N. & Thaler, R. (2003). A survey of behavioral finance. *Handbook of the Economics of Finance*, 1, 1053-1128.
8. Beja, A. & Goldman, M. B. (1980). On the dynamic behavior of prices in disequilibrium. *The Journal of Finance*, 35(2), 235-248.
9. Bloomfield, R., O'Hara, M., & Saar, G. (2009). How noise trading affects markets: An experimental analysis. *Review of Financial Studies*, 22(6), 2275-2302.
10. Blume, L., Easley, D. & O'Hara, M. (1994). Market statistics and technical analysis: The role of volume. *The Journal of Finance*, 49(1), 153-181.
11. Brock, W. A. & Hommes, C. H. (1997). A rational route to randomness. *Econometrica: Journal of the Econometric Society*, 1059-1095.

12. Brock, W. A. & Hommes, C. H. (1998). Heterogeneous beliefs and routes to chaos in a simple asset pricing model. *Journal of Economic Dynamics and Control*, 22(8), 1235-1274.
13. Campbell, J. Y. Grossman, S. J., & Wang, J. (1992). Trading volume and serial correlation in stock returns. NBER Working Paper No. 4193.
14. Caporale, G. M., Gil-Alana, L. A., & Plastun, A. (2014). Short-Term Price Overreaction: Identification, Testing, Exploitation. DIW Berlin Discussion Paper No. 1423
15. Chan, K. C. (1988). On the contrarian investment strategy. *Journal of Business*, 61, 147-163.
16. Chan, L. K. C., Jegadeesh, N., & Lakonishok, J. (1996). Momentum strategies. *The Journal of Finance*, 51(5), 1681-1713.
17. Chan, W. S. (2003). Stock price reaction to news and no-news: Drift and reversal after headlines. *Journal of Financial Economics*, 70(2), 223-260.
18. Chen, J., Hong, H. & Stein, J. C. (2001). Forecasting crashes: Trading volume, past returns, and conditional skewness in stock prices. *Journal of Financial Economics*, 61(3), 345-381.
19. Chaudhury, M. & Piccoli, P. (2015). Stock Overreaction to Extreme Market Events. *Proceedings of the European Financial Management Association 2015 Annual Meetings June 24-27, 2015, Amsterdam*.
20. Chiarella, C., He, X. Z. & Zheng, M. (2011). An analysis of the effect of noise in a heterogeneous agent financial market model. *Journal of Economic Dynamics and Control*, 35(1), 148-162.
21. Chordia, T., Subrahmanyam, A., & Anshuman, V. R. (2001). Trading activity and expected stock returns. *Journal of Financial Economics*, 59(1), 3-32.
22. Chui, A. C., Titman, S. & Wei, K. J. (2010). Individualism and momentum around the world. *The Journal of Finance*, 65(1), 361-392.
23. Crouch, R. L. (1970). The volume of transactions and price changes on the New York Stock Exchange. *Financial Analysts Journal*, 26(4), 104-109.
24. Daniel, K., Hirshleifer, D. & Subrahmanyam, A. (1998). Investor psychology and security market underreaction and overreactions. *The Journal of Finance*, 53(6), 1839-1885.
25. De Bondt, W. & Thaler, R. H. (1985). Does the Stock Market Overreact?. *The Journal of Finance*, 40(3), 793-805.
26. DeLong, J. B., Shleifer, A., Summers, L. H. & Waldmann, R. J. (1987). The economic consequences of noise traders. NBER Working Paper No. 2395.
27. Dumitriu, R., Stefanescu, R. & Nistor, C. (2011). Changes in the dynamic relation between the prices and the trading volume from the Bucharest stock exchange. *Proceedings of the 18th International Economic Conference - IECS 2011, „Crises After The Crisis. Inquiries From a National, European and Global Perspective”, Universitatea Lucian Blaga, Sibiu*.
28. Dumitriu, R. & Stefanescu, R. (2013). Reactions to Shocks of the Romanian Companies Stock Prices. *Proceedings of the International Conference of Scientific Paper AFASES 2013, "Henri Coanda" Air Force Academy, Brasov*.
29. Fama E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance*, Vol. 25, 383-417.
30. Fama E. F. (1998). Market Efficiency, Long-Term Returns and Behavioural Finance, *Journal of Financial Economics*, 49, 283-306.
31. Fama E. F. (1991). Efficient capital markets: II, *Journal of Finance*, 46, 1575-1617.
32. Fischer, T. (2011). News reaction in financial markets within a behavioral finance model with heterogeneous agents. *Algorithmic Finance*, 1(2), 123-139.
33. Frisch, T., Kolaric, S. & Schiereck, D. (2014). Returns on large stock price declines and increases in the South African stock market: a note on market efficiency. *The International Business & Economics Research Journal*, 13(3), 581-592.
34. Gallant, A. R., Rossi, P. E. & Tauchen, G. (1992). Stock prices and volume. *The Review of Financial Studies*, 5(2), 199-242.
35. Galaritis, E. C., Holmes, P. & Ma, X. S. (2007). Contrarian and momentum profitability revisited: Evidence from the London Stock Exchange 1964–2005. *Journal of Multinational Financial Management*, 17(5), 432-447.
36. Govindaraj, S., Livnat, J., Savor, P. G. & Zhao, C. (2014). Large Price Changes and Subsequent Returns. *Journal of Investment Management*, 12(3), 31-58.
37. Granger, C. W. & Morgenstern, O. (1962). Spectral Analysis of New York Stock Market Prices. *Econometric Research Program, Research Memorandum No. 45*.
38. Grinblatt, M. & Han, B. (2002). The disposition effect and momentum. NBER Working Paper 8734.
39. Grossman, S. J. & Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *The American Economic Review*, 70(3), 393-408.
40. Haltiwanger, J. & Waldman, M. (1985). Rational expectations and the limits of rationality: An analysis of heterogeneity. *The American Economic Review*, 75(3), 326-340.
41. He, X. Z., Li, K., Wei, J. & Zheng, M. (2009). Market stability switches in a continuous-time financial market with heterogeneous beliefs. *Economic Modelling*, 26(6), 1432-1442.
42. He, X. Z. & Li, K. (2015). Profitability of time series momentum. *Journal of Banking & Finance*, 53, 140-157.
43. Hirshleifer, D. (2001). Investor psychology and asset pricing. *The Journal of Finance*, 56(4), 1533-1597.
44. Hommes, C. H. (2006). Heterogeneous agent models in economics and finance. *Handbook of computational economics*, 2, 1109-1186.
45. Hong, H. & Stein, J. C. (1999). A unified theory of underreaction, momentum trading, and overreaction in asset markets. *The Journal of Finance*, 54(6), 2143-2184.

46. Hong, H., Lim, T. & Stein, J. C. (2000). *Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies*. *The Journal of Finance*, 55(1), 265-295.
47. Jegadeesh, N. & Titman, S. (1993). *Returns to buying winners and selling losers: Implications for stock market efficiency*. *The Journal of Finance*, 48(1), 65-91.
48. Jegadeesh, N. & Titman, S. (1995). *Overreaction, delayed reaction, and contrarian profits*. *Review of Financial Studies*, 8(4), 973-993.
49. Jegadeesh, N. & Titman, S. (2001). *Profitability of momentum strategies: An evaluation of alternative explanations*. *The Journal of Finance*, 56(2), 699-720.
50. Karpoff, J. M. (1986). *A theory of trading volume*. *The Journal of Finance*, 41(5), 1069-1087.
51. Karpoff, J. M. (1987). *The relation between price changes and trading volume: A survey*. *Journal of Financial and Quantitative Analysis*, 22(01), 109-126.
52. La Porta, R., Lakonishok, J., Shleifer, A. & Vishny, R. (1997). *Good news for value stocks: Further evidence on market efficiency*. *The Journal of Finance*, 52(2), 859-874.
53. Lakonishok, J. & Smidt, S. (1986). *Volume for winners and losers: Taxation and other motives for stock trading*. *The Journal of Finance*, 41(4), 951-974.
54. Lakonishok, J., Shleifer, A. & Vishny, R. W. (1994). *Contrarian investment, extrapolation, and risk*. *The Journal of Finance*, 49(5), 1541-1578.
55. Lasfer, M. A., Melnik, A. & Thomas, D. (2003). *Stock Price Reaction in Stressful Circumstances: An International Comparison*. *Journal of Financial Economics*, 40.
56. LeBaron, B. (2006). *Agent-based computational finance*. *Handbook of computational economics*, 2, 1187-1233.
57. Lee, C. & Swaminathan, B. (2000). *Price momentum and trading volume*. *The Journal of Finance*, 55(5), 2017-2069.
58. Lesmond, D. A., Schill, M. J. & Zhou, C. (2004). *The illusory nature of momentum profits*. *Journal of Financial Economics*, 71(2), 349-380.
59. Lo, A. W. & MacKinlay, A. C. (1990). *When are contrarian profits due to stock market overreaction?*. *Review of Financial Studies*, 3(2), 175-205.
60. Mandelbrot, B. (1963). *The Variation of Certain Speculative Prices*. *The Journal of Business*, 36(4), 394-419.
61. Marsh, T. A. & Wagner, N. (2004). *Return-volume dependence and extremes in international equity markets*. *EFA 2003 Annual Conference Paper No. 284; Research Program in Finance RPF No. 293*.
62. Miller, E. M. (1977). *Risk, uncertainty, and divergence of opinion*. *The Journal of Finance*, 32(4), 1151-1168.
63. Novy-Marx, R. (2012). *Is momentum really momentum?*. *Journal of Financial Economics*, 103(3), 429-453.
64. Osborne, M. M. (1959). *Brownian motion in the stock market*. *Operations Research*, 7(2), 145-173.
65. Rouwenhorst, K. G. (1998). *International momentum strategies*. *The Journal of Finance*, 53(1), 267-284.
66. Savor, P. G. (2012). *Stock returns after major price shocks: The impact of information*. *Journal of Financial Economics*, 106(3), 635-659.
67. Schulmeister, S. & Goldberg, M. D. (1989). *Noise trading and the efficiency of financial markets. The American financial system: Between euphoria and crisis*, Quaderni della Fondazione Adriano Olivetti, Berlin, 117-153.
68. Shefrin, H. & Statman, M. (1985). *The disposition to sell winners too early and ride losers too long: Theory and evidence*. *The Journal of Finance*, 40(3), 777-790.
69. Shiller, R. J. (2003). *From efficient markets theory to behavioral finance*. *The Journal of Economic Perspectives*, 17(1), 83-104.
70. Shleifer, A. & Summers, L. H. (1990). *The noise trader approach to finance*. *The Journal of Economic Perspectives*, 4(2), 19-33.
71. Spyrou, S., Kassimatis, K. & Galariotis, E. (2007). *Short-term overreaction, underreaction and efficient reaction: evidence from the London Stock Exchange*. *Applied Financial Economics*, 17(3), 221-235.
72. Stefanescu, R., Dumitriu, R. & Nistor, C. (2012). *Short term momentum and contrarian profits on the Bucharest Stock Exchange before and during the global crisis*. *Analele Universității „Eftimie Murgu” Reșița*, 19(2), 344-353.
73. Tauchen, G. E. & Pitts, M. (1983). *The price variability-volume relationship on speculative markets*. *Econometrica: Journal of the Econometric Society*, 485-505.
74. Tversky, A. & Kahneman, D. (1974). *Judgment under uncertainty: Heuristics and biases*. *Science, New Series*, 185(4157), 1124-1131.
75. Weber, P. & Rosenow, B. (2006). *Large stock price changes: volume or liquidity?*. *Quantitative Finance*, 6(1), 7-14.
76. Zarowin, P. (1989). *Does the stock market overreact to corporate earnings information?*. *The Journal of Finance*, 44(5), 1385-1399.
77. Zawadowski, A. G., Andor, G., & Kertész, J. (2006). *Short-term market reaction after extreme price changes of liquid stocks*. *Quantitative Finance*, 6(4), 283-295.
78. Zeeman, E. C. (1974). *On the unstable behaviour of stock exchanges*. *Journal of Mathematical Economics*, 1(1), 39-49.

The Approach based on the Income in the Context of the Real Estate Ownership

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The evolution of the real estate market in Romania approaches the past, present and future of the real estate market in the actual economic financial crisis reported to the other EU member states. The real estate market regards the operations, transactions through which ownership or use rights of buildings and lands are given. It has been observed that in 2014 the activity of the real estate market was visibly more intense than the one in the previous year, after the revival of the activity that has already been observed in 2014. We consider that this evolution is influenced both by the European context and the facilities banks provide regarding the crediting and the "First house" program", 2015 being considered the best year for the real estate market after the crisis.

JEL Code: G32, G33, G39

Keywords: real estate market, market value, investment value, property evaluation, cash-flow

1. Introduction

The real estate market is considered to be the meeting place of the real estate demand and offer, through the transactions that happen and through the ones that did not materialize, thus giving the chance to analyze the market evolution. From the perspective of the freedom degree, we can claim that the real estate market is a free market, featured by the elaboration of the selling-buying documents. In the past, we could not even talk about a real estate market, given the fact that there was no competition, real estate agencies, selling-buying services being provided only through actuaries.

Thus, we can say that before 1989 we had a controlled, imposed market that did not offer the opportunity of acting freedom. An example is the use of standard prices for real estate goods, issued for the elaboration of the buying selling documentation, which were established by the state without the possibility of being influenced by the seller in a favorable manner for him. Real estate goods could not be sold at a higher price than the one established by law and calculated depending on the age of the building and the area it was located in. Following the basic concepts which are featured by needs, desires and demand, products, value, cost and satisfaction, exchanges and relations, markets, we can display them into the real estate field as follows in the next graphic:

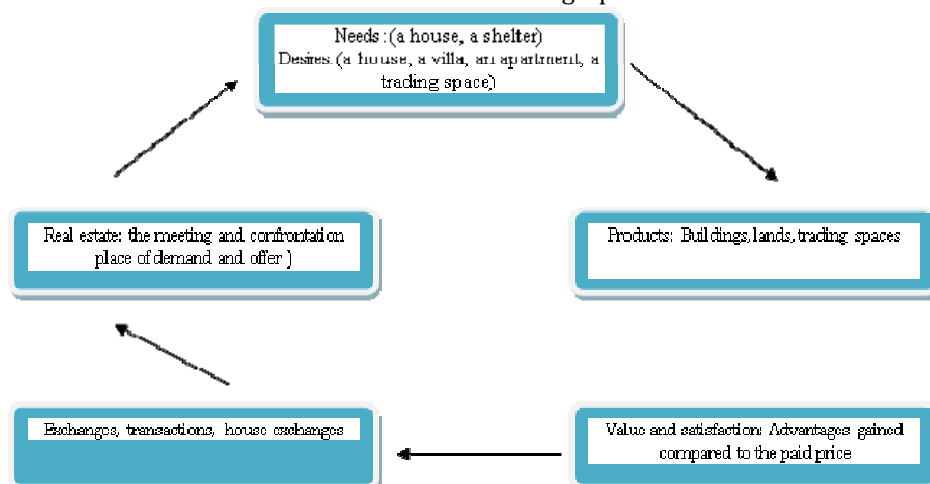


Figure no: 1 Basic concepts

2. Conceptual aspects regarding the income based approach

The income based approach gives information on the value by converting the future income flows (gross or net profit, gross or net rent, royalty, net annuity, net cash-flow, net operating income etc) in the value of the active (market or investment value).

The opinion to which we subscribe is that building built without authorization is extended in time, thus, we are in the presence of a continued contravention, and so in this case the limitation of prescription period runs from the day the contravention activity has ended.¹³⁵ The income based approach represents one of the classic methods of evaluation and namely three of them, which an evaluator can use in the evaluation process. It includes mathematic methods, techniques and procedures, used by the evaluator in order to analyze the capacity of real estate goods to generate benefits, which usually come from incomes and the re-selling value. The income based approach is based on the principle according to which if a real estate is bought, the investor does not have to pay for it more than the revenues that he will get while possessing it plus the re-selling value of the property.

3. The interdependence of the method with the evaluation principles

Within the income based approach, the principle of anticipation is basic, according to which, the value originates in the anticipated future revenues that are to be generated by the owned property. All income capitalization methods, all the associated techniques and procedures consider the future anticipated revenues. The principle of demand and offer is very useful to predicting future benefits and estimating the profitability rates through income, as the income flows and the profitability rates are determined by the market. If the demand for a certain type of space grows and overpasses the existing offer, owners can grow the price of the rent. As a result, the values of real estate goods grow until the demand and offer reach a balance again. On the other side, if the demand for a space decreases, the rents will also decrease and inoccupation rates will grow.

In current practice of romanian courts and doctrine a constantly rising problem refers to different types of offense such as continues, continued contravention, instant offense, recidivism, and competition offenses against criminal law. There are also law ferenda proposals on the future realization in the text of a possible Contraventional mCode a special article regarding contraventional record.¹³⁶

4. The applicability of the method and restrictions

When evaluating the real estate property, we generally use the approaches by comparing the sales, the income capitalization and costs. The evaluator will reconcile the values resulted from the use of two or more associated approaches/methods.

These approaches are based on the substitution principle, namely he establishes if there are more similar goods or services, and the ones with a lower price will attract the demand. When applying each method we need the income type/cash flow with the capitalization rate/actualization rate. When other income form is used, it will be necessary to argue reported to the decision not to use the net operating income. It is forbidden to use the market level of the rent, of the inoccupation rate, of the expenditures associated to the owner as well as the use of the level of the capitalization/actualization rate, without displaying in the report their estimation mode.

5. The market and investment value

The income approach is used to estimate the market value of the real estate properties. "The market value is the estimated sum for which an asset could be change at the evaluation date, between a buyer and a vendor, through a transaction that is assumed to happen between parts that have no relation, each acting independently, according to an adequate marketing procedure and in which the parts have consciously acted, carefully and without constraints. The market value is most probable price that can be reasonably attained on the market, at the date of evaluation, according to the definition of the market value.

This is the best attainable price in a reasonable manner, by the vendor and the best attainable price in a reasonable manner by the buyer. The best use can be to continuously use of the existing asset

¹³⁵ Mihăilescu Mădălina Elena, Câteva considerații pe marginea sancțiunii contravenționale a desființării lucrărilor și aducerii lucrărilor în faza inițială", "Curierul judiciar" nr. 3/ 2011, ISSN 1582-7526, Edit ALL Beck.

¹³⁶ Mihăilescu Mădălina Elena, Sanctiuni contravenționale, Aspecte de drept material în dreptul românesc și comparat, unic autor, Editura Hamangiu, București, România, 2013, ISBN 978-606-678-666-9;

or an alternative use. This can be determined by the use which a participant on the market would intend to give to an asset when he establishes the price he would offer. Determining the best use assumes that:

- The use is possible, through the point of view of what would be considered reasonable by the participants on the market,
- The use is legally allowed, considering any restrictions in the use of the asset, as an example, the specifications in the regional planning,
- The use is financially feasible, considering if an alternative use, which is legally allowed and physically possible, will generate a sufficient profit for a typical market participant, after all the conversion costs of that use had been considered, over the profit that is generated by the existing use.

The investment value of an asset for the user or for the possible owner, for a certain investment or for operating objectives. This is a type of value that is specific to the entity. Though the owner value of an asset can be equal to the amount of money that could be gained from its sale to other entity, this type of value reflect the benefits gained by an entity from the ownership of an asset and, as a result, it does not necessarily assume a hypothetical exchange.¹³⁷ The investment value reflects the situations and the financial objectives of the entity which is evaluated. It is frequently used to quantify the investment performance. The difference between the investment value of an asset and its market value represents the motivation for the buyers or the sellers to enter the market. The market value is objective, non-personal, apart from the investor, and the investment value is based on subjective criteria.

6. Leasing contracts

Through the location contract, the owner of a good transfers all the use and occupation rights of the property to the other side for a certain period of time in exchange for a price named rent. The leasing contracts can be negotiated to meet every situation, but most of them are included in one of the following categories: fix rent contracts – assuming a fix value of the rent for the whole period of the contract; contracts with periodical adjusting clauses of the rent – can be ranked as: depending on a certain specified criterion – progressive rent; this type of locational contracts is as positive when a tenant wants to develop a business in that space, paying lower money in the beginning and more money in time, reported to the attained results; depending on the periodical re-evaluation of the property; in this case, the re-evaluated value of the property influences the periodical adjustment of the rent; according to the index; Contracts with percentage calculus of the rent – this type of contracts aim at the case when the rent, partially or as a whole, is calculated using a percentage on the turnover, the profit or other income forms of the tenant.

The rent is negotiated based on the gross rents when the operating expenditures of the good are supported by its owner, and based on the net rents, when all the expenditures associated to the property are supported by the tenant.

Is required a correlation between contraventional penalties and criminal penalties as there are many situations in practice when contraventional fines exceed the level of the criminal fines.¹³⁸

7. Frequent contractual clauses

In the context of the actual real estate market, these clauses regard: facilities of the rent; the allocation of the expenditures between properties and tenants; renewal options; escalation clauses; buying options, annulment clauses; continuous occupation clauses; arrangements of tenants; other clauses.

8. The rent, incomes generated by the real estate properties originate from rents. The main rent types are: market rent, contractual rent, effective rent, surplus rent, adverse rent, percentage rent and additional rent.

9. Future incomes, use different revenue forms and cash-flows, such as: potential gross income, effective gross income, net operating income, available cash-flows before taxation, available net income after taxation, terminal value.

¹³⁷ Grosman M., Evaluarea rezultatelor activității de marketing în baza implementării sistemului de indicatori manageriali, Revista „Studii economice”, ULIM, nr. 3-4 decembrie 2012

¹³⁸ Mihăilescu Mădălina Elena, Sancțiuni contravenționale, Aspecte de drept material în dreptul românesc și comparat, unic autor, Editura Hamangiu, București, România, 2013, ISBN 978-606-678-666-9;

10. Operating expenditures, include all the expenditures needed to maintain the property within normal functioning standards and to generate estimated revenues. The most frequently used are the fix, variable expenditures and renewal allocations.

11. The income rate and the profitability rate, due to the fact that revenues originating from real estate properties can have various forms, the evaluator uses more rates of the attained benefits, such as: income rates-reported between the annual income and the value, being used to convert the income in value; the capital profitability rate – example: the effective interest rate, the actualization rate or the internal profitability rate.

12. Risk estimation, being a very important element which is considered when applying the income based methods, the risk anticipates the cashing of future earnings, creating value, and the possibility of losing gains lowers the value. For an investor in the real estate field, the risk represents the chance to a financial loss and the uncertainty of gaining future estimated incomes. Many investors avoid risks in the favor of certainty, expecting a reward in exchange for risk assumption.

13. Income approach procedure, an real estate evaluator, by applying the income approach procedure, can use two evaluation methods of a real estate good, which generates incomes, namely: direct capitalization – annual income is reported to an income rate or is multiplied with an income multiplier to attain value information; discounted cash-flow, analyze of the actualized cash-flow – it considers future cash-flows and the terminal value, being converted to property value.

14. Case study regarding the evaluation of real estate goods through the market and income approach

14.1 The market approach, through the method of direct comparison is given as an example based on the evaluation of a 2 room apartment in Galati, area A. the apartment is located downtown, behind Vega hotel, year of building 1958. The apartment has medium adjustments, namely: cellular inside joinery, external woodwork, moquette, sandstone and faience in the bathroom and kitchen. The apartment is uninhabited

The corrections that are established in the direct comparison methodology, considering that they are attained through quantitative techniques and are applied to comparable transactions, either as a percentage or absolute value.

The evaluator uses logical calculus to make corrections, but mathematics don't have to replace the professional thinking of the evaluator. The use of the calculator and programs improve the speed and accuracy of the calculus, but the estimation of the market values is determined not only by precise calculus. The evaluation also has a creative aspect where the evaluators use their professional thinking in the analysis and the interpretation of quantitative data. The percentage correction is used to display the changes in the market conditions and the location differences.

The evaluator must be consequent regarding the expressing method of the relation between the comparable propriety and the evaluated one, and the correction must be made in a manner that corresponds to the way it is perceived by the market.

As we only know the price of the comparable transaction, the correction is made on that price in order to reach the estimation of the market value of the evaluated property.

The absolute correction is calculated in monetary units that is summed up or subtracted to/from the price of the comparable transaction.

The order in which the corrections are applied to the prices of comparable transactions is determined by the market data and the analysis of the evaluator.

Percentage corrections, which are applied on comparable transactions reflect the superiority or inferiority of the comparable property, considering the elements of the comparison.

The mean of correction is the market grid. The evaluator can estimate the comparability of made transactions reported to the evaluated property and select the final value. Transactions that require the smallest corrections will have the biggest importance in choosing the final value. At the same time, this importance will also reflect the trust the investor has in the data regarding the comparable transactions. The choice of the final value is the last stage of the analysis, where two or more values appear and an opinion regarding the value that would lead to the most probable price is to be expressed.

This opinion can be expressed as a value interval or as a single value/punctual value. It is important that the evaluator considers the strengths and the weaknesses of each result, examining the credibility and the accuracy of the market information that stood at the base of the value, as well as the used technique. The evaluation report must clearly emphasize the arguments through which the evaluator reached the conclusion.

In the case of the direct comparison method, the choice of the value can include two analysis levels. The first level means the reaching of a value from the price correction of two or more comparable transactions, considering a single comparison criterion (for example price/sqm). The second level is the analysis of the attained values, considering more comparison criteria. In the selection process of the final value there are two extremely important elements:

- The first one consists of the fact that the evaluator must be sure that the estimated value corresponds to the objective of the evaluation and is correlated to the values that have been obtained through other methods. High attention will be paid to the correlation of the evaluation date with the data when the comparable transactions happened.
- The second element consists of the fact that the evaluator must consider the differences regarding the ownership rights that were transferred through the comparable transactions. In most cases, these differences lead to the exclusion of certain transactions from the comparable ones and any carelessness in the analysis of this aspect might lead to wrong conclusions.

Table no 1

Comparison elements	subject	comparable 1	comparable 2	Comparable 3
Ad/date		Real estate agency July 2010	Real estate agency August 2010	Real estate agency July 2010
Selling price	?	930	813	750
Transferred ownership right	DPI	DPI	DPI	DPI
Correction		0%	0%	0%
Corrected price	?	930	813	750
Financing conditions	market	Market	Market	Market
Correction		0%	0%	0%
Corrected price	?	930	813	750
Selling clauses	Normal	Normal	Normal	Normal
Correction		-5%	-5%	-5%
Corrected price	?	884	772	713
Market conditions	Stagnating market	Stagnating market	Stagnating market	Stagnating market
Correction		-5%	-5%	-5%
Corrected price	?	839	734	677
Location	Downtown near Faleza	Downtown Romarta Veche	Downtown near Faleza	Downtown near Faleza
Correction		0%	0%	0%
Corrected price	?	839	734	677
Useful area –sq m	41,37	43,00	43,00	44,00
Correction		0%	0%	0%
Corrected price	?	839	734	677
No. Of rooms	2	similar	similar	similar
Correction		0%	0%	0%
Corrected price	?	839	734	677
Floor	5/7	2/7	5/7	7/7
Correction		-6%	0%	5%
Corrected price	?	789	734	711
Building year (P.I.F. year)	52	41	52	52
Correction		-4%	0%	0%
Corrected price	?	757	734	711
Internal adjustments	Average	Average	Average	Average

Comparison elements	subject	comparable 1	comparable 2	Comparable 3
Correction		0%	0%	0%
Corrected price	?	757	734	711
Additional equipment	-	-	-	-
Own heating plant	-	-	-	-
Air conditioning	-	-	-	-
Correction		0%	0%	0%
Corrected price	?	757	734	711
Total gross corrections		173	79	107
Adopted market value:: COMPARABLE 2, with the smallest total gross correction				
Estimated market value	30.355	euro with VAT		
Estimated market value	133.860	lei with WATT		
Estimated market value	24.479	euro without VAT		
Estimated market value	107.947	lei without VAT		
Exchange (31.03.2015)	4,4098	lei/euro		

Comparable 1: 2 room apartment, Block P, Us = 43 sq m, average finish, floor 2/7, heating
Price: 40.000 eur (930 eur/ useful sqm)

Comparable 2: 2 room apartment, Block on the Faleza, Us = 43 sqm, average finish, floor 5/7, heating
Price: 35.000 eur (813 eur/ useful sqm)

Comparable 3: 2 room apartment, Block P, Us = 44 sqm, average finish, floor 7/7, heating
Price: 33.000 eur (750 eur/ useful sqm)

Needed corrections are displayed in the following table:

Table no 2

Selling conditions	-5%	The applied negotiation margin currently on the market given the conditions of normal selling
Market conditions	-5%	Stagnating market. Consistent offer, low demand, high exposure period, rare transactions. Though owners have generally adjusted the offers expressed in Eur, the depreciation of the national currency really makes the price decrease in a more reduced manner. The market is featured by the lack of liquidities and imbalance in the favor of the buyer.
Location		No correction was made
Useful surface	-5%	Adjustments according to the current market requirements
No. of rooms		No corrections were made
Floor	-6%; 5%	Corrections depending on the market survey regarding apartments
Building age	-4%	Corrections using the P135 Regulation
Finish		No corrections were made
Additional equipment		No corrections were made

14.2. The income approach

This approach, which is included in the yield methods, is based on the ability of the asset to generate revenues. The estimated value expresses the current market value of the real estate property assuming that it is functional and generates revenues from the use disposal to a third part. The method is based on the ability of the propriety to produce benefits through leasing, considering the location and equipment. We consider that the best use of the analyzed property is leasing. From the data

attained by the evaluator, three comparable properties are displayed below, rented with the prices displayed in the table. Then, the multipliers of the gross rent were established (the ratio between the selling value and the monthly rent), their average was calculated, then, using the attainable monthly rate in the case of the evaluated property, the market value of the subject was reached. This procedure is according to the International Standard of Practice in Evaluation.

Table no 3

Calculus elements	Subject	Comparable 1	Comparable 2	Comparable 3
Number of rooms (similar)	2	2	2	2
Market selling prices(EURO)		40.000	35.000	33.000
Monthly gross rent (EURO)		300	300	300
MGR (Multiplier of gross rent)		133	117	110
Media MCB		120		
Attainable monthly rent in the case of the evaluated property		250		
Exchange (31.07.2010)	LEI / 1 EURO	4,4098		
PROPERTY VALUE	EURO	30.000		
	LEI	132.294		

14.3. Value reconciliation. As a result of establishing the market value through both methods, the evaluator decided, depending on the evaluation objective, that the most relevant market value is the one determined through the income based approach.

Conclusions

Excepting the structural inefficiencies, inherent in most of the real estate markets in the world, the Romanian market is exposed to additional risks, due to the foreign currency transactions, the decrease of the population number and the significantly high number of houses inhabited by owners (reduced leasing market). This situation is amplified by the lack of transparency on the market (the lack of an official estate index), high costs and low speed of transactions, as well as by the excessive bureaucracy in the field of constructions. The specific of the real estate market is mainly determined by two elements: the characteristics of the properties and the behavior of the market participants. Due to this factors, the real estate market distinguishes itself through: informational asymmetries, rigid prices, significant liquidity fluctuations, lack of transparency and economic insufficiency. Thus, significant risks are generated for the financial system, which is highly connected to the real estate market through the mortgage warranties, as well as for the rest of the economic system, by the influence on the investment process and the mobility of the work force. The evaluation methods are a simple calculus mean. They generate values that can be used both reasonably and unreasonably. It is the evaluator's duty to explain as accurate as possible that the calculated value is and, more important, what it is not. The evaluation is just a part of the decisional process and we expect that the players on the market to learn from the past experiences. We believe that on medium term, practices such as the use of the residual method or of the liquidity values for financing or acquisitions will represent simple "accidents" and not a market rule. We also believe that questioning the information quality and its sources on a market that lacks transparency like the one in Romania will reposition the evaluation process from a simple formality to an important part of the process of determining the high risk degree. This fact, for its part, should support the avoidance of another crisis, similar to the current one.

References

1. Andreica H.-A, Vereş D., *Evaluare Imobiliară*, Editura U.T. Pres, Cluj-Napoca, 2002
2. Bologa A., *Evaluarea întreprinderii*, Editura CIBERNETICA MC, Bucureşti, 2011
3. Boone, Laurence şi Girouard, Natalie. *The Stock Market, the Housing Market and Consumer Behaviour*. OECD Economic Studies No. 35, 2002/2.
4. Bleoju G., Capatana A., *COLLABORATIVE INNOVATION THROUGH ADJUSTING STRATEGIC INTELLIGENCE CAPABILITIES ON SOFTWARE MARKET*, Network Intelligence Studies, 2014;

5. Bleoju G., Capatana A., *THE SPECIFIC VALORISATION OF COMPETITIVE INTELLIGENCE PROFILING ON THE SOFTWARE INDUSTRY*, *The Proceedings of the 15th European Conference on Knowledge Management - ECKM 2014*;
6. Crivii Adrian, Vasca Adrian - "Evaluarea intreprinderilor - curs -", ed. a V-a, Biblioteca ANEVAR, 1999
7. Deaconu A., *Evaluarea afacerilor*, Editura Intelcredo, Deva, 2002
8. Deaconu A., *Diagnosticul și evaluarea afacerii*, Suport de curs 2012-2013, Cluj- Napoca, 2012
9. Frăsineanu, C., *Metode de evaluare a patrimoniului*, Editura ASE, București, 2002
10. Goagară D., Giurcă-Vasilescu L., *Evaluation based on assets: critical analysis*, Universitatea din Craiova, 2009
11. Grosman M., *Evaluarea rezultatelor activității dec marketing în baza implimentării sistemului de indicatori manageriali*, *Revista „Studii economice”*, ULIM, nr. 3-4 decembrie 2012
12. Iancu D., *MANAGERIAL LEADERSHIP FROM THE PERSPECTIVE OF ENVIRONMENT ORGANIZATIONAL SPORTS*, *INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov*, 24-26 May 2012;
13. Iancu D., *EDUCATIONAL MANAGEMENT, A NEW PARADIGM IN SOCIAL DEVELOPMENT*, *INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov*, 24-26 May 2012;
14. Isai V., *Aspects regarding the accounting of reexport and lohn operations*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2004, ISSN 1584-0409
15. Isai V., *Particularities of the managerial accounting in the companies of import and export*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2003, ISSN 1584-0409
16. Isai Violeta, Radu Riana Iren, Rusu Robert, *The biological assets and the crop production – acknowledgement and evaluation possibilities in the agricultural holdings accountancy from Romania*, 23rd IBIMA Conference, Valencia, Spain, 2014.
17. Lungu I., Komartin R., *Justificarea financiară a investițiilor informatic*, *Revista Informatica Economica*, nr.2, vol. 14: 44, 2010
18. Orac, C. M. (2009). *Criminality and regional economic disparities at the Romanian - Hungarian border*, *Criminalitatea transfrontalieră la granița dintre prezent și viitor/Cross border crime at the border between present and future*, Oradea: Fundația AGORA.
19. Orac, C. M. (2009). *The impact of the economic crisis on the unemployment rate in Galati County, measures aimed at its reduction*. *Public Administration & Regional Studies*. Galati.
20. Orac, C. M. (2009). *The initiation and management of European Union Regional Partnership*, *Paradigms of Knowledge Management. Agora International Journal of Economical Sciences* Oradea: Editura Universitatii Agora
21. Matîș D., Timbruș R., Buglea A., Oprean V.B., *Evaluarea proprietatilor imobiliare*, Editura Risoprint, Cluj-Napoca, 2013
22. Morariu A., Crecană C.D., *Investițiile imobiliare din România – analiză și tendințe*, *Analiza economico-financiară și evaluarea proprietăților*, Simpozion Științific, 2009
23. Mihăilescu M.E., *Sancțiuni contravenționale, Aspecte de drept material în dreptul românesc și comparat*, unic autor, Editura Hamangiu, București, România, 2013, ISBN 978-606-678-666-9;
24. Mihăilescu M.E. *Câteva considerații pe marginea sancțiunii contravenționale a desființării lucrărilor și aducerii lucrărilor în faza inițială*, "Curierul judiciar" nr. 3/ 2011, ISSN 1582-7526, Edit ALL Beck.
25. Mihailescu M.E., *Can a national secretary working for a public institution, subordinate to the Romanian Government, be considered a civil servant?* *Revista de Studii Juridice*, Iasi, Edit Lumen, nr. 3-4/2014, an IX, revista recunoscuta in baza de date internationale (BDI, CEEOL)
26. Popescu C., Asmarandei A., *Standarde privind Evaluarea Proprietății*, *Revista Română de Statistică*, Trim 3/2012
27. Shannon P. Pratt, *Abordarea prin piață a evaluării proprietății imobiliare*
28. Stan V., ANGHEL I., (coord.) - *Evaluarea întreprinderii*, *Editia a treia revizuita*, Editura IROVAL 2007;
29. Vasca A., *Evaluarea proprietăților imobiliare*, Suport de curs, 2013

Transfer Pricing Documentation – A Current Issue

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Rather quick development of the business environment has led to the implementation of legislative measures to meet the requirements and amendments thereto. With the adoption of the Fiscal Procedure Code and Order no. 442/2016 were founded transfer pricing procedures, denoting a means of making taxable transfer of a high tax country to a low tax country. These laws have laid down conditions that must be met and materiality thresholds that must take into account the taxpayer to draft transfer pricing documentation file. The aim of these measures is to reduce the differences between the prices charged by the related parts and the market value and also to actual results of company taxation. The tax authorities are entitled to apply price adjustments when it is not the principle of market value, which entail economic double taxation. Application and dossier preparation of transfer pricing contribute to a collective vision on the market in which the company operates, understanding how business development and, not least, the creation of an appropriate fiscal planning.

Keywords: transfer price, intra-group transaction, related parts

Introduction

The rapid expansion of intra-group transactions generated increased attention from the authorities regarding the method of taxation of such transactions.

What is intragroup transaction?

All agreements made by an entity that is part of a financial conglomerate with another entity of the same group or by a natural or legal person who has relationships with member entities of the group.

When we talk about financial conglomerate?

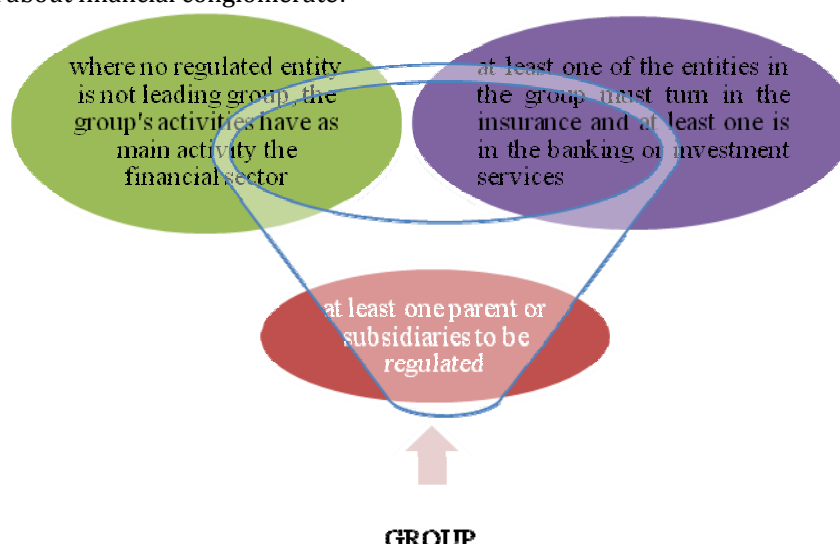


Figure 1 The conditions for a financial conglomerate

An entity's relationship with a related part may have influenced both positive and adverse outcome and its financial position in light of the aim pursued in carrying out such transactions. Transfer price represents an important issue, particularly for multinational firms, having followers but also criticism, depending on their ability to get a benefit from its use.

Transfer prices-definition and concept

Transfer pricing is the price of the transaction carried out between related parts. The legislation requires that such transactions be carried out at market price, in other words the price at which a transaction was conducted the same transactions between independent entities, in similar economic conditions. The term "transfer price" includes all the laws by which the states want results related party transactions to be accounted for at the time and place of occurrence. So desired as transfer pricing can generate an increase in profit achieved by the group in countries with low tax or, why not, may reduce profits where taxation is high. In other words, we speak of the erosion of the tax base and a transfer of the profits made.

The use of transfer pricing can be both an opportunity and a threat, having significant influence on the business environment. Addressing a vast field can benefit companies in terms of operational advantages, such as knowledge of related party transactions and identifying opportunities for allocation of revenues and expenditures, deep understanding of the business model and optimization possibilities, which in other conditions could be overlooked. However, the use of transfer pricing does not respect the market value may result in adjustments to the tax base and economic double taxation when transactions involving companies in several countries.

Managers who will be able to combine the benefits of taking advantage of the potential fiscal risk management through the transfer prices, the company will ensure a long-term competitive advantage. Therefore necessary to re-examine and substantiation of price transfer policies at group level and the preparation of a specific and complete documentation through which you can demonstrate the value of market prices in the context of intra-group transactions.

The concept of "arm's length"

Directives Organization of Economic Cooperation and Development (OECD) believes that the cornerstone of transfer pricing is the "arm's length". OECD believes that when two people meet are tempted to embrace and price theory of transfer requires that they be relations between strangers who shake hands when they conclude a transaction, finding himself in an arm away.

Methods of transfer pricing

Methods of determining the transfer prices are analytical tools for the determination or evaluation of market value of transactions between affiliated persons. Multinational companies are using these methods of tax planning and/or documentation of transfer prices charged. Tax authorities use these methods to test the market value of transactions between affiliated persons in order to determine the "actual profits", that is, profits that would have been obtained in the absence of the affiliate relationship between the two parties.

Further will be pricing methods of transfer provided for by legislation, namely law No. 571/2003. Similar guidelines for transfer prices issued by the Organization for Economic Cooperation and Development, the national legislation makes reference to the 5 methods of transfer pricing. This includes both traditional methods and transactional methods.

Traditional methods:

- price comparison method
- cost plus method
- resale price method

Transactional methods:

- net margin method
- profit sharing method

In addition to the five methods above, OECD Guide permit application/use and other methods, provided that such transfer prices comply with the established principle of market value, and to justify the taxpayer through a need for documentation of such election methods.

Method CUP (Comparable Uncontrolled Price) compares the price charged for property or services, in a controlled transaction to the price charged property or services in an uncontrolled transaction in similar circumstances.

Example

It is considered 2 companies:

- company A-manufacturer of bicycles based in Romania, and
- company B-importing company based in Belgium.

The transaction is based on controlled transfer between bicycle company A and company B who purchase and resell bikes for independent dealers in Belgium. Thus the company is a parent company for company B.



Figure 2 Method CUP

To determine if the price charged for the bikes this transaction is controlled at arm's length, taking into account the following information:

- the price charged for bikes transferred to a comparable uncontrolled transaction between the company A and the Dealer 3;
- the price charged for bikes transferred to a comparable uncontrolled transaction between the company B and the Dealer 1;
- the price charged for bikes transferred to a comparable uncontrolled transaction between Dealer 1 and Dealer 2.

Comparable uncontrolled transaction, such as the transaction 1 and 2 are referred to as comparable internal transactions and transaction 3 is a comparable external (neither of the two sides is not an associate). In the CUP method, a comparable uncontrolled transaction with a transaction is considered to be controlled if:

- there are no differences between comparable transactions that would affect the price;
- it is possible to make adjustments as accurate to determine the significant differences between the two types of transactions.

Cases when using the CUP method:

- ✚ comparable sales for the same product;
- ✚ the effect of geographical differences;
- ✚ minor differences between products.

Method CPM (Cost Plus Method) used to determine the market price, the cost of which is recorded by the producer of goods or of services in a transaction controlled, cost is appropriate profit margin increased by scope. If the profit margin is low when the market price and the transfer price will be at the same level. As with the CUP method, CPM method can be applied when a producer sells finished products to both affiliates and third parties or when the finished goods are sold between related third parties..

The market value of controlled transactions will be determined based on the margin of comparable uncontrolled transactions, while in external comparable transactions this will be determined based on a comparative analysis on a sample of independent company tested similar. The applicability of this method is comparable transactions so that no differences to produce a material effect on the profit margin or, if that appears to can make adjustments to eliminate these differences..

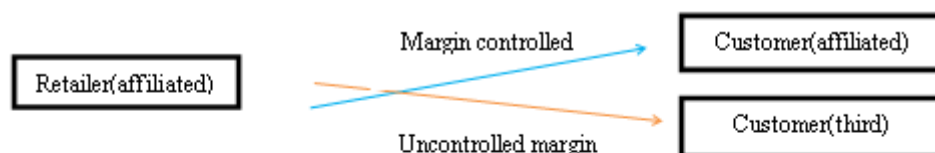


Figure 3 CPM comparable internal method

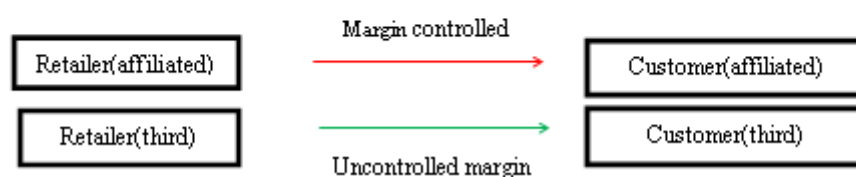


Figure 4 CPM comparable external method

Example

Color company SRL produces 2 types of pencils: pencils HB type and type F. The production cost of HB type pencils is 1 ron and for pencils type F the cost is 0,8 ron. Type HB pencils are sold by the Color Distribution SRL of 1.2 ron, while the other pencils are sold by a company independent of 0,96 ron. It is considered that the other conditions of the transaction are similar.

Transaction by Color Distribution

$$\text{Margin} = (\text{pv} - \text{cp}) / \text{cp} * 100 = (1,2 - 1) / 1 * 100 = 20$$

Transaction by a company independent

$$\text{Margin} = (\text{pv} - \text{cp}) * 100 = / \text{cp} (0,96 - 0,8) / 0,8 * 100 = 20$$

It can be inferred from the analysis that the price-making type HB is set at market value.

To remember

- ✚ CPM method is used when talking about selling some semi-finished products between affiliated parties, provision of services (research and development) or sales/purchase contracts concluded long-term;
- ✚ considering the circumstances in which the transaction takes place and does not require that the goods that are the subject of uncontrolled transaction should be identical to those in a controlled transaction;
- ✚ a classification of expenses which will be covered in the cost. In the event that a controlled transaction costs differs from that of an uncontrolled transaction and cannot make adjustments in order to eliminate these differences, then the method cannot be applied;
- ✚ in the context of financial statements prepared in accordance with accounting regulations are described after the Romanian costs of their nature and not according to their destination, which makes it possible to distinguish between the cost of goods sold or services rendered and other operational expenses of comparable companies.

RPM method (Resale Price Method) consists in transfer pricing starting from the purchase price of a product, from an affiliated entity/person and resold to third parties. Resale price thus established is the reduced gross margin enabling the entity to obtain a profit what highlights the functions fulfilled by this, risks and also market conditions. The result constitutes the market price of the transfer of goods between the affiliated parties.

Example

The company Alpha acquires for resale sports equipment from the Beta at price of 100 \$. They will be resold to third parties at price of 110 \$/piece. Functional analysis has led to the conclusion that Alpha company acts as distributor with functions and risks limited. On the basis of a comparability study performed on the market for sports equipment retailers resulted in a gross margin of 20% sales. The market value of the transfer price will be reduced by the gross margin, which leads to the conclusion that between the two companies is not respected the principle of market value.

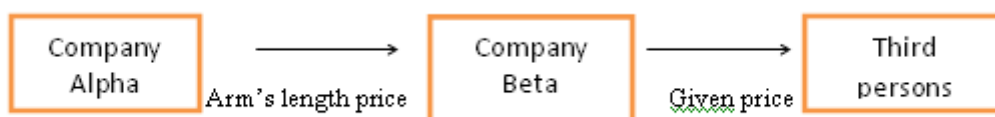


Figure 5 Method RPM

Given price = 110 lei

Resale price margin (20%) = 20 lei

Arm's length price = 90 lei

$$\left. \begin{array}{l} \text{Given price} = 110 \text{ lei} \\ \text{Resale price margin (20\%)} = 20 \text{ lei} \\ \text{Arm's length price} = 90 \text{ lei} \end{array} \right\} \text{Transfer price} = \text{Reseller price} * (1 - \text{Margin Profit})$$

To remember

- RPM method is one of the most effective methods for analyzing the activities of distribution system operators;
- is used when an entity has not added substantial value to the product before reselling it (trade mark);

- unlike the CUP method, in which the comparability of products is an essential condition, for the application of the method RPM comparing the appearance products has a lower importance.

Method NMM (Net Margin Method) is based on economic theory that considers the net profit margin obtained by a company who are engaged in similar activities, on the same market and in the same industry tends to equilibrate after a certain period of time. This method is similar to the CPM and RPM, with the difference that using NMM it analyzes the net margin of profit and not the gross margin. Net profit margin is calculated as the ratio between profit from operating activity resulting from a controlled transaction and a base (assets, cost, sales). The market value of the controlled transaction is determined by comparing the net margin from this transaction with that obtained by a company affiliated in transaction with independent persons..

To remember

- ✚ The method is based on economic theory that considers the net profit margin obtained by a company what is the method most commonly used in practice due to the financial information that are necessary for the purpose of calculating financial indicators to determine the profitability of affiliated entities;
- ✚ is used with the aim of drawing documentation of transfer pricing prices;
- ✚ the advantage of this method is that transactional differences with direct impact on the price of the transaction have a insignificant influence on the net margin. It is more tolerant to certain differences between the controlled and uncontrolled transactions than the gross margin;
- ✚ in the context of this method shall take into account only the profits resulting from a transaction reporting.

Method PSM (Profit Split Method) is used when the affiliated persons hold the intangible assets that have a high value or where transactions between the parties are so complex that they cannot be separated into independent transactions. At the same time, this method is also used when entities decide to conclude a partnership to share the profits. The strength of this method in the fact that it is not based on, directly, transaction with a high degree of comparability, can be used in cases where it cannot be established with these transactions between independent entities. As disadvantage may highlight the fact that independent entities do not use the SLP method because it is difficult to identify specific external data. If the external data are more vague with both the Division of profit is more subjective.

Transfer prices dossier

Transfer prices dossier will be compiled only when talking of transactions between affiliated persons and represents the document justifying those transactions. Will be drawn up annually by the great contributors to the transactions of a total value exceeding:

- ✚ 200.000 € (the equivalent in ron at the rate of NBR¹³⁹ being determined on the last day of a fiscal year) for collection or payment of interest;
- ✚ 250.000 € (the equivalent in ron at the rate of NBR being determined on the last day of a fiscal year) for purchases or services;
- ✚ 350.000 € (the equivalent in ron at the rate of NBR being determined on the last day of a fiscal year) for purchases or deliveries of goods.

The deadline for the presentation of great contributors is 10 calendar days from the date of the request by the tax body. Transactions that do not result in keeping records must comply with the following limits:

- ✚ 50.000 € (the equivalent in ron at the rate of NBR being determined on the last day of a fiscal year) for collection or payment of interest;
- ✚ 50.000 € (the equivalent in ron at the rate of NBR being determined on the last day of a fiscal year) for purchases or services;
- ✚ 100.000 € (the equivalent in ron at the rate of NBR being determined on the last day of a fiscal year) for purchases or deliveries of goods.

In this situation the transfer prices dossier shall be made only at the request of the tax body, when we speak of a tax inspection being presented within a period of between 30 to 60 calendar days from the date of application. The term might be one change by no more than 30 calendar days thereafter, at the

¹³⁹ NBR- National Bank of Romania

request of the taxpayer. It should include both, information about the group as well as information on the taxpayer¹⁴⁰.

Table 1 Contents of the dossier transfer prices

<i>Information about the group</i>	<i>Information about the taxpayer</i>
➤ the organisational structure of the group, legal and operational, including equity interest, history and financial data relating to it;	➤ presentation of transactions with affiliated persons: how billing and trading counter value transactions;
➤ general description of the work of the group, business strategy, including changes in business strategy compared to the previous fiscal year; ➤ description and application deployment methodology transfer prices within the group, if applicable; ➤ overview transactions between affiliated persons in the European Union: the way of trading, transaction and billing counter value of all transactions;	➤ the comparative analysis: a) the characteristics of the supplies/services; b) functional analysis (functions, risks, assets used, etc.); c) terms of the contract; d) economic circumstances; e) specific business strategies; ➤ information on comparable transactions in external or internal; ➤ presentation of affiliated persons and their permanent premises involved in such transactions or arrangements;
➤ general description of the functions and risks of affiliated persons, including changes in this respect compared to previous year; ➤ presentation of the price in advance agreements concluded by the taxpayer or by another company within the group regarding it, except those issued by NAFA.	➤ description of the method of determining the transfer prices and the rationale for its selection criteria. ➤ description of other circumstances considered relevant to the taxpayer.

The need for transfer prices dossier result from the fact that:

- is prescribed by the legislation Romanian, penalizing failure or incomplete presentation of it with a fine between 12000 and 28000 ron;
- commissioners shall receive information that are used in a much more adequate control of the risks of transfer prices, and the taxpayers are required to pay all necessary attention to the establishment of their.
- c) an actualization of its price adjustments which protects against transfer.

It is considered two companies SC X SRL and SC Y SRL forming part of the multinational group XY. Company X is a resident company in Romania which has as main activity the production of auto parts. Company Y is a resident company in Poland dealing with distribution of auto spare parts. The financial statements of the company are as follows:

Tabel 2 Financial statements

	Company X	Company Y
Income of sales	85	105
Cost of production	60	85
Gross margin	25	20
Operating costs	15	16
Operating result	10	14

¹⁴⁰ Order 442/2016 concerning time limits for the amount of the transaction, preparing the contents and conditions of the transfer prices dossier and procedure for adjustment of prices/estimation, Art. 2.

From financial statements that company X has obtained an operating result of 10 million € taxable under the laws of Romania, and Company Y a result of 14 million € taxed under the laws of Poland. The amount of the profit of the group is 24 million €. Group Y is subjected to a check carried out by the empowered tax authorities from Poland because they believe that the price at which the spare parts are purchased by the company X does not faithfully reflects the market value thereof. As a result of the investigation it is decided a purchase price adjustment with 3 million €.

Tabel 3 The result of the group

	Company X	Company Y (without adjustment)	Company Y (adjusting)
Income of sales	85	105	105
Cost of production	60	85	82
Gross margin	25	20	23
Operating costs	15	16	16
Operating result	10	14	17

Adjusting the purchase price had increased as a result of the impact of the operating result of society Y from 14 million € to 17 million €, led finally, to the amendment of tax payment by the company in Poland. Profit at the level of the Group recorded an increase of 15 million € (10+14) € to 27 million (17-10), which leads to a tax and amount of 3 million € twice: in Romania and in Poland. In order to avoid double taxation, authorities from Romania had to adjust the earnings of X with the same value.

Conclusions

Transfer prices they had a major impact for the majority of the tax authorities, the endeavouring to eliminate the process of moving the results and eroding the taxable base. Current legislation provides information about categories of taxpayers who are required to prepare transfer prices dossier about the components of a file and not the least significance thresholds that must be taken into account.

Regards methods for determining transfer prices may conclude that their role is to assist the company in fiscal planning process and in obtaining information regarding the transfer prices used. These methods for tax authorities offer the opportunity of checking the correctness of individual profits affiliate parties.

Transfer prices dossier is not unnecessarily cost the company but is choosing a document justifying the price for completion of a transaction. In the context of past transactions are analysed, which had an impact on the company's results, being necessary a permanent update of it especially when we are talking about significant events for the company, for example, major restructuring changes market operates and mergers etc.

Impact of neîntocmirii a file transfer prices and make inappropriate of it, not only does it attract the penalties provided for by law, but also affects the group's business by blocking the investments as available resources will be transferred to cover the price adjustments. Are more highlights and a situation in which an entity may be subject to tax in two states (legal double taxation). An example is when a non-resident entity is taxed both in the state in which he resides as well as in the state where a permanent establishment for the proceeds of the permanent establishment.

A file transfer prices must be like a jigsaw puzzle whose pieces joined together, justified and compelling financial business success determined..

References

1. Luca, *Prețurile de transfer, partener Transfer Pricing Services*
2. *Practical Manual of Transfer Pricing for Developing Countries, 2013*
3. *Codul Fiscal, publicat în Monitorul Oficial nr. 688 din 09 noiembrie 2015*
4. *Legea nr. 227/2015 privind aprobarea Codului fiscal, publicată în Monitorul Oficial nr. 688 din 10 septembrie 2015*
5. *Ordinul 442/2016 privind cuantumul tranzacțiilor, termenele pentru întocmire, conținutul și condițiile de solicitare a dosarului prețurilor de transfer și procedura de ajustare/estimare a prețurilor de transfer, publicat în Monitorul Oficial, Partea I nr. 74 din 02 februarie 2016*
6. *Legea nr. 207/2015 privind Codul de procedură fiscală, publicată în Monitorul Oficial nr. 547 din 23 iulie 2015*
7. www.anaf.ro - Prețuri de transfer și soluții fiscale
8. <http://www.capital.ro> - Prețurile de transfer și implicațiile fiscale, Ruxandra Jianu
9. <http://www.transferpricing.ro>

Cloud Accounting In Romania. A Literature Review

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Fast evolution of information technologies in recent years radically changed organizational processes and systems architecture. One of these technologies, developed since 2006, is cloud computing. This allowed a party virtualization of the system of organization, including some components of the accounting information system. Thus it emerged and was operationalized at the organizational level, cloud accounting (software). The objective of this article is a literature review on the cloud accounting in Romania. In terms of methodological research involves identifying relevant articles related to this topic, published by Romanian authors in 2011-2016, and analysis to highlight perspectives for implementation of cloud accounting in Romanian organizations.

Keywords: cloud computing, accounting process, cloud accounting

JEL Code: M15, M41, O14

1. Introduction

Globalization and extremely rapid technological developments, in the last 20-25 years, have completely changed the architecture and organizational processes. Technological developments have made their mark, obviously, on accounting too.

The development of mobile technologies has led to high expectations (and pressure) from an interested public on the professionals in the field, on the possibility of tapping anywhere, anytime, quickly, on any device, information and financial statements related to organizational activities they are involved and on the need to take certain decisions.

In this context, based on cloud computing technology, has developed cloud accounting that is now spreading in organizations, with different speed, from one country to another, depending on a number of technological, economic and socio-cultural determinants.

In this article we intend to study how the Romanian specialists address the issues of cloud accounting. For a good structuring of the study we identified and watched five sub-themes: the definition of "cloud accounting"; significant differences between traditional and cloud accounting bookkeeping; benefits an organization can have by implementing cloud accounting technology; the main risks and challenges that can lift this technology in an organization; current situation and prospects of using cloud technologies in Romania (particularly in financial accounting).

2. Methods

A systematic review of the literature requires a comprehensive search, much more objective, not influenced by favorite concerns of the researcher who realized. To achieve this objective, to identify relevant articles circumscribed our theme we proceeded to a search through Google Scholar. The search was conducted after the keyword "cloud" and "accounting" and typing the string "cloud accounting". The search was limited to the past 5 years, considering that we are dealing with a relatively new concept with an extraordinary development in recent 5 years. Also were considered only articles written in Romanian or English, by Romanian authors.

In Table 1 we presented a summary situation of the studied articles, divided by years. To manage items extracted according search criteria was used the Citation and Bibliography Tool - Zotero.

Table 1

Year	2011	2012	2013	2014	2015	2016
Studied articles (corresponding number of bibliography)	17	14, 15, 18	11	6, 8, 13, 20	1, 2, 3, 4, 5, 7, 9, 12, 16, 19	21

3. Results

3.1. Defining the concept of "cloud accounting"

Mihalache (2011) defines cloud accounting as "a modern concept in computer processing of accounting data based on the concept of Cloud Computing, which represents a set of distributed computing services, applications, access to information and data storage without the user having to know the physical location and configuration of systems providing these services".

Ionescu et al. (2012) make the following comments on the definition of "cloud accounting" concept: "If we add to e-accounting an Internet connection and a subscription to a virtual accounting service, we achieve a cloud accounting service." (the same definition we found at Mihai et al., 2012).

Dimitriu and Matei (2014a), although highlights that we cannot talk yet about the official definition (emanating from a recognized profession advance) for "cloud accounting," notes that: "The basic principles that drive cloud computing, combined with the activities carried out by accounting software companies, have led to the emergence of cloud accounting. This concept, also referred to as 'online accounting', involves the same functionalities as an accounting software installed on the client's computer, but which actually runs on the CSP (Cloud Service Provider)'s servers. Basically, it provides accounting services by means of cloud computing solutions."

Tugui and Gheorghe (2014) define cloud accounting as "an accounting software product which can be accessed anytime and from any place with an Internet connection, and which does not require previous installation or management or its own servers" (rediscovered without further nuances at Mihai, 2015, respectively at Cernuşcă & Balaciu, 2015).

Dimitriu and Matei (2015) consider cloud accounting as a business model. If the accounting software was a product for traditional accounting, it is a service for cloud accounting. Through the proposed solutions, cloud accounting help modernize the business environment. A second argument supporting the idea that cloud accounting is a new business model is the fact that provides to the users relevant and updated information (up to date), so necessary for managerial decisions in a very volatile economic environment. It is an essential difference between the post-factual information provided by the traditional accounting.

In our view this approach is hazardous. The business model may be defined by a very general manner (IIRC, 2013): "The organization's chosen system of inputs, business activities, outputs and outcomes that aims to create value over the short, medium and long term." Cloud accounting can be a component of a business model in any case a business model itself.

Dimitriu and Matei (2015b) introduce alternative names for cloud accounting: "online accounting"; "Web-based accounting", "real-time accounting", "cloud financials." The two authors propose a definition of the concept: "an innovative tool designed to assist accounting professionals."

In our view, in the definition still persist a number of uncertainties and confusions. We believe it is very limiting to define "cloud accounting" as a software product and too much to consider it a business model. We advance the idea that perhaps it would be fairer and would support and define more clearly, to talk about "accounting in cloud computing." It means so it's not just a change of technology, but also about paradigm and mentality changes.

3.2 Traditional vs. cloud accounting

Ionescu et al. (2013) addresses the issue of differentiation between traditional accounting and cloud accounting, but only in terms of specific software. Unlike traditional accounting software support, cloud accounting software are not owned by the organization, but involves hardware and maintenance included costs, unlimited number of users.

Dimitriu and Matthew (2014b) believe that 21st century's accounting should adopt paradigm of cloud computing technology. Cloud Accounting can be regarded as a disruptive alternative to traditional accounting. "Revolution" cannot produce by itself; it requires changes in mentality and

courage for pursuing and implementing a vision. Otherwise, like any revolution, instead of turning into a path of growth and progress, can become an unfortunate event.

Țugui and George (2014) makes the following research hypothesis: "There are premises that the new level of digital accounting known as cloud accounting, through its special characteristics, will implicitly lead to the changing role of accounting, in terms of cloud computing." After processing a questionnaire answered by 125 professional accountants, the two authors have found that the hypothesis is valid.

Fotache and Păvăloaia (2015) share accounting evolution into five periods (1850-1900, 1900-1950, 1950-1990, 1990-2000, 2000-2015), each period being characterized also through the way in which information technologies have provided support accounting profession. Analysis of the period 2000-2015 reveals that professional accountants in Romania must strengthen IT skills to cope with changes in the field, in order to adapt to the new requirements of the profession imposed internationally, to grow professionally.

Bendovschi (2015), quoting literature, speaks of three stages in the evolution of any software for accounting: 90s - the first appearance of accounting software, limited to basic accounting operations; 2000s - the concepts of "integration" and SaaS (software as a service) which allowed more complex accounting operations; after 2010 – era "mobile accounting". These technological changes (and also economic crisis which started in 2008) caused a mutation in the objectives of accounting from registration of economic operations, preparation and presentation of financial statements to business intelligence and more recently, to accounting intelligence.

Țugui and Gheorghe (2016) points out a distinction in terms of human resources involved: "running in virtual transactions can even lead to the disappearance of traditional professional and replacing him with an expert in the handling of data, information and accounting knowledge."

In our opinion the differences between traditional accounting and bookkeeping system via cloud computing are much deeper than those related to information technology, which are supported by. It is, as pointed out some of the authors of the review, a change of role and objectives for accounting for a change in key skills required of professionals in the field (which implies, consequently, a change in the education specific to the domain).

3.3. Benefits of implementing cloud accounting

Mihalache (2011) believes that the most important benefits of implementing cloud accounting are: using an external data centre, virtual, where these applications are stored makes the purchase of additional hardware and software, special ones, no longer necessary; flexibility; automatic upgrades; the possibility that through these technologies accounting professionals to respond faster to problems / requests more complex (coming from the management).

In correlation to the questions raised by us, Mihalache (2012) talks about virtualisation the accounting information system infrastructure (AISI). AISI virtualization benefits are: reduction of administrative costs and with infrastructure of IT&C; flexibility; reducing human resources costs involved in technical assistance; reducing non-operative time; increase employee productivity.

Ionescu et al. (2013) after consulting an extensive literature summarizes six advantages of using cloud accounting: security adaptability; eased management; compliance; global access; trial period.

Dimitriu and Matei (2014) identifies the following advantages of using cloud accounting: cost reduction; access to financial information without geographical limitations; increase organizational performance through business agility and flexibility; capacitive / unlimited storage, processing and automatic data backup; lack of upgrade fees; improving communication and collaboration between users of financial information.

Ionescu et al. (2014) details the following advantages of cloud accounting: automation of data collection and processing; accountant-client relationship improvement; elimination of duplicate information, preventing errors and increasing data accuracy; security access control and authorization.

Scheau (2015), between the same coordinates, talks about: real-time access to information; back-up services reduce the risk of loss / damage information; improving collaboration and financial communications, including social interaction between accounting / accounting department and customers / other departments (this second part is an underscore to which we subscribe, despite usually considers social interactions are affected by the use of new information technologies); elimination of duplicate information.

Brandaș et al. (2015) conducted a SWOT analysis of the use of mobile and cloud technologies on the accounting informational system. Among the strengths are listed: scalability, cost reduction, collaborative environment (with customers, employees), global approach, data backup recovery.

Ionescu et al. (2015) considers that the main catalysts for migration accounting function to the cloud are the opportunity to reduce costs and downtime related to specific activities.

Also the same parameters, Dimitriu and Matei (2015) emphasizes that the use of cloud accounting community can lead to a reduction of costs at the organizational level (due to lower investment spending is not necessary to purchase licenses for hardware and software, but also maintenance expenses, primarily by reducing hardware) and productivity growth (driven by users 24/7 access, the possibility of accessing information via multiple device sites, even simultaneously, a better allocation of resources).

Compared to the benefits identified in the previous article, the same authors (Dimitriu and Matthew, 2015b) added ease to use and intuitive design and usability of trial versions, which can assist in identifying the most suitable solutions for each organization before a long term commitment.

We note, regarding this sub-theme, the existence of a convergence of views of different authors, around several elements: cost reduction, flexibility, increased productivity, better communication.

3.4. Challenges and risks on the implementation of cloud accounting

To implement the cloud accounting has to be noticed that not only the technical issues are important. It is necessary to reconfigure the way it is conceived higher education (in universities) in accounting field (Ionescu et al., 2012 makes several references to these issues).

Ionescu et al. (2013) summarizes, driving a significant literature, the following risks on the implementation of cloud accounting technologies in an organization: security based reticence; poor internet connection; loss of control; dependency.

Dimitriu and Matei (2014a) identifies as the main risk of using cloud accounting the security and protection of customer financial information, susceptible to unauthorized access.

On the same lines, Scheau (2015) speaks of unauthorized access as the main threat to use cloud technology in the financial and weigh the material advantages resulting from the use of new technologies, with reputational risks and potentially financial losses resulting from unauthorized access, recommending a prudential conduct to introduction of new technologies.

Brandaş et al. (2015) examines the following challenges and security risks for accounting information system under the impact of using cloud technologies: financial and accounting data loss; system availability and business continuity; legal and regulatory concerns; intellectual property theft; patch management; disaster recovery and backup procedures; permanent supervision and security administration.

Ionescu et al. (2015) points some additional items. First widespread use of these technologies at the organizational level implies a strong, stable connection to the internet. Added to this is the need for an organizational reengineering of processes, specific training requirements for a large part of the staff, including team management, time and resources to implement organizational changes.

Dimitriu and Matei (2015) repeat, as potential risks for the implementation of cloud accounting, security problems and those caused by connection and internet speed. The two authors emphasize, however, which in our opinion could be an important barrier to implementing cloud accounting (especially if we consider the Romanian context), skepticism of the professional accountants on this model, due to fear of change or misunderstanding of what involves and which are the benefits.

And on the risks involved implementing cloud accounting technologies are mentioned, almost in unison, with security issue and, respectively, related to the quality of the internet connection.

We think are minimized in importance and insufficiently analyzed issues related to resistance to change that, unless properly managed, with tact, may jeopardize the implementation of new technologies within an organization.

3.5. Highlights on prospects for implementing cloud accounting in Romania

Mihai et al. (2012) considers that the implementation of new IT technologies in accounting would involve a renewal of generations in the accounting profession, but this does not seem easily achievable in Romania. Although many young people graduate university degree in accounting, they are not very keen to develop a career in this field, it is not a first option for them.

Mihai (2015), regarding cloud computing, namely the adaptation of these technologies in accounting, concludes that, in Romania, "theory abounds, while practice is almost inexistent". The author believes that on the market software applications that enable cloud accounting software is a lower offer and inadequate to the demand, reflecting a certain immaturity, underdevelopment of this market.

Bendovschi and Ionescu (2015) emphasizes that, according to EUROSTAT results of 2014, Romania is placed among the last European countries in terms of using cloud computing technology in companies (less than 10%). In this context the efforts of organizations, associations or public institutions to engage in various activities on raising the general level of knowledge of cloud computing is necessary and welcome, including for implementing cloud accounting.

Finally remember the study of Țugui and Gheorghe (2016). The main hypothesis of their research, split into three secondary hypotheses, was that "in the current level of development of the digital economy in Romania, accessing accounting documents raises serious issues consisting of absence and / or the inability to obtain data, lack / restricting access to the dates of accounting information systems, low level of consistency and reliability of accounting data." Following an exploratory research authors found that their secondary assumptions are validated and hence, the main assumption. From this fact, they consider that "digital economy in Romania is at an early stage" (they support this claim making reference to Eurostat data, 2014).

In our opinion, in Romania, is much to be done to implement the cloud accounting, on multiple levels, priority in our view is the technical one (generalization of cloud computing in the corporate Romanian) and socio-cultural (changing the perception of mature generations of professional accountants on the usefulness of new information technologies that can be supported by various professional bodies and reconfiguration of academic curricula regarding accounting study programs, in line with the new basic skills required for such a professional).

4. Conclusions

In our analysis we identified 20 articles written by Romanian authors circumscribed to the theme "cloud accounting". Articles are certainly the most relevant in the online environment (accessible in prestigious databases). There may be published important works on paper addressing this issue. Our study was not about identification of these works too.

Referring to the 20 papers analyzed systematically in our material we find that there are several authors who have many articles, probably specializing in this issue: A.C. Bendovschi, O. Dimitriu, Matthew M., B. Ionescu, C. Prichici, A.S. Mihalache, A. Țugui. The result of this is obviously some redundant ideas.

All selected articles on the authors find that, with few exceptions, are not (yet) prominent figures of the scientific world in Romania. Sure, it does not impair the quality of materials, but on the "echo" / impacts including practical level.

By studying selected materials I found that, as regards the definition of "cloud accounting" it is far from rigorous set, which is not surprising as long as not even on the level of international professional bodies that have concerns about this issue has not reached a consensus.

In terms of benefits and risks of using cloud accounting technologies analyzes are, in our view, largely superficial, schematic, rather by analogy with cloud computing, without customization, without an analysis of the socio-human implication of change.

Romanian context analysis is also quite shallow, carried out at diagnosis, remained without trying to identify the causes and possible concrete solutions. In these circumstances we believe that, also in theory level, of literature, many things are still insufficiently addressed. Theorists by foreshadowing certain solutions can inspire and catalyze and practical developments.

References

1. Bendovschi, A. C. (2015). *The Evolution Of Accounting Information Systems. SEA-Practical Application of Science*, (7), 91–96.
2. Bendovschi, A.-C., & Ionescu, B. Ș. (2015). *The Gap between Cloud Computing Technology and the Audit and Information Security. Audit Financiar*, 13(125), 115–121.
3. Brandas, C., Megan, O., & Didraga, O. (2015). *Global perspectives on accounting information systems: mobile and cloud approach. Procedia Economics and Finance*, 20, 88–93.
4. Cernusca, L., & Balaciu, D. E. (2015). *The Perception of the Accounting Students on the Image of the Accountant and the Accounting Profession. Journal of Economics and Business Research*, 21(1), 7–24.
5. Dimitriu, O., & Matei, M. (2015b). *Accounting in the Cloud. Management, Knowledge and Learning. Joint International Conference 2015. Tehnology, Innovation and International Management. Retrieved from <http://www.toknowpress.net/ISBN/978-961-6914-13-0/papers/ML15-239.pdf>*
6. Dimitriu, O., & Matei, M. (2014a). *A New Paradigm for Accounting through Cloud Computing. Procedia Economics and Finance*, 15, 840–846.
7. Dimitriu, O., & Matei, M. (2015a). *Cloud Accounting: A New Business Model in a Challenging Context. Procedia Economics and Finance*, 32, 665–671.

8. Dimitriu, O., & Matei, M. (2014b). *The Expansion Of Accounting To The Cloud. SEA-Practical Application of Science*, (4), 237–240.
9. Fotache, D., & Păvăloaia, V. D. (2015). *Enterprise Resource Planning's Revolution for the "Facelift" of Accounting Profession. Audit Financiar*, 10(130), 106–116.
10. International Integrated Reporting Council (IIRC). (2013). *Business Model. Background Paper <IR>*. Retrieved from http://integratedreporting.org/wp-content/uploads/2013/03/Business_Model.pdf
11. Ionescu, B., Ionescu, I., Tudoran, L., & Bendovschi, A. (2013). *Traditional accounting vs. Cloud accounting (pp. 106–125). Presented at the Proceedings of the 8th International Conference Accounting And Management Information Systems, Amis. Retrieved from* https://www.researchgate.net/profile/Laura_Brad/publication/260083245_QUANTIFYING_THE_ROMANIAN_BANKS_PERFORMANCE_AND_THE_IMPACT_OF_AUDIT_INSPECTIONS_UPON_THEM_WHEN_IFRS_REPORTING_STANDARDS_IS_USED/links/0a85e534000ec1caed000000.pdf#page=107
12. Ionescu, B. S., Bendovschi, A. C., & Prichici, C. (2015). *Optimising textile industry processes using cloud computing technology/Optimizarea proceselor specifice industriei textile utilizând tehnologia cloud computing. Industria Textila*, 66(4), 218–225.
13. Ionescu, B. S., Prichici, C., & Tudoran, L. (2014). *Cloud Accounting-o tehnologie ce poate modifica profesia contabilă în România. Audit Financiar*, 12(110), 3–15.
14. Ionescu, I. M., Tudoran, L., Mihai, F., & Ionescu, S. (2012). *Improving The Learning Methodology For The Higher Accounting Education In Romania. Annals Of The University Of Craiova, Economic Sciences Series*, 2, 31–48.
15. Mihai, F., Ionescu, B. S., Ionescu, I. M., & Tudoran, L. (2012). *It&C Applications In Cabinets Of Accounting Expertise: Theoretical And Empirical Exploration. Annales Universitatis Apulensis: Series Oeconomica*, 14(2), 385–394.
16. Mihai, G. (2015). *Cloud ERP and Cloud Accounting Software in Romania. Annals of "Dunarea de Jos" University of Galati Fascicle I. Economics and Applied Informatics*, (1), 61–66.
17. Mihalache, A.-S. (2011). *Cloud Accounting. Ovidius University Annals, Economic Sciences Series*, 2, 782–787.
18. Mihalache, A.-S. (2012). *Virtualisation the Accounting Information System Infrastructure. Ovidius University Annals, Economic Sciences Series*, 12(1), 1527–1531.
19. Scheau, M. C. S. (2015). *O privire critica asupra noilor medii de stocare, prelucrare si transmitere a informatiei-impactul asupra domeniului financiar. Revista de Investigare a Criminalitatii*, 8(1), 93–106.
20. Tugui, A., & Gheorghe, A. M. (2014). *Changing the role of accountancy in the context of Cloud-Computing. Management Intercultural*, (31), 149–157.
21. Tugui, A., & Gheorghe, A. M. (2016). *Identificarea dificultăților întâmpinate de profesia contabilă în accesarea documentelor în contextul economiei digitale din România. Audit Financiar*, 14(135), 237–247.

A Literature Review of Accounting and Auditing Related Parties Transactions

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The purpose of this paper is to investigate the scientific literature regarding the nature, extent and consequences of related-party transactions. According to IAS 24 related party transaction represent a a transfer of resources or obligations between related parties, regardless of whether or not a market price is charged. Two entities are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operating decisions, for example a controlling shareholder, a director, key management personnel, or affiliated companies, controlled entities, and entities under common control.

Keywords: related party, auditing, accounting, performance, transfer pricing

Jel classification: M21

Introduction

Transactions conducted between related parties represent a very important issue of the global economy. Also the information concerning related parties transaction occupies an important place in the annual financial reports.

In the academic literature two main definitions are used for related party transaction. The first is that related party transactions are generically defined as transactions between a company and related entities (subsidiaries, affiliates, owners, managers). A second definition is that related party transaction are transactions between a company and an insider who is a person considered to be part of the company.

The common element is the relationship between parties that can influence and establish the binding conditions of the contract (implicitly or explicitly), that are different because the parties are not independent.

One of the most influential and widespread definitions is provided by IAS 24 which define related party transaction as a "transfer of resources, service or obligations between a reporting entity and a related party, regardless of whether a price is charged" (IAS 24). A related party is a person or entity that is related to the entity that is preparing its financial statements" (IAS 24). Two or more parties are considered to be related, both companies and people, when one of them has the ability to influence the other in making operational or financial decisions. Furthermore, the accounting standard which offers guidance on how related parties information should be structured and presented. There is also an audit standard – ISA 550 „Related parts” which deals with the auditor’s responsibilities relating to related party relationships and transactions in an audit of financial statements.

We see a lot of interest of international regulatory bodies on audit and accounting in transaction with related parts.

The interest for the subject is determined by the currently conditions and significant changes in the economic policies applied until recently. In such context, related parties transactions and transfer pricing used for this transactions become a favorite target for tax authorities.

The latest major accounting fraud were built in a considerable extent on account of related party transactions, raising concern supervisory and regulatory bodies, and other market users, in connection with ongoing monitoring and audit of these transactions. The complexity and pace of

business and capital structure more sophisticated promoted party transactions in the category of ordinary transactions, which have not entered initial concern within the accounting profession. Only as a consequence of approaches "creative" transactions with related parties whose joinder with accounting fraud was the subject of revelations in the last two decades, there has been a change of attitude towards this subject.

In a globalized economy, multinational companies are expanding their activities in more and more countries around the world (Bronson, Johnson, & Sullivan, 2010). In this context related party transactions are a normal feature of business, because many companies often carry on their activities through subsidiaries, joint-ventures, associates or affiliates. It is estimated that two out of three of all business transactions take place between related parties (European Commission, 2011)

A key concern about related party transactions is that they might not be undertaken at market prices but can be influenced by the relationship between the two sides of a transaction, namely the company and the related party. For example, the transactions may be conducted using favourable prices or terms and conditions, instead of using market prices or normal commercial terms and conditions.

Theoretical background of related party transaction – theories and motives

The issue of related party transaction started to receive attention after the famous financial scandals from the beginning of the millennium, like Enron and Parmalat. In this context, related party transactions emerged as a powerful instrument of financial frauds, shareholders' expropriation, etc., turning the veil from the many relevant loopholes affecting existing requirements (Pizzo, 2013).

In the academic literature regarding related parties transactions, two theories prevail: conflict of interests and efficient transaction hypothesis (Gordon, Henry, Palia, 2004).

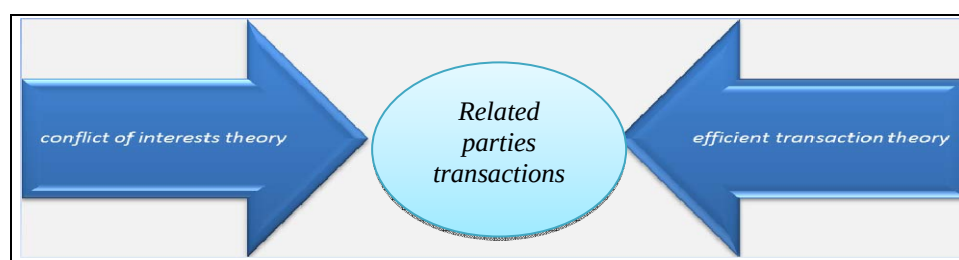


Figure no. 1 – theories affecting the related party transactions

These two different theories provide a general view regarding the potential costs and benefits of related party transactions.

The perspective of conflict of interest is consistent with agency issues of the type considered by Berle and Means (1932) and Jensen and Meckling (1976). According to this theory, related party transactions may imply moral hazard and may be carried out in the interest of directors in order to expropriate wealth from shareholders. Also, this perspective describes related party transactions as potentially harmful to the interests of the shareholders (Gordon, Henry, and Palia 2004; Cheung, Jing, Lu, Rau, Raghavendra and Stouraitis, 2006; Jiang and Yue 2005).

By contrast, the perspective of economic efficiency considers these transactions as normal business exchanges satisfying economic needs of the firm (Pizzo, 2013). The efficient transactions view, which extends the concept of transaction costs developed by Coase (1937) and Williamson (1975), maintains that related party transactions do not harm, and perhaps are even in the benefit of shareholders (Chang and Hong 2000; Khanna and Palepu 2000; Jian and Wong 2010).

But first step is to clarify the notion of related party. Sometimes the notions of participations and related parties are confused and it is not always clear the correlation of terms. On the one hand there may be relationships between two entities such as ownership rights, ability to control or significant influence. Depending on the percentage of ownership and the ability to exercise control, an entity may have subsidiaries, associates and joint-venture entities. On the other the connection between entities can be more diluted but there is still the ability to exert some influence. The notion of related parties captures these situations. So the notion of related parties is a much larger concept and includes also the participations. There are a lot of reasons underlying the development of related party transactions.

These reasons are synthetized in the figure no. 2.

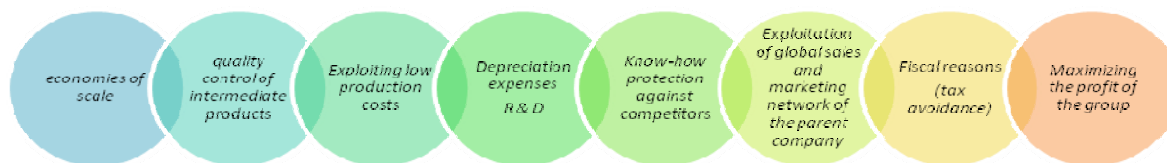


Figure no. 2 - The reasons to intra-group transactions

One important reason for intra-group transaction is possibility to take advantage of specialization and economies of scale. The subsidiaries buy intermediate products in order to process them with their specific technologies. After that, the subsidiary transfers the products to other entities – part of the group dealing with the next stages of the production process until the finished product is obtained. In this way, the whole group can benefit from the advantages of specialization and economies of scale achieved.

Another reason is the fact that intermediate products of the group are significantly safer in terms of quality than products purchased from third parties. The group companies have the ability to place certain operations in countries where the cost of raw materials and labor are low, which brings an advantage. Some group companies make R&D expenditures to develop products or technologies. To exploit the research results, new branches can be created in order to apply these results. By creating new branches the knowhow remains within the group and is protected from any "theft" of the competition.

The group companies have sales network and global marketing activities, benefiting all subsidiaries. In this sense, a company that is part of a group has an advantage over a company operating independently since the first has access to customer network developed by the group, while the independent does not.

The groups have the ability to structure their operations so that activities that bring the biggest profit to be made in countries with low taxation. Profit group as a whole is maximized due to benefits of specialization, economies of scale achieved by placing some activities to countries where costs are low.

Related party transaction in academic research

Related parties transaction is a subject of great interest for academic research. The related party transaction have been analysed in correlation with firm performance, corporate governance, firm valuation, etc. The subject of disclosure related parties transactions is also analysed in correlation with ownership variables, like ownership concentration, in particular tunnelling and propping.

The relation between related party transaction and firm performance has been studied in several countries. In China, Chien and Hsu (2010) have examined the relation between related party transactions and firm performance and the effect of corporate governance mechanism on that relation. They provide empirical evidence that there is a negative relationship between related party transactions and firm performance, a positive relationship between corporate governance mechanisms and firm performance, and a positive moderating effect of corporate governance mechanisms on the relationship between related party transactions and firm performance.

In Italy, Pozzoli and Venuti (2014) examined the relation between related party transaction and company performance in the case of Italian listed companies for the period of 2008-2011. Their findings conclude that related party transactions and companies' financial performance are not correlated and that there is no evidence of a cause-effect relation. Therefore, related party transactions do not appear—thanks also to the existence of control mechanisms a means used by Italian listed companies to realize earnings management, especially earnings smoothing. Also Brava and Melchiorre (2015) have investigated the subject in Italy, but the effectiveness of the disclosure of related party transactions after the introduction of the new rules in Italy. Their results show that although the new rules contribute to increasing the amount of information disclosed to investors, their percentage in relation to the overall amount is seriously low.

Kohlbeck and Mayhew (2010) have examined the stock market valuation of US financial institutions that disclose related party transactions compared to those that do not. Their results suggest that the market assigns lower values to firms that engage in certain types of RP transactions, such as loan between related parties.

Another study of Rahmat (2013) investigated the effect of related party transactions on earnings quality and firm valuation of firms in East Asia. Rahmat finds empirical evidence that related

party transactions are significantly associated with discretionary accruals. His findings suggest that firms involved in related party transaction, have significantly lower earnings quality.

Chen and Wu (2010) find that higher ownership concentration speeds up related party transaction.

Cheung et al (2009) examined a sample of related party transactions between Chinese publicly listed firms and their controlling shareholders during 2001–2002. They conclude that minority shareholders in Chinese publicly listed firms that conduct related party transactions with their controlling shareholders are subject to both expropriation through tunneling and gain from propping up from these transactions. Finally, they find that related party transactions representing tunneling are accompanied by significantly less information disclosure compared to related party transaction representing tunneling are accompanied by significantly less information disclosure compared to related party transactions representing propping up party transactions representing propping up. The findings of Chen, Wang and Li suggest that product market competition has a significant positive effect on normal related party transactions. This implies that firms in competitive industries can increase normal related party transactions in order to reduce transaction costs.

Accounting and auditing overview

From the accountant's viewpoint, the general reporting framework for related party-transactions is set out by IAS 24(Corlaci and Tudor, 2011).

Related party transactions can take a variety of forms. Many of them include transactions in the normal course of business, for example, purchases or sales of goods at market values. However, others can include significant one-off transactions that may be at a fair value on an arm's length basis or that may be at book value or some other amount that differs from market prices. Transactions between entities that are considered related parties must be adequately disclosed in financial statements of the reporting entity. Such disclosures have long been a common feature of financial reporting, and most national accounting standard-setting bodies have imposed similar obligations. In order to ensure transparency, reporting entities are required to disclose the nature, type, and components of transactions with related parties. Another key reason is that an entity needs to disclose related party transactions so that readers are able to understand what part of commercial and other activity is undertaken by the entity and third parties and to what extent the reporting entity is reliant on its related parties.

The stated objective of IAS 24, "Related party disclosures", is to ensure that *"financial statements contain the disclosures necessary to draw attention to the possibility that the reported financial position and results may have been affected by the existence of related parties, transactions or outstanding balances with such parties"*. IAS 24 is a disclosure standard. It sets out how related party relationships, transactions and balances should be identified and what disclosures should be made, and when. The standard requires disclosure of related party transactions and balances in the individual financial statements of parent companies and subsidiaries. This means that intragroup transactions between group entities are disclosed, although generally such disclosures are likely to be aggregated by type because of their large volume. For instance, a subsidiary would usually disclose aggregate sales to, and aggregate purchases from, its parent. On consolidation, however, such transactions would be eliminated and would, therefore, not be disclosed in the consolidated financial statements. The standard is also applicable in the case of joint venture or associates.

There are no exemptions from disclosure of intra-group transactions for subsidiaries, or for parent companies that produce consolidated financial statements with their individual financial statements

From the auditor's viewpoint there are two different aspects of related-party transactions which should be considered: *disclosure* and *fraud detection*. Some transactions with related-party might be the result of a bond. Without that bond, the transaction would not have occurred or would have occurred in different terms. Therefore, the disclosure of the nature and amount of transactions with related parties is essential for a proper understanding of the financial statements. Inadequate disclosure of related-party transactions may result in distorted financial statements. For that reason, auditor should be concerned in identifying related party transactions and assessing the disclosure of them.

Related party transactions are difficult to audit for a number of reasons: related parties transactions may be difficult to identify, auditors must rely on management to provide detailed information on related parties and related party transactions, there is a wide variety of parties and types of transactions and some transactions may not be given accounting recognition.

Because of the complexity of accounting and auditing related party transactions, professional auditor must understand and examine them very closely. ISA 550 Related Parties does not allow an individual approach, but a combined one with other auditing standards and / or accounting. It is considered that the most visible standards concerning this issue are: ISA 240 *"The auditor's responsibilities relating to fraud in an audit of financial statements"*, ISA 315 *"Identifying and assessing the risks of material misstatement through understanding the entity and its environment"*, ISA 330 *"The auditor's responses to assessed risks"*, ISA 500 *"Audit evidence"*. On the other hand, accounting standards that are directly connected, but not limited, with ISA 550 "Related parties" are: IAS 24, IAS 28, IAS 31.

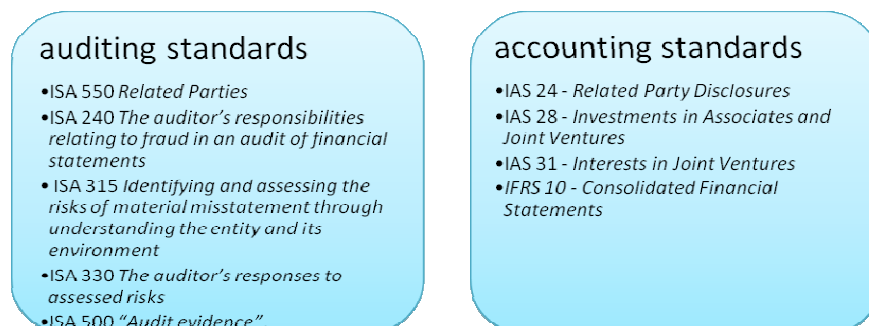


Figure no. 3 – Accounting and auditing framework for related parties transactions

Audit planning involves developing an overall strategy for the expected conduct and scope of the audit. The nature, extent, and timing of planning vary with the size and complexity of the entity, experience with the entity, and knowledge of the entity's business. In planning the audit, the auditor should consider among other matters the conditions that may require extension or modification of audit tests, such as the existence of related party transactions.

Regulation of related party transactions in Romania

The Order no. 222/2008 has introduced the obligation for companies to make a file for transfer pricing (DPT). This order is a more permissive variant of OECD Guidelines applicable in.

The Order provides a two chapters structure of the file: Information about the group and Information about company as taxpayer.

The part regarding the information about the group must contain: organizational structure of the group, legal and operational, including shares, history and financial data relating; general description of the group's activity, business strategy, including changes in the business strategy compared to the previous fiscal year; Description and implementation of transfer pricing methodology application within the group, if applicable; overview of transactions between related parties, the European Union; general description of functions and risks assumed by related parties, including changes in this regard over the previous year; presentation holders of intangible assets of the group (patent, name, know-how etc.) and royalties paid or received; presentation advance pricing agreements entered into by the taxpayer or by other companies within the group about it, except those issued by the National Agency for Fiscal Administration.

The part about the tax-payer must contain: detail of the transactions with affiliated persons, presentation of comparative analysis, presentation of affiliated persons and their permanent establishments involved in these transactions or arrangements; description of the method of calculation of transfer pricing and selection criteria for its argument, description of other conditions considered relevant taxpayer.

Initially, the Romanian legislation has imposed the obligation of making a file of transfer pricing only for those entities that were part of a multinational organization. The starting point was weak, but the desire for transparency and the need for security in a changed economy pushed toward a change. Thus, in July 2011, national regulations extend compulsory documentation on the groups of transfer pricing file.

According to the law, the transaction between related parties must be done at market price, meaning the price at which a transaction would be done similar between independent parties in comparable economic conditions.

Concluding remarks

Related party transactions can be observed through different perspectives, one that puts the risks before the advantages produced by these transactions, and the other which highlights their natural tendency to reduce monitoring costs and information asymmetry. From a theoretical perspective, related party transactions are studied according to two different perspectives: conflicts of interest and the efficient transaction hypothesis.

References

1. Bava, Fabrizio and Melchiorre Gromis di Trana, "Disclosure on Related Party Transactions: Evidence from Italian Listed Companies", *Accounting, Economics and Law - A Convivium*, (2015), Retrieved 14 Jul. 2016, from doi:10.1515/acl-2014-0020
2. Chang, Sea Jin, and Jaebum Hong. "Economic performance of group-affiliated companies in Korea: Intragroup resource sharing and internal business transactions." *Academy of Management Journal* 43.3 (2000): 429-448.
3. Chen, Chen-Wen, and Chinshun Wu. "Related party transactions and ownership concentration: theory and evidence." *E-Leader Conference Singapore*. 2010.
4. Cheung, Stephen Yan-Leung and Jing, Lihua and Lu, Tong and Rau, P. Raghavendra and Stouraitis, Aris, *Tunneling and Propping Up: An Analysis of Related Party Transactions by Chinese Listed Companies* (September 20, 2009). *Pacific-Basin Finance Journal*, 17 (3), 372-393, 2009.. Available at SSRN: <http://ssrn.com/abstract=1286887>
5. Chien, Chu-Yang and Hsu, Joseph C. S., *The Role of Corporate Governance in Related Party Transactions* (January 20, 2010). Available at SSRN: <http://ssrn.com/abstract=1539808> or <http://dx.doi.org/10.2139/ssrn.1539808>
6. Coase Ronald A., "The Firm, the Market and the Law," University of Chicago Press, 1937.
7. Corlaci, Alexandra, and Adriana Tiron Tudor. "Related Party Transactions-Overview." *Annales Universitatis Apulensis: Series Oeconomica* 13.2 (2011): 241.
8. Gordon, Elizabeth A. and Henry, Elaine and Palia, Darius, *Related Party Transactions: Associations with Corporate Governance and Firm Value*, (August 2004), EFA 2004 Maastricht Meetings Paper No. 4377; AFA 2006 Boston Meetings Paper. Available at SSRN: <http://ssrn.com/abstract=558983> or <http://dx.doi.org/10.2139/ssrn.558983>
9. Jian, Ming, and Tak Jun Wong. "Propping through related party transactions." *Review of Accounting Studies* 15.1 (2010): 70-105.
10. Jiang Guohua and Yue Heng, 2005, *Tunneling in China, The surprising pervasive use of corporate loans to extract funds from Chinese listed companies*, Working paper, Johnson School Research Paper Series 31-06, Cornell University;
11. Khanna, Tarun. and Palepu, Krishna. (2000), *Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups*. *The Journal of Finance*, 55: 867–891. doi:10.1111/0022-1082.00229
12. Kohlbeck, Mark J. and Mayhew, Brian W., *Valuation of firms that disclose related party transactions* (2010), *Journal of Accounting and Public Policy*, volume 29, issue 2, pages 115-137
13. Pozzoli, Matteo and Venuti, Marco, (2014), *Related party transactions and financial performance: Is there a correlation? Empirical evidence from Italian listed companies*, *Open Journal of Accounting*, volume 3, pages 28–37, doi: 10.4236/ojacct.2014.31004
14. Rahmat, Mohd Mohid, *Related party (RP) transactions, earnings quality and firm valuations: cross-country evidence from East Asia*, 2013, Available at: <http://hdl.handle.net/1959.9/503524>.
15. Williamson, Oliver E. "The Economics of Organization: The Transaction Cost Approach." *American Journal of Sociology* 87.3 (1981);
16. *** <http://www.ifrs.org>
17. *** <https://www.iaasb.org>

New Developing Methodologies for Strategic and Operational Limits in the European and Romanian Banking System

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The most important recommendations of the de Larosi re report and subsequently implemented in the Union were to create a single regulatory framework and a European framework for macro-prudential supervision, both elements conjugated are designed to ensure financial stability. The single regulatory framework ensures a uniform and robust regulatory framework that facilitates the functioning of the single market and prevents regulatory arbitrage opportunities. However, in the internal market for financial services, macro-prudential risks can exhibit several types of differences, with a number of national peculiarities that lead to variations that can be seen, for example, in terms of structure and size of the banking sector compared to economy and credit cycle in a wider sense.

Key words: methodologies, strategic, operative, banks

Jel: E58

1. Introduction

After the start of the 2008 global economic crisis, the European Parliament and the Council of Europe began studying the causes of the crisis in the EU banking sphere and initiate control and counter-attack measures. Starting with the year 2009, at the request of the European Commission, under the direction of Jacques de Larosi re de Champfeu - former General Director of the International Monetary Fund and former president of the European Bank for Reconstruction and Development, specialists from EU member states have concluded that it is necessary to strengthen the framework of supervision of the financial and banking sector of the Union to reduce the risk and severity of future financial crises and recommended far-reaching reforms to the supervisory structure of the sector, including the creation of a European System of financial supervisors, comprising three new European supervisory authorities, one for banking, insurance and occupational pensions and the securities and markets, as well as a European systemic risk board. It all started in 2009, the group of developed countries, "G20" - wishing to strengthen the global financial system and minimizing the negative effects of the crisis, agreed on the need to act consistently on an international level in order to strengthen transparency, accountability and regulation by improving the quantity and quality of capital in the banking system once the economic recovery is ensured. Through agreements and joint statements, they formalized the introduction of additional measures independent of the risks to avoid buildup of leverage in the banking system, as well as developing a framework for stronger liquidity reserves. Both the EU central banks and the major banking groups in Europe, particularly the EU, have lined up new prudential and common legislation and implemented a comprehensive framework of risk management at credit institutions.

In Romania, most banks have adapted their own systems of limits combined with NBR Regulation no. 5 / December 20, 2013 on prudential requirements for credit institutions and Regulation (EU) no. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms. The banks have created internal regulations - directly related with risk appetite (RAS), which defines the risk that banks are willing to assume strategically.

2. Governance of limits

A limit is defined as the highest exposure that the Bank is willing to assume and can be expressed either in absolute or percentage value.

The risk limit establishes thresholds to monitor whether the current risk exposure does not deviate too much from the desired optimum. Violation of risk limits will typically work as a trigger of a corrective action at the process level.

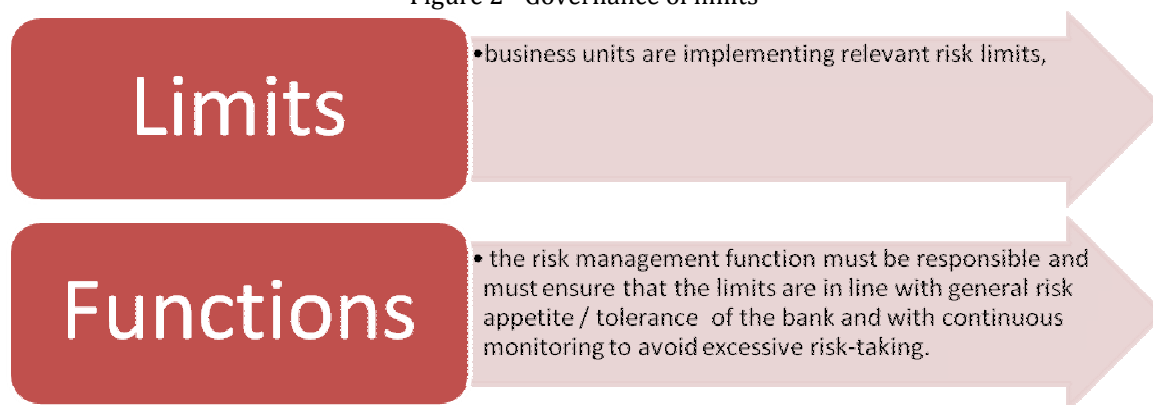
Risk limits are the most granular level used for carrying out the economic activity. They translate the tolerance and the risk appetite for each risk category in risk monitoring measures. The consistency between the risk limit and the risk tolerance supports the company to realize its risk objectives and maximize the risk / return ratio.

The procedure of the limits system uses two main types of indicators to assist the bank in the interpretation of monitoring data - limits and warning levels.

The limits are levels which, if exceeded, present an unacceptable risk and determine immediate action. Setting limits is important, but not sufficient for good management. To ensure that the limits are not exceeded, the Bank needs warning levels.

Warning levels are factors that inform that the limits are approaching their maximum level and represent early warning signals. In general, the warning levels support the Bank in taking corrective actions before the exceeding of the limits:

Figure 2 - Governance of limits



Source: Own contribution

The limit framework

The bank must have policies and processes that provide a suitable and controlled environment for the limit framework, which include:

- Prudent and appropriate credit risk limits, in accordance with the risk appetite, risk profile and capital soundness of the credit institution, which shall be communicated regularly to relevant staff, and therefore fully understood by them
- Appropriate market risk limits in accordance with the risk appetite of the institution, the credit risk profile and capital soundness, as well as management's ability to manage market risk and which are understood and communicated regularly to relevant staff.

The bank must consider various instruments to mitigate liquidity risk, including a system of risk limits and liquidity reserves to be able to support a number of different events of stress and a financing structure appropriately diversified and access to funding sources.

The bank must also have limits on operational risk. This is achieved by considering the observed operational risk losses or by setting limits based on key risk indicators, scoring systems, alert levels etc. Objectives and limits must be in accordance with the risk strategy and the Bank's global risk profile.

Strategic limits are determined by risk appetite, while operational limits must support compliance with strategic limits.

Compliance with SAR limits must be ensured in case of a crisis scenario (in the stress scenarios), in which all strategic limits should be monitored. Banks are extremely careful about the solvency ratio. Solvency ratio is defined as the percentage ratio between equity and total risk exposure. Solvency ratio takes into account all forms of capital: Tier 1 capital (CET1) capital, Additional Level 1

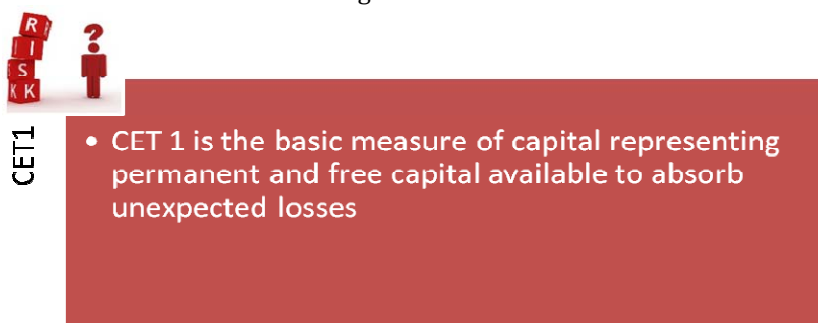
(such as contingent capital and hybrid) and Capital Level 2. Most European banking groups used as the solvency ratio limits IFRS figures with prudential filters, standard method for credit risk.

As for development and evaluation methods, European banks are guided by the red solvency ratio is set as the minimum solvency rate plus silencer regulated to preserve capital, systemic risk and countercyclical.

The indicator Capital Tier 1 (CET 1) is defined as a percentage ratio between Tier 1 core funds and total risk exposure value.

Red Level of CET 1 is set as the minimum requirement for capital preservation CET1 plus silencer, systemic risk and cyclical. Yellow warning level (Amber) is established as an intermediate step towards the red to prevent exceeding the limit Repo market participants are grouped into categories, namely:

Figure 3-CET1



Source: Own contribution

3. Liquidity coverage rate (LCR)

LCR is a regulated indicator and addresses the maintenance a stock of high quality liquid assets to meet short-term liquidity needs within a specific severe stress scenario. LCR is calculated as the ratio of liquid assets of high quality and net outflows under stress (on a 30 day horizon).

LCR measures the adequacy stock of unencumbered high quality liquid assets (HQLA) that can be converted into cash without incurring losses, or with reduced losses for the meeting of liquidity needs for a liquidity stress scenario for 30 days.

LCR measures the adequacy stock of liquid assets unencumbered high quality (HQLA) that can be converted into cash without incurring losses, or losses reduced liquidity needs for liquidity stress scenario for 30 days.

LCR reflected minimum regulated expectations and the public perception of a sustainable liquidity profile. LCR provides adequate funding to cover short-term highly liquid assets.

Starting from the liquidity profile of the bank and given the minimum regulated ratio of 100%, the Bank decided to establish a damper of 20% until the attaining of the level yellow alert (Amber) and a damper of 10% above the regulated limit to denote the red level.

Table No. 1- Indicators of banking risk - Payments Incidents

Date	Residents amounts refused to be paid with debit instruments (thousands lei)	Residents number of refusals to pay with debit instruments (number)	Residents number of people at risk (number)	Residents number of people in banking prohibition (number)	Total amounts refused to be paid with debit instruments (thousands lei)
	CIPL_R_SRT	CIPL_R_NRT	CIPL_R_NPRT	CIPL_R_NPIBT	CIPL_SRT
May. 2015	2.597.953,1	6.907	1.655	134	2.597.953,1
Apr. 2015	363.524,4	6.768	1.676	102	363.609,1
Mar. 2015	949.582,8	7.638	1.809	113	949.582,8
Feb. 2015	1.050.638,5	6.978	1.667	112	1.050.760,0
Jan. 2015	298.355,3	7.296	1.654	133	298.366,8
Dec. 2014	557.402,0	10.690	2.194	189	557.402,0
Nov. 2014	807.050,9	9.634	1.945	154	807.050,9
Oct. 2014	773.689,0	9.487	2.112	169	773.689,0
Sep. 2014	648.105,2	8.977	2.050	151	648.105,2
Aug. 2014	566.570,5	8.219	1.941	149	566.570,5
Jul. 2014	1.049.013,9	10.067	2.278	181	1.049.024,0
Jun. 2014	510.693,2	9.586	2.191	154	510.693,2

May. 2014	469.189,8	9.763	2.170	168	469.189,8
Apr. 2014	934.354,9	9.687	2.121	153	934.354,9
Mar. 2014	440.655,5	9.958	2.146	152	440.655,5
Feb. 2014	684.377,0	9.569	2.113	140	684.377,0
Jan. 2014	497.599,5	9.456	2.148	169	497.630,4

Source: BNR

Net stable funding rate (NSFR)

NSFR is defined as the amount of available stable funding based on need of stable funding. It reflects the minimum regulated expectations regarding the structural liquidity on a one-year horizon and addresses structural liquidity mismatches on a long term basis. NSFR aims at long term financing and serves to define the minimum acceptable stable funding based on the liquidity characteristics of the bank, on the assets and activities for a one-year horizon.

The aim of this indicator is to limit the use of short-term funding and to limit funding mismatch, so NSFR is a tool for measuring liquidity risk in the long term.

The methodological framework on this limit consists of two parts. The first part concerns inputs that are based on balance sheet items and the extra balance sheet under stress, taken from stress testing. In the second part, the NSFR is calculated by using parameters that links these accounting positions to the positions components of the NSFR. Red Level is based on regulated minimum limit imposed by the regulator in the medium term. Yellow warning level (Amber) is established as an intermediate step towards the red to prevent exceeding the limit.

Risk earning ratio/ RER

RER is defined as credit risk absorption losses through net interest income.

Net loan loss provisions include all provisions in the balance sheet and off balance sheet, regardless of the type of portfolios (ie loans & receivables balance sheet and off balance sheet, Afs, HtM other). Net interest income include all balance sheet and off balance sheet exposures related to net interest income. It is calculated as the ratio between net loan loss provisions and net interest income.

Level Red Indicator RER is determined based on the maximum target of rate of risk costs. Yellow warning level (Amber) is established as an intermediate step towards the red to prevent exceeding the limit.

Indicator CET 1 under stress (pessimistic scenario)

CET1 indicator under stress (S- CET 1) is defined as the quotient between Tier 1 basic funds under stress and the total risk exposure under stress. It ensures adequacy of capital to absorb unexpected capital losses in terms of stress scenarios.

The red level of the indicator S- CET 1 is set as minimum regulated CET 1 plus the capital preservation damper and damper for systemic risk. Anticyclical capital buffer is not required in a macroeconomic crisis situation. The macroeconomic crisis situation is included in the hypotheses of stress tests. Yellow warning level (Amber) is established as an intermediate step towards the red to prevent exceeding the limit.

Level 1 Basic funds under stress are calculated as the difference between Tier 1 basic funds in the pessimistic and baseline scenario of the stress test, which is then used to impact the Tier 1 current basic funds. Similarly for the counter, one uses the difference between the value of the pessimistic scenario and the basic scenario concerning risk-weighted assets which impact the current value of risk-weighted assets.

Economic capital adequacy indicator (ECA) under stress (pessimistic scenario)

Economic Capital Adequacy (ECA) under stress is defined as the ratio between stressed economic capital and the potential for capital cover.

It ensures capital adequacy to absorb unexpected losses of capital in conditions of stress scenarios. Red Level of ECA Indicator under stress is set to mean 100% of the potential of coverage divided by (CET 1 plus the minimum regulated dampers for capital preservation, systemic risk and cyclical, plus adjustments for Pillar II). Yellow warning level (Amber) is established as an intermediate step towards the red to prevent exceeding the limit.

It ensures alignment between Pillar I and Pillar II. Anticyclical capital buffer is not required in a macroeconomic crisis situation. The macroeconomic crisis situation is included in the hypotheses of stress tests. The coverage potential is similar to the coverage potential impacted with the difference between the coverage potential of the pessimistic scenario and baseline scenario of the stress test.

Similarly, economic capital is calculated as the current economic capital impacted with the difference between its value from the pessimistic scenario and the basic one of the stress test.

4. Conclusions

The establishing of limits on industries starts from the structure and balance of the existing portfolio for the last available quarterly data and the utilization of the limits received from parent banks. Generally banks set warning threshold to 95% of the suggested limit. Also, for setting limits, there will be operated redirections between industries so that total consumption of capital does not exceed the limit of economic capital Pillar II established in RAS. In case of exceeding a limit, measures will be taken to return to the limit within 3 months after the detection of exceeding the limit.

Limit monitoring is done monthly, in the first 15 days of the end of the reporting month. If there are business opportunities in attractive sectors in macroeconomic terms, potential customers with rating at least equal to the industry average or there is unanticipated macroeconomic danger, there can be made quarterly adjustments of limits on industries. The output of the scoring model can be adjusted to account for the prospect of business according to the input provided by the EU statistics or the general evolution of certain industries in the macroeconomic environment in every European country.

References

1. Georgescu Cristina Elena, Radu Riana Iren - *The Provisions for the Risk of Loss in the Case of the Loans Granted by the European Banks, "Ovidius" University Annals, Economic Sciences Series Volume XV, Issue 1 /2015.*
2. Riana Iren Radu, Violeta Isai, *Study on the application of the prudence principle in accounting of credit institutions, Annals of Dunarea de Jos University of Galati. Fascicle I. Economics and Applied Informatics, Year XX, no. 1/2014, ISSN 1584-9409, pp. 69-74.*
3. Moraru D., Nabi M. (2013) *"Banking products and services in 2013", Publisher Universitaria Pro, Bucharest, pp. 61*
4. Radu Riana Iren, Isai Violeta, *The Applicability Of The Prudence Principle To Bank Companies In The Vision Of Ias 37, International Conference "Risk in Contemporary Economy" ISSN online 2344-5386, ISSN print 2067-0532, XIVth Edition, 2013, pp. 3*

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The Management of Disinvestment Decision and its Impact on Financial Statements

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The political and economic context of the world noticeably influenced, in recent years, the economic development of corporations, causing sometimes resounding failures, forcing businesses to act with caution. In this context, senior management decisions are oriented towards achieving financial stability, even if this implies a stagnation in terms of the financial result and not a constant profit growth. This paper examines the impact of fixed alienation on the entity's financial results, the importance of rational management strategies that lead to the creation of new sources of investment and the timing of disinvestments by applying the Altman model to the Romanian energy companies quoted at BVB. It has been found that the incorrect classification of assets held for sale, changes the structure of the expenses incurred with the amortization said tangible assets because at the moments of their classification as assets held for sale, assets cease to be amortized. In the case of the failure of the Retail Plan, the recording of the accounting depreciation stops and the asset is being over-evaluated.

Keywords: disinvestment, assets held for sale, the sale plan, financial statements.

Introduction

The recent economic crisis, but also the period that followed, have had a major impact on the entities from Romania, as regards the sources of financing, investments, return on capital, etc. During the period 2008-2015, in Romania, over 350,000 have been removed.

A study on 1200 companies from Europe, said that the most important 5 causes for which companies enter in bankruptcy are:

- 1) is not a valid strategy, i.e. the wrong investment decisions (54%);
- 2) costs too high (39%);
- 3) insufficiency of liquidity (38%)-funding granted by banks or non-banking financial institutions obtained from the increasingly difficult;
- 4) late replies and insufficient management (34%)-more and more companies are asking other actors economic insolvency due to unpaid debts;
- 5) generator of value chain (23%)-dependency between tasks.

Under these conditions, disinvestment is a lucid response to the constraints of the market and considering maintaining an acceptable level of profitability of the capital remained. From the point of view of the owners of the enterprise the opportunity to recoup the invested capital without losses (or significant costs) for any other purpose, constitutes an important criterion since the formulation of the initial decision to invest. However, from the perspective of the enterprise, the disinvestment represents a moment of gap, an exception in relation to the growth trend, which is the general rule.

Disinvestment includes the following activities (Stoica M., 2001): selling a portion of the company's assets; decommissioning (dismantling, scrapping, dismantling) of a part of the assets of the enterprise; the discharge machinery and hazardous waste recovery activities; organization and use of disused items.

Disinvestment does not constitute a failure in a company's activity, but it is the effect of a conscious and rational decisions at some point. In essence, the disinvestment consists in giving up exploitation in continuation of an asset in the measure in which it turns out to be ineffective. Renunciation of the use of the asset in question is done by three ways:

- removing from service through the disassembly, closure;
- during the carrying out of an activity, by reallocating resources to new opportunities;

- isolation of activities relating to the realization of the corresponding product or service assets (supply, construction, marketing).

In the financial plan, disinvestment represents a "creative destruction" because it offers the opportunity of redistribution of financial resources for more efficient use. Dismantling the entire activity of an organization presumes the gradual stopping of the areas of productivity by selling the "liquidation" of property assets.

Disinvestment is situated in the sphere of Enterprise Capital rationing, converting its strategic assets, redeployment of resources and risk prevention (Moisescu, 2012). It can have both positive and negative effects. A negative effect occurs when the capital reduction is the effect of depreciation and decommissioning of capital goods (equipment, buildings, stocks), and associated inverse of development or economic setbacks. The positive effect occurs when sold assets, buildings, equipment, technology, know-how and create new sources for investments. Disinvestment in the capital market consists of the sale of stakes, in capital increase through public subscription, in bond issues, with the same effect of establishing funds to finance investments.

From an accounting perspective, IFRS 5 "Non-current Assets Held to prior sale and discontinued operations" specifies requirements for classification, measurement and disclosure of assets held for sale (Petre and Lazăr, 2012).

In order to illustrate the accuracy of the subject of this paper, we analyzed the importance of correct classification of assets (or disposal group) as held for sale, the elements underlying the grounding decision of alienation, using a mathematical model for analyzing financial indicators in energy industry and the impact of the results on the consolidated statements.

Classification of assets as held for sale

An entity shall classify an asset (or disposal group) as held for sale if its carrying amount will be recovered primarily through a sale transaction rather than through continuing use. In this case, the asset or disposal group must be available for immediate sale as shows it at the time, subject only to terms customary for sales of such assets or disposal groups and selling it to have a probability Wholesale (Raso, 2012).

For the sale to be highly likely, a suitable group of management must be committed to a plan to sell the asset (or disposal group), through an active program to locate a buyer and complete the plan. Further, the asset (or disposal group) must be actively marketed for sale at a price reasonably related to the current fair value of the asset. In addition, the sale should be complete if it falls under a year from the date of classification, except as permitted by the following paragraph, and actions required to complete the plan should indicate that it is unlikely that significant changes to its development or even to lead to discontinuation (Jerman and Ivankovic, 2011).

Events or circumstances may extend the sale beyond one year. An extension of the period necessary sale does not preclude classification of the asset or disposal group as held for sale if the delay is caused by events or circumstances beyond the control of the entity being sufficient evidence that the entity is still engaged in developing the plan to sell the asset or disposal group (UN, 2008).

For example, an entity is committed to a plan to sell a production space and it began to seek buyers. There exist from hiring this plan a portfolio of uncompleted orders.

a) The entity intends to sell production space along with work in this. Unfinished orders on the date of sale will be transferred to the buyer. The transfer of uncompleted orders at the sale date will not affect the length of the space shuttle.

b) The entity plans to sell space but without production activities in it. The entity also does not intend to transfer Buyer space before discontinuing all activities and completion of outstanding orders by a customer from hiring plan. The delay in transferring space imposed by the entity (as seller) demonstrates that space is not available for immediate sale.

Decision classification as assets held for sale, is in the competence of management and are based largely on the company's financial and economic indicators.

Evaluating assets for alienation

An entity shall assess an asset (or disposal group) classified as held for sale at the lowest value between the carrying amount and fair value less costs to sell.

If a new asset-acquired (or disposal group) meets the criteria to be classified as held for sale applying paragraph above will result in the asset (or disposal group) at initial recognition if it had not been classified by the cost at the lowest value between its carrying amount and fair value less selling

costs. Thus, if the asset (or disposal group) is acquired in a business combination, it shall be measured at fair value less costs to sell (Csongor, 2014).

When the sale is expected to occur beyond one year, the entity will assess the costs of selling their current value. Any increase in the present value of costs to sell that arises from the passage of time must be presented in the income statement as a finance cost.

Before the initial framing of an asset (or disposal group) in the category of assets held for sale, its net book value (or all assets and liabilities within the group) will be evaluated in accordance with applicable IFRSs.

In subsequent re-measurement of a disposal group, the carrying amount of any assets and liabilities which are not subject to the measurement requirements of this IFRS, but are included in a disposal group classified as held for sale shall be reassessed in accordance with IFRSs applicable before fair value less costs to sell of the disposal group to be reevaluated.

For further evaluation entity shall recognize an impairment loss for any initial or subsequent drop in book value until it is equal to fair value less costs to sell.

For the remaining of use of an asset to be sold, its net book value recovery through sale is made. In this case, the accounting of such assets should be an evaluation process, and not an allocation (CECCAR, 2013).

Once an asset is revalued, depreciation would reduce the accountable net value at fair value less costs to sell. In this case, if there is a decrease in asset value after initial classification as held for sale and before the sale, the loss would be recognized during the period of decline since the fair value less costs to sell it evaluates each period (Deloitte, 2014).

The counterargument is that, although classified as held for sale, the asset is still used in activities and thus cessation of depreciation is inconsistent with the basic principle that states: cost of an asset should be allocated over the period when the advantage is from its use (AASB 2012). Furthermore, while decreasing the use value of an asset would be recognized in the fair value adjustments, it could still be masked by an increase arising from changes in the market price of the asset.

Making the decision for transfer of assets

It was found, over time, a trend to invest part of their profit in the purchase of tangible fixed assets, both in order to use them in direct production activity and to increase their economic value in order to alienation. The companies listed on BVB prefer economical purchases, so that in case of depreciation of major actions or if a financial collapse in the industry, caused by a declining market shares, can immediately use these fixed assets to determine increases in incomes, thus ensuring the positive results of the final financial statements, a climate of trust shareholders. Using tangible fixed assets in order to reduce losses caused by financial crises in the area may be in the context of the current economy a lifeline from bankruptcy.

The most interesting development of the companies listed at BVB was recorded in the energy sector. Operational activity in the real sector was affected by the global economic climate in the oil and gas industry, by the drastic decline in oil prices. The effects of declining prices and currency fluctuations (\$) were felt fully in the energy sector (Feldioreanu, 2014). As a result of instability, economic entities have postponed major exploration and production projects, reduced investments, significantly reduced operational budgets and tried to offset losses incurred by capitalizing assets.

Given the importance share of tangible assets in total assets, it is essential that the decision about policy evaluation and revaluation of fixed assets flesh, taken from the top management of the company to be well founded in terms of forecast financial (Diaz Moreno 2008). The project's success alienation of assets held for sale is strictly correlated to the correct assessment of the ability to interpret financial data and accountability respect of stages, so finality objective to bring the desired result - income that can cause a considerable increase in the annual financial result.

Business analysts and theorists have tried, over time, to find a "magic formula" to reconcile financial data so as to assist management in making decisions. It resorted to using various mathematical formulas, the progressions and econometric models, all with the sole purpose of simplifying a simple "application" hours of analysis of financial statements.

Such a mathematical model was developed by Professor Altman and used to predict the success or failure of a business. Used in forecasting bankrupt, it was first applied in 1968 in the US (Ilea, 2006). By analogy, the model Altman contribute to making financial indicators in a score that can influence managerial decision on the possibility of alienation of tangible assets to generate earnings when profits diminish the risk of an entity (Crow, 2010).

Developed within about 10 years, the model uses five variables representing financial statements. Final model formula "Z" is:

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 0,999X_5 \quad (1)$$

where:

X_1 = working capital / current assets

X_2 = reinvested profit / total assets

X_3 = gross profit / total assets

X_4 = market value of shares / total debts

X_5 = figure net turnover / total assets

Risk indicators used, are:

- The flexibility of the company;
- The rate of self-financing assets;
- The rate of economic return;
- The capacity of indebtedness of the company;
- Return on assets.

According to Professor Altman's model, the score "Z" is framing the levels of companies at risk of bankruptcy, however, these indicators can be used successfully to determine the ability of entities to generate liquidity.

Scoring Z, used in the analysis of the energy sector in Romania, pointed to a temporary economic financial difficulty for companies with values between 1.8 and 2.7; solvency for those with values above 2.7 and bankruptcy risk for those with values below 1.8.

Tabel no. 1 Preliminary Indicators of financial statements at 31.12.2015

Current No.	Company Name	Working capital	Reinvested profits	Gross profit	The market value of the shares	Net Turnover	Total assets	Total debts
1	ELECTRICA S.A.	2280618358	276209051	283791954	12,08	385241353	4013561673	104572406
2	CNTEE TRANSELECTRICA S.A.	1802041609	1502038021	435080237	4,9985	298449194 ₁	5199962781	2225363133
3	NUCLEARELECTRICA S.A.	1927496293	3979161254	179225840	0,51	178296925 ₉	9606707868	2070551128
4	TRANSGAZ	1131917420	1495828343	607276580	41,43	165602263 ₃	4943801227	1375540322
5	OMV PETROM	4979,95	20059,8	725,97	0,02	26942,83	41118,16	15430,13
6	ROMPETROL RAFINARE SA	1828885167	-6632906034	404988993	0,19	981119625 ₂	6610932792	5347607456
7	PETROLEXPORTIMPORT SA	101727583	116580782	115099842	5,46	771008	78397766	180125349
8	ROMPETROL WELL SERVICES SA	153606610	18330138	2148230	0,335	49975025	165245091	11638481
9	ELECTROARGES SA	60143763	12734901	9785082	0,554	167883750	103046945	35507220
10	UZTEL SA	94449869	8246388	1665373	2,85	62007943	125755682	31305813

Source: Data from preliminary consolidated financial statements from 31.12.2015, www.bvb.ro

Tabel no. 2 Calculation of indicators under "Altman's Model"

Nr. crt.	Company name	X_1	X_2	X_3	X_4	X_5	Z
1	ELECTRICA S.A.	0,5682281	0,068818938	0,07070826	0,0000001155	0,0959849	1,1074464
2	CNTEE TRANSELECTRICA S.A.	0,3465489	0,288855533	0,08366988	0,0000000022	0,5739449	1,669738
3	NUCLEARELECTRICA S.A.	0,2006407	0,414206543	0,01865632	0,0000000002	0,1855963	1,0676345
4	TRANSGAZ	0,2289569	0,302566441	0,12283596	0,0000000301	0,3349695	1,4383345
5	OMV PETROM	0,1211132	0,487857433	0,0176557	0,0000012962	0,6552538	1,5411993
6	ROMPETROL RAFINARE SA	0,2766456	-1,003323773	0,06126049	0,0000000000	1,4840865	0,6120834
7	PETROLEXPORTIMPORT SA	1,2975827	1,487042144	1,46815206	0,0000000303	0,0098346	8,4936848
8	ROMPETROL WELL SERVICES SA	1,1357648	0,135532742	0,01588398	0,0000000028 ₈	0,3695145	1,9742257

Nr. crt.	Company name	X ₁	X ₂	X ₃	X ₄	X ₅	Z
9	ELECTROARGES SA	0,583654	0,123583489	0,09495752	0,0000000156	1,6291968	2,8143291
10	UZTEL SA	0,7510585	0,065574675	0,01324292	0,0000000910	0,4930826	1,529366

The figures were used in order to be able to illustrate all three (3) levels of risk.

The results obtained thus classify companies:

Level I: creditworthy companies $Z > 2,7$ – Electroargeş SA (2,8143291) and Petrolexportimport SA (8,4936848)

Level II: companies with temporary financial difficulty $1,8 > Z > 2,7$ – Rompetrol Well Services SA (1,9742257)

Level III: risk of bankruptcy $Z < 1,8$ – CNTEE Transelectrica SA (1,669738 – low risk); OMV Petrom SA (1,5411993 – low risk); Uztel SA (1,529366 – low risk); Transgaz SA (1,4383345 – low risk); Electrica SA (1,1074464 – medium risk); Nuclearelectrica SA (1,0676345 – medium risk); Rompetrol Rafinare SA (0,6120834 – high risk).

Analysis of the financial statements presented at the end of 2015, highlights the significant decreases of tangible assets recorded during the year. Thus, a total of five (5) Romanian energy entities, took a disposal of fixed assets with values between 1981 and 575302 lei to compensate losses. The largest decrease has Rompetrol Well Services SA - 5753020 lei, the last standing Transelectrica SA 1981 lei.

OMV Petrom SA has announced its intention to surrender, during 2016, its stake in OMV Petrom subsidiary Wind Power SRL (100%), in order to focus on the core business of the Group.

Electroargeş SA shows an increase in tangible fixed assets by 10.5%, approximately 2,500,000 lei, reporting the end of 2015 a positive net result for the financial year of 7,728,926 lei.

Rompetrol Rafinare SA reports 2015 first growth in 11 years. The value of tangible assets transferred represented building is 89500 lei of the total of 1,609,182 lei.

Impact on the entity's financial statements

The impact study on the final financial results of the companies differ, depending on the accounting policy of each entity.

Misclassification of assets as held for sale alter the composition of expenditure with depreciation of tangible assets such as when classification as held for sale, assets cease to be depreciated. Thus the recording of depreciation accounting stops, over-valuing the asset sale plan in case of failure. Resumption depreciation and recovery calculations for next year, when sales plan failure finding, additional expenses and diminishing profits.

Interpretation of financial indicators at the time of making decisions for transfer of tangible assets is vital for the company. A wrong approach results can contribute to the deterioration of the financial statements reaching even bankrupt. Poor management training is the main cause of such a failure.

The dispute between use to assess of fair value or historical cost are another major cause that can cause changes in the company's financial results. Although the use of fair value as a system of evaluation of corporal asset allows obtaining situations reliable, has a more economical and has the advantage of better information and comparison regarding future results, some authors consider that its use is advantageous only a category of users of information - investors, providing information on short term and does not provide details on distributable earnings (Iftimie and Ioan, 2013).

International standards recommend highlighting the distinct financial statements of assets held for sale and mention in the notes of the decision on the fulfillment of the criteria to be classified as held for sale.

Order approving the Accounting Regulations compliant with European directives, which applies from January 2010, in Romania, provides for the registration of transfer of assets classified as held for sale of property and equipment stocks, the unamortized value. In other words, assets that meet all the criteria to be classified as held for sale to be presented separately in the balance sheet and the related results of discontinued operations to be disclosed separately in the income statement.

Notes accounting for investors is a faithful mirror of the economic situation of the company. For this, a description of assets is needs, specifying section of the balance sheet in which they are

presented and the circumstances that led to the sale of their or their classification as held for sale, as well as the effects resulting from the decision to change their destination based on the results of operations performed. It is specified profit or loss and impairment recognized in the income section loss includes the result of these operations. Moreover, an analysis must be made of revenue, expenses and profit before tax, obtained or realized, directly attributable to discontinued operations. These requirements help in analyzing financial statements to distinguish those activities that management plans to carry out and that will generate profit in the future.

Conclusions

International Financial Reporting Standards is a universal language that an investor understands a way that it can compare the information provided by listed companies with other information in the market (ASF, 2013).

The study reveals the importance of correct instrumentation correctly of the results in decisions underlying the alienation of tangible assets, the importance of financial statements in analyzing the financial position of companies and key indicators that contribute to this analysis.

Calculate and analyze indicators show the project and demonstrates that the companies analyzed have a stable enough economic position, and that in the case of those that show a decreasing in developments, they have revised their development options, changed their economic future strategies for maintaining balance financial.

It is recommended that a careful study of annual financial statements be taken and, more importantly, a more careful bending the accounting information presented in the notes that accompany them be put into place as that is the faithful image of all data needed by investors.

References

1. Australian Accounting Standard Board, "Non current assets held for sale and discontinued operations", 2012
2. Autoritatea de Supraveghere Financiara, "Ghid de aplicare a Standardelor Internaționale de Raportare Financiară", KPMG, 2013
3. Cioară, Nicoleta Maria. "Studiu comparativ privind politica de reevaluare a imobilizărilor corporale în România și Marea Britanie." *Romanian Economic Journal* 13.35, 2010.
4. Csongor Csoz, "Evaluarea și reevaluarea activelor imobilizate corporale ale entităților economice din România și Ungaria-cerință a imaginii fidele in contabilitate", Cluj Napoca, 2014
5. Deloitte, "Los IFRS en su bolsillo", 2014
6. Diaz Moreno Luis Alejandro, "Análisis de la adopción y aplicación de la NIIF 5 – Activo no corriente mantenido para la venta y actividades interrumpidas en las empresas Venezolanas a partir de su vigencia en el año 2005", Cumana, Venezuela 2008
7. Feldioreanu I.A., "Analiza conformității cu cerințele de informare prevăzute de IFRS. Cazul societăților cotate la Bursa de Valori București", *Revista Audit Financiar*, editura CAFR, nr. 115, 2014.
8. Ghid privind tratamentul contabil și fiscal al unor operații efectuate de entitățile care aplică Reglementările contabile conforme cu Standardele Internaționale de Raportare Financiară, CECCAR, 2013
9. Iftimie A.D., Ioan G.C., "Aplicarea IFRS în România – percepții asupra costurilor, beneficiilor și implicațiilor", 2013
10. Ilea, Mărioara. "Analiza riscului de faliment cu ajutorul Modelului Altman", *Agricultura, agricultural practice and science journal* 57.1-2 (2006).
11. Jerman M., Ivankovic G., "The evolution of financial standards for small and medium sized entities", University of Primorska, Slovenia, 2011
12. Moisesu Florentina, Approach of accounting in the context of new information technology. *GSTF Journal of Law and Social Sciences (JLSS)* 1.2, 2012: 115.
13. Petre G. și Lazăr A., Unele aspecte referitoare la aplicarea de către operatorii economici a standardelor internaționale de Raportare Financiară, *Audit financiar*, nr. 9, 2012
14. Raso Jose Luis, Ernst & Young, "Activos no corrientes mantenido para la venta y actividades interrumpidas", *Publicacion Actualizacion contable, primer trimestre*, 2012, Espana
15. Stoica M. (2001) Investissement et risque, Ed.ASE Bucuresti, p.17
16. United Nation, "Practical implementation of internal financial reporting standards: Lessons learned- Country case study on IFRS", New York and Geneva, 2008
17. www.bvb.ro

New Leverage for Increasing Tax Revenues in Turkey: Traditional Tax Applications Supported by Electronic Tax Audits

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In this study, it is examined for the period 2000- 2015 in Turkey that increasing the electronic applications regarding tax audits had the effects on the required amount of tax levied as a result of tax audits. Tax Inspectors reach strategic information without uneasiness by means of electronic applications developed by some institutions such as Electronic Risk Analysis that Tax Inspection Board founded in 2011 and Revenue Administration as institutions designated by law for auditing tax in Turkey. Thus, this leads to an increase the tax revenues obtained in the course of tax audits compared to the times when there is not electronic applications.

Keywords: Tax Audit, Electronic Taxation Application.

Jel Code: K34, O33.

1. Introduction

The tax which states levy on their citizens with the intent of discharging of public services is the most important sources of income for many states in recent years. Also, tax has macroeconomic functions like providing income distribution (ZUNGUN et al. 2015: 44-45) and economic stabilization of countries. Importance which has taxes necessitates being collected tax revenues in sufficient level. But, it occur high differences between the tax amounts that need to be pay according to tax laws and the tax amount that taxpayers declare tax and pay tax. For this reason, every country has developed their tax audit system by themselves.

Tax inspection is a review of an organization's or individual's accounts and financial information to ensure information is being reported correctly, according to the tax laws, to verify the amount of tax reported is substantially correct. To carry out a straight tax audit depends on being taxpayers who have high tax ethics and qualified-tax inspectors. Nevertheless, there is a third factor affecting to tax inspections. The third factor is laws regarding tax audits and their restructuring. Tax audits in Turkey base on between 134th and 141th in Tax Procedure Law (TPL). The purpose set out in the 134th in TPL stated what to investigate determine and provide to truth values of taxes need to be pay. The factors about tax audits such as the persons who are entitled to make to tax inspections, the place where are made to tax inspections are stated aforementioned other articles in TPL. While 134th with no change so-called law, the other articles in relation to tax inspections change in accordance with the law no 6009 and the Statutory Decree no. 646.

2. Institutions Made to Tax Audits in Turkey

Tax audit in Turkey have been made by only revenue administration as a dependent on Ministry of Finance until 2011. But, number of institutions which realized tax audits in Turkey increased according to Statutory Decree no. 646 adopted in 2011. Tax inspection board has also begun to realize tax audit in addition to revenue administration.

2.1. Revenue Administration

The General Directorate of Revenues was established with the Law in 1946. From 1946 to 1994 many changes were made in the duties of the General Directorate of Revenues. Nevertheless, a result of the re-organization with the Law no 5345, adopted in 2005 the General Directorate of Revenue as has been abolished and the Presidency of Revenue Administration has been established as

dependent on the Ministry of Finance. Main aim of Revenue Administration is to increase voluntary compliance by protecting tax payer rights and to collect taxes and other revenues (Revenue Administration; 2006: 9-10)

Institutions made to tax audits in Turkey before the adoption the Statutory Decree no. 646 were to comprise of Tax Inspectors, Finance Inspectors, Revenue Controllers and Tax Auditors (local). Tax Inspectors and Finance Inspectors depended on Ministry of Finance directly. On the other hand, Revenue controllers depended on General Directorate of Revenue and also, Tax Auditors worked as a dependent on Tax Office Directorates. The other three groups had missions like inquisitions and audits in addition to audits except for tax inspectors. Only Tax Office Directorates were entitled to tax audits in terms of revenue administration after the adoption the Statutory Decree no. 646

Tax Inspection Board

The Turkish Tax Inspection Board (TTIB) was established according to the Article 20, which was amended by the Statutory Decree no. 646, of the Statutory Decree Regarding The Organization and Missions of Ministry of Finance no 178 in 2011. Main aim of TTIB is to perform task audits by using risk focused and modern audit techniques and carry out investigations and inspections for directing fiscal authorities to perform efficiently and in compliance with law

TTIB is directly reporting to the Minister. According to aforementioned Statutory, Tax Inspectors, Finance Inspectors, Revenue Controllers and Tax Auditors (local) were combined into one group called Tax Inspectors. The permanent place of Tax Inspector's work is group (T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı, 2016). TTIB has four groups as Large Taxpayers Groups, Small and Medium Sized (SME) Tax payers Groups, Combating Organized Tax Crime Groups and Thin Capitalization, Transfer Pricing and Offshore Income Groups. Tax Auditors in the old system are included in SME. The others who made audits in the old system include these groups such as Large Tax payers, Combating Organized Tax Crime and Thin Capitalization, Transfer Pricing and Offshore Income.

Electronic Applications Which Were Used in Tax Audits

Electronic Applications Were Developed By Revenue Administration

A lot of projects were developed by Revenue Administration. One of the most important of these is Tax Office Automation Project (TOAP), which contain within a large number of projects like The Project of Data Warehouse, Central Risk Analysis and stratifying model, Electronic Filling Project. TOAP is a project that opportunities of internet technology which widespread to tax offices by involving in all functions of tax offices. A lot of projects like Electronic Filling Project, Electronic Invoice and Electronic Lien were provided to make electronically due to TOAP. Important projects of Revenue Administration like Central Risk Analysis and Stratifying Model that was the 2nd part were began in 2004. Some projects which are involved in TOAP will be seen in terms of being directly related to tax audits in the following parts of this study.

Table 1: The Process of TOAP and Projects within TOAP

	Started Year	Projects Within TOAP
First Part Of TOAP	1998	Automation of first tax Office, Updated all systems in tax office
Second Part Of TOAP	2004	E-filling, the project of Data Warehouse, Automation of all tax offices, first part of electronic payment
Third Part Of TOAP	2007	Central Risk Analysis and Stratifying Model, Tax Compliance Analysis Model and the Project of Tax payer Evaluation System, The system of value added tax refund, The program of forged document risk analysis

Source: Arrangement by author

As seen in Table 1, the projects regarding TOAP have begun more extended and have accelerated since 2004.

The Project of Data Warehouse /Data Integration with Public Institutions and Organizations

The Project of Data Warehouse is a project which was developed within second part of TOAP by Revenue Administration and it is purposed to build a system in furtherance of struggling with shadow economy and evasion of taxes. For the purpose of the Project of Data Warehouse, the data

derived from other public institutions and private sector organizations need to be processed and so-called data are made to cross check in its own (T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı, 2011).

Studies of technical and structural harmonization providing of data Exchange between electronic database of revenue administration and other public institutions and organizations have being continued. Turkish Court of Accounts, Republic of Turkey Ministry of Justice, Council of higher education, General Directory of Highways, General Director of Public Accounts, General Director of National Property, Ministry of labor and social security, Turkish National Police and General Directory of Land registry and cadaster as relevant to studies of transmitting data have being continued.

Central Risk Analysis and Stratifying Model / Tax Compliance Analysis Model and the Project of Tax payer Evaluation System/The system of value added tax refund/The program of forged document risk analysis

Central Risk Analysis and stratifying model, first of all, the taxpayers to be audit are chosen according to objective risk analysis. Secondly, tax payers are classified into sectorial group (NACE) or regional group (NUTS). After that, those who classified into group again, but, criteria considering in second time are returns, balance sheets and other data like data taken by third party sources (banks, communication center etc.) and finally, tax payers have a risk point through mathematical and statistical methods.

Tax Compliance Analysis Model and the Project of Taxpayer Evaluation System have been developed because of evaluating tax payers and preventing tax non-compliance. The so-called system has been used by utilizing to computer technology and it is similar to bank credit system used to evaluate credit demands of their own customers. Both systems investigate trade registry entry of tax payers, filling, taxpaying.

Tax payers send their demands regarding in the system of value added tax refund. Before electronic taxation, operations related to value added tax refund were made by tax office workers, in which case it took them a lot of hours. Part of so-called operations has been made by computer programs due to system of value added tax refund.

The program of forged document risk analysis grades the tax payers violating criteria of risk. Thus, all tax payers of value added tax are evaluated in terms of risk of forged document by revenue administration and then the results are submitted to tax inception board. 7.399 of tax payers were determined by the program of forged document risk analysis in 2015 (T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı, 2016).

Electronic Applications Were Developed By Tax Inspection Board

The purpose of the risk analysis in the Board is to improve the effectiveness of audit functions through efficiently utilizing limited time and resources and to enhance the functionality of data warehouse by using the current data in analyses more efficiently. With the risk analysis system, it is aimed to determine the sectors and/or tax payers that have higher risk of tax loss or tax evasion to be examined primarily. For these purposes, setup of Tax Inspection Board- Risk Analysis Center (TIB-RAC) was finished in 2014. Setup of Tax Inspection Board- Risk Analysis System (TIB-RAS) also was finished as a dependent on TIB-RAC in 2014.

Tax Inspection Board- Central Electronic Risk Analysis and Tax Payer Choice Program (TIB-CERAT)

Tax Inspection Board- Central Electronic Risk Analysis and Tax payer Choice Program (TIB-CERAT) has been built depend on TIB-RAS in 2014. Operations regarding goods and services made by tax payers are analyzed as a result of handed data. So-called data are obtained tax payers who separated into four groups of Large Tax payers, Combating Organized Tax Crime and Thin Capitalization, Transfer Pricing and Offshore or sectors. TIB-CERAT will be used as of 2016.

Tax Inspection Board- Sigma Multilateral Surveillance Network

The main aim of sigma multilateral surveillance network is to determine information to be found in information repository regarding flow of goods and services in the records which will be created in electronic system. First of all in concerned project, 11 people of tax payers for special consumption tax are obligated to inform about goods produced and sold by so-called tax payers.

Electronic Applications Were Developed By Electronic Government National Estate Automation Project (NEAP)

Web based application that manages national proprieties efficiently. Covers transition of General Directorate of National Estate's current National Estate Automation Project (NEAP) to web based system. Within the scope of project, "Real Estate Information Bank" under General Directorate of National Estate which contains more than half of the area of Turkey provides management, inspection and control of real estate process

National Estate Automation Project is managed web based at single center. Decrease correspondence and file load and enables to access immediate information thanks to online information exchange with other institutions (General Directorate of Land Registry and Cadaster, Revenue Administration etc...). All personnel actions in the personnel module update Active Directory. Thus management of linked integrated modules can provide from single point and unnecessary repetition prevented. E-learning, files, Business Object etc...Project developed as a web based application. Created data is transmitted to Geographic Information System

E-Accounting 2000i System

Say2000i is a Ministry of Finance project establishing communication and data transfer for a network of over 6 000 users in 1 660 auditing branches and 39 500 budget offices throughout Turkey (OECD; 2006: 96). The so-called project was begun in 1999 and it has been continued to all budget offices since 2001. Turkish state makes financial accounts, income statements, cash flows statement and balance accounts in accordance with international standards by say 2000i.

Evaluation of Tax Audits in terms of Electronic Applications in Taxation Electronic Audit

Electronic audit (e-audits) realizing functions of traditional audits in electronic applications is a audit being adaptable to innovations in the field of internet technology. A lot of data are analyzed in a short time because of e-audit. Electronic audits realizing by TTIB are made in tax offices, accounting and national estates offices. It is conducted via a program comprising of Tax Offices Audit Information System (TOAIS), Accounting Audit Information System (AAIS), and National Estates Audit Information System (NEAIS)

Table 2: Results of TOAIS between 2012 and 2015

	2012	2013	2014	2015
Number of Active Tax Payer	1.848.572	2.604.056	18.073.311	1.702.556
Number of Total Inquiry	4.706	14.057	1.006	613
Number of Cross-Checks	66.202.006	305.662.750	307.727.819	22.780.188
Base Difference	396.063.170	112.306.844	108.532.751	469.012.120
Required Amount Of Tax Levied	9.204.532	16.039.276	6.803.683	26.932.145

Source: Reports by the Commission of Tax-Audit (2012, 2013, 2014, 2015). Arrived Date: 15.03.2016

According to results of TOAIS between 2012 and 2015, number of e-audited tax payers peaked in 2014. Year of 2015 compared to other years in the table 1 has minimum data as to number of total inquiry and number of cross-checks. On the other hand, maximum data are in 2015 in terms of base difference and required amount of tax levied. The point in question contrast, the preference of tax payers is more suitable by the helping of electronic applications.

Table 3: Taxes Collected from NEAIS and AAIS within Electronic Audits between 2012 and 2015

	2012	2013	2014	2015
NEAIS	15.085.224	1.867.723	413.858.300	536.799
AAIS	1.725.991	1.725.992	928.964	374.649

Source: Reports by the Commission of Tax-Audit (2012, 2013, 2014, 2015).

(<http://www.vdk.gov.tr/default.aspx?nsw=OAa+264Vlos=-H7deC+LxBI8=>). Arrived Date: 15.03.2016

Maximum amount of taxes collected as a result of tax audits concerning treasury estates within electronic audits were collected as 413.858.300 TL in 2014. There were big changes year by year as to taxes collected in e-audits made in National Estates Offices between 2012 and 2015. But, there were more regular changes compared to NEAIS's revenues in relation to taxes collected in e-audits made in Accounting Offices.

Non-Electronic Audits and Electronic Applications

E-Audit has begun to make in recent years. Besides, traditional audits have continued to be making in Turkey. Traditional tax audits have been supported with electronic applications for 15 years. When tax inspectors audit tax payers, they investigate general journal and documents like invoice first and electronic applications aforementioned documents in Turkey were built in a short time. But, making tax audits doesn't limited to investigate general journal and documents. Information obtained from records in tax offices, reports belongs to some other eye witnesses in some situations, information obtained from banks and insurance companies, standard of living of tax payer are among information which are benefited during tax audits (Tosuner, Arıkan; 2015: 164). Information concerning so-called things by gathering traditional ways cause waste of time and distractibility in terms of Revenue Administration and Tax Inspection Board. It has been consider that this factor may cause to decrease hit rate in the choice of tax payers. Thus, it is assumption that tax to be collected decrease. So, forming information obtained from third party sources in electronic system and making data exchange among institutions is great importance of taxes got results of tax audits. It has been continued that form electronic applications regarding information obtained from third party sources. For this reason, electronic audit and traditional audit have been made based on common applications. But, both the scope of traditional tax audits are more extent for both the number of auditing tax payers and the differences for tax basis found by tax auditor.

Table 4: Basis Difference a Result of Tax Audits in between 2000 and 2015 and the Number of Audited Tax Payers

	The Number of Audited Tax Payers		Tax Basis Difference	
2000	60.335		1.987.102.014	
2001	68.286		13.478.317.678	
2002	113.244		7.971.330.648	
2003	68.251		18.834.977.142	
2004	153.881		18.712.916.620	
2005	104.578		38.715.354.165	
2006	110.442		47.419.483.413	
2007	135.847		30.450.980.150	
2008	-		211.092.889.340	
2009	47.787		97.972.236.206	
After Found Tax Inspection Board				
	The Number of Audited Tax Payers		Basis Difference	
	Tax Inspection Board	Revenue Administration	Tax Inspection Board	Revenue Administration
2010	-	-	-	-
2011	16.267	12.670	-	755.055.542
2012	46.845	9.868	131.000.851.812	541.132.281
2013	71.352	12.924	53.674.958.984	1.080.420.972
2014	55.284	9.779	39.378.004.491	712.101.457
2015	58.676	9.902	46.749.981.122	892.151.922

Sources: Reports by the Commission of Tax-Audit (2012, 2013, 2014, 2015) and Turkish Revenue Administration (2001-2015).

As seen in Table 3, although less tax-payer have been audited recently by increasing the number of electronic application, but also the differences in tax basis has already increased for the last 15 years. For example, the number of tax-payer that was audited in 2003 is 68.251 and the differences in tax basis are equal to 18.834.977.142 TRY. The difference of tax basis was 46.749.981.122 TRY in 2015 in spite of that the number of tax payer that 68.578 were audited. On the other hand, the difference of tax basis was 30.450.980.150 in spite of that the number of tax payer that 135.847 was audited. The difference of tax basis was 131.000.851.812 TRY and the number of tax payer that 56.713 was audited. Although the number of auditing tax payer is similar in 2003 and 2015 according to first example in Table-4, the tax basis difference in 2015 is about 2 or 3 times of the amount in 2003. In the

second example, although the number of auditing tax payer in 2007 is more than amount of it in 2012, but also the tax basis difference in 2012 is more than 2007 for 4 or 5 times indeed. So, while the number of tax payers were reducing or being stable, the increasing of tax basis means the rising situation of tax evasion and taxable loss or in other meaning it's the indicator of rising tax revenues by realizing appropriate preference about tax payers by the helping of increasing electronic applications.

Table 5: Taxation and the Rate of Tax Audits (2000-2015)

	Number of Audited Tax Payer	Number of Active Tax Payer	Rate of Audit (%)	Required Amount Of Tax Levied Result of Tax Audits
2000	60.335	2.388.850	2.52	-
2001	68.286	2.334.209	2.92	-
2002	113.244	2.315.241	4.89	-
2003	68.251	3.896.382	1.75	-
2004	153.881	4.031.702	3.81	766.766.063
2005	104.578	3.876.305	2.70	736.500.597
2006	110.442	3.937.878	2.80	2.084.348.425
2007	135.847	4.027.665	3.37	4.283.844.281
2008	-	4.035.013	-	4.692.368.482
2009	47.787	4.103.583	1.16	7.532.176.228
2010	-	4.248.942	-	-
2011	28.937	4.334.679	0.66	4.094.586.170
2012	56.713	4.687.693	1.20	4.631.672.633
2013	84.276	4.932.129	1.70	8.635.440.808
2014	65.063	5.032.643	1.29	7.990.160.299
2015	68.578	5.177.521	1.32	9.896.310.409

Sources: Reports by the Commission of Tax-Audit (2012, 2013, 2014, 2015) and Turkish Revenue Administration (2001-2015).

As seen in Table 4 and 5, increasing electronic applications in taxation hasn't influenced number of inspected tax payers as far as predicted. Number of inspected tax payers between 2000 and 2015 was irregular. On the other hand, number of active tax payer has always increased. Reason of aforementioned thing is Turkey has increased population (Kahriman; 2012: 26).

Rate of audit doesn't an active factor in tax audit as seen in the table 5. Although the difference of tax basis was 4.283.844.281 TRY and the rate of tax audit was %3.37 in 2007, for example the difference of tax basis was 7.532.176.228 TRY and the rate of tax audit was %1.16 in 2009. Hence, the important thing is audited tax payers who are in risk group. Imposed tax amount has increased as a result of audit by cross-check to tax payers who tend to evade tax in a high possibility by the helping of tax payer risk analysis system developed by Revenue Administration and also Tax Inspection Board.

Conclusion

Tax revenues are one of the most important revenue of a state. For this reason, states take some precautions on behalf of protecting tax revenues. These precautions are generally in related to developing tax audit systems appropriate for themselves. A lot of countries make tax audits in center by using internet technologies or they make traditional tax audits by supporting electronic applications nowadays.

Tax audits by traditional ways were available in the past and also the electronic one realized by the Center of Tax Inspection Board has just new in Turkey. Tax audits making by traditional ways are supported with electronic applications. The relevant electronic applications fall into remits to Revenue Administration and Tax Inspection Board.

Tax Inspection Board founded in 2011 because of combating tax evasion built up Central Electronic Risk Analysis and Tax Payer Choice Program. Tax Administration also built up Central Risk Analysis and Stratifying Model. Tax Inspection Board has become more efficient about tax audits than the Revenue Administration after its foundation. Tax Inspection Board audited number of 46.845 tax payer, Revenue Administration audited number of 9.868 tax payer in 2012. Tax Inspection Board found that difference of tax basis was 53.674.958.984 TRY, Revenue Administration found that difference of tax basis was 1.080.420.972 TRY in 2013. Tax Inspection Board audited number of 58.676 tax payer, Revenue Administration audited number of tax 9.902 payer in 2015. Although, so-called

difference of tax basis for Tax Inspection Board was 46.749.981.122 TRY, difference of tax basis for Revenue Administration was 892.151.922 TRY in 2015.

While tax audits were being considered without discrimination between Revenue Administration and Tax Inspection Board; there is no relationship for the number of auditing tax payers and usage of electronic applications in tax audits. There is evidence that number of audited tax payers between 2000 and 2015 is extremely irregular. As if required Amounts of Tax Levied Result of Tax Audits look like irregular, there is a harmony in their own. An increasing in amount of imposed tax has been seen as a result of reviews at the end of TOAP 2 project and in the beginning of TOAP 3 projects until the foundation of Tax Inspection Board. Also, the amount of imposed tax totally has increased at the end of reviews after foundation Tax Inspection Board by getting over being new institutions. But, these raises are not parallel rate of tax audits. For example, rate of tax audit is %1.32, and Required Amount of Tax Levied Result of Tax Audits is 9.896.310.409 TRY in 2015. Rate of tax audit is %3.37, and Required Amount of Tax Levied Result of Tax Audits is 4.283.844.281 TRY in 2007. Rate of tax audit is %3.81, and Required Amount of Tax Levied Result of Tax Audits is 766.766.063 TRY in 2004. As seen given examples and data in the article, in recent years concentrated on electronic applications, tax auditing rates decreased, but on the other hand, imposed tax amount has increased as a result of tax audits. The preference of tax payers that being audited has become more appropriate and the amount of imposed tax has increased By increasing electronic applications supported tax audit between 2000 and 2015 in Turkey. But also, after that stage, Turkey needs to extent the electronic inspection made by Tax Inspection Board, to be added new modules that shall become inspections more effective immediately by TIB-CERAT and to combine Revenue Administration and Tax Inspection Board expeditiously for traditional audits.

References

1. Kahrıman, H. (2012). *Mükellef Sayıları Üzerine Bir Değerlendirme: Son On Yılın Analizi. Vergi Raporu (157)*, 25-31.
2. OECD. (2007). *OECD e-Government Studies: Turkey 2006*. OECD.
3. Revenue Administration. (2006). *Taxation in Turkey (Cilt Publication.21)*. Ankara: The Presidency of Revenue Administration.
4. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2001). *2000 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
5. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2002). *2001 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
6. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2003). *2002 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
7. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2004). *2003 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
8. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2005). *2004 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
9. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2006). *2005 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
10. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2007). *2006 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
11. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2008). *2007 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
12. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2009). *2008 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
13. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2010). *2009 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
14. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2011). *2010 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
15. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2012). *2011 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
16. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2013). *2012 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.
17. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2014). *2013 Faaliyet Raporu*. Ankara: Strteji Geliştirme Daire Başkanlığı.
18. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2015). *2014 Faaliyet Raporu* . Ankara: Strateji Geliştirme Daire Başkanlığı.
19. T.C Maliye Bakanlığı Gelir İdaresi Başkanlığı. (2016). *2015 Faaliyet Raporu*. Ankara: Strateji Geliştirme Daire Başkanlığı.

20. T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı . (2013). *Faaliyet Raporu-2012*. Ankara: Vergi Denetim Kurulu Başkanlığı .
21. T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı . (2014). *Faaliyet Raporu-2013*. Ankara: Vergi Denetim Kurulu Başkanlığı .
22. T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı . (2015). *Faaliyet Raporu-2014*. Ankara: Vergi Denetim Kurulu Başkanlığı .
23. T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı . (2016). *Faaliyet Raporu-2015*. Ankara: Vergi Denetim Kurulu Başkanlığı .
24. T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı . (2016). *T.C Maliye Bakanlığı Vergi Denetim Kurulu Başkanlığı Kurumsal*.
<http://www.vdk.gov.tr/default.aspx?nsw=Y/dkfWCgR0Mo7dmlPk3+nw==H7deC+LxB18=&nm=1006> adresinden alınmıştır
25. Tosuner, M., & Arıkan, Z. (2015). *Vergi Usul Hukuku*. İzmir: D.E.Ü Maliye Bölümü Masaüstü Yayıncılık Birimi.
26. Züngün, D., Ayvaz Güven, E. T., Virlanuta, F. O., & Önkan, Ö. (2015). *The Major Obstacle to Economic Growth for EU Countries: Unequal Income Distribution*. *Annals of “Dunarea de Jos” University of Galati Fascicle I. Economics and Applied Informatics* , 42-51.

Some Accounting Aspects regarding the Elections Campaigns in Romania

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The objective of this paper is to present the legal framework for financing the election campaigns in Romania and in the world. There are different systems of campaign finance across the world. Some of these systems rely mainly on private funds, some are based mainly on public funds, but most systems are a combination of both. In all cases a certain degree of limitations on contributions and expenditures are a standard characteristic of the campaign finance system. Limitations on contributions can be means to reduce the corruption and limitations on expenditures may be imposed to guarantee egalitarianism among the various political forces.

Keywords: public financing, private financing, contributions, expenditures

Jel classification: M21

Introduction

Political campaigns, whether they are for the local councils or for the Senate or President, are run with money. All this money must be accounted for. The public has the right to know how much money was raised, the sources of the money and how it was spent.

For Romania year 2015 brought substantial changes in terms of financing the activity of political parties and electoral campaigns, through the law 113/2015. This law set up a new mechanism for financing election campaigns from contributions of the candidates and political party funds, obtained outside the election period. The law sets ceilings on electoral contributions equal to those of election expenses, respective destinations and ceiling of election expenses for each type of eligible expenditure. The law also provides for the reimbursement of election expenses for the electoral competitors who achieve a certain number of votes. The basic principle of the new law on financing political parties (Law 113/2015) is that to make campaign financing from the state budget and enables parties to borrow money from individuals and legal entities, but only through genuine acts.

The law regarding the financing of election campaigns in Romania emerged as the major political issue in 2015. This law is in fact the first attempt for Romanian political environment to control the sources of money flowing into election campaigns and also the first attempt to control the electoral expenses.

The principal research question for future researches could be: who contributed to election campaigns? and how did the candidates spent their money?. The answers of this question will be possible to give by the researches after several campaigns. The objective of this paper is not to answer to these questions but to present the legal framework for financing the election campaigns in Romania. Money in politics strikes at virtually every aspect of political theory and practice, touching on such central political concerns as power, democracy, equality and representation.

There are some basic principles regarding the financing of electoral campaigns and political parties: equilibrium between public and private funding, fair standards for the distribution of state contributions to parties, strict rules concerning private donations, a threshold on parties' expenditure linked to election campaigns, complete transparency of accounts, the establishment of an independent audit authority and meaningful sanctions for parties and candidates who violate the rules (Biezen, 2003).

These principles are not always respected. We all witness the negative impact of money in politics and public governance. Corruption and unregulated donations are exercising too much

influence on politics and weakening the integrity of elections. In some countries, money from organized crime had penetrated into politics in order to gain control over those elected.

These threats to democratic politics help explain why large numbers of people around the world are losing faith in politicians and democratic processes (Smilov & Toplak, 2007). For example, recent research shows that more than two-thirds of Americans peoples do not trust government because of the influence of big donors (Brenan Center or Justice, 2012).

Systems of campaign financing

There are different systems of campaign finance across the world. Some of these systems rely mainly on private funds, some are based mainly on public funds, but most systems are a combination of both.

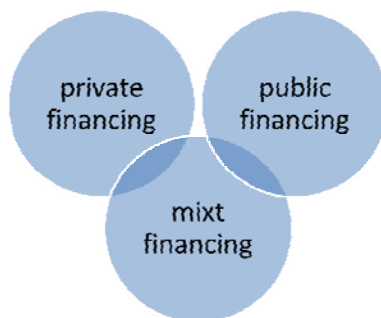


Figure 1 – systems of campaign financing

In all cases a certain degree of limitations on contributions and expenditures are a standard characteristic of the campaign finance system. In some cases these limitations may not be specifically defined for campaign finance, but rather be features of broader political finance legislation (Nitzsche, 2015). Limitations on contributions can be means to reduce the corruption and limitations on expenditures may be imposed to guarantee egalitarianism among the various political forces. The *Handbook for the Observation of Campaign Finance* edited by OSCE classifies these limitations in quantitative restrictions and qualitative restrictions. Quantitative limitations are defined in monetary terms and may include limitations on the amount that individuals or legal entities may donate. Alternatively, they may constitute a limit on how much a candidate or party may spend during an election campaign. Qualitative limitations are defined by the type of transaction. This may be a source of contributions, for example foreign, state, or anonymous donations. Alternatively, it may refer to limitations on the type of expenditure, for example paid political advertising.

In general private funds come from individuals or legal entities, such as companies, trade unions, non-governmental organizations, enterprises with government contracts, political parties and foundations, while public funds are ensured by the state.

Most OSCE participating States use a mixed campaign finance system that allows for both public and private financing.

In Romania, the rules of political party financing are stipulated by Law no. 334/2006, as amended and supplemented. According to the law, political parties receive an annual subsidy from the state budget. The amount allocated annually to political parties cannot exceed 0.04% of the income provided in the state budget. To value the principle of equality between women and men, according to this law it is recommended to promote women on electoral lists on eligible seats. The amount allocated from the state budget will be increased in proportion to the number of mandates obtained in the election of women candidates (Gilia, 2012).

The subventions from the state budget are allocated according to the following criteria:

- The number of votes received in elections for parliament;
- The number of votes received in local elections.

If the political or electoral alliances, the grant will be divided, by agreement between the alliance members or, failing agreement, by the number of seats obtained. Political parties and electoral or political alliances receive annual subsidies from the state budget under the law. The grant from the state budget are transferred monthly to the account of each political party through the budget Permanent Electoral Authority (A.E.P.), and reflected separately in the accounts of political parties.

Election campaigns and private financing

Private sources of funding may be internal or external to the party.

The main traditional sources of internal private funding are membership fees, incomes from properties and different activities such as the sale of newspapers and political publications, fundraising activities, festivals and other social events, and occasional public collections.

Political parties are private voluntary associations which should in principle be under control of their own financial affairs, although these may be subject to some degree of state regulation. Laws governing the internal resources of parties should avoid interfering with the independence of political parties. As a rule, public laws should be framed properly, prohibiting or restricting that forms of fundraising which have no real connection with a party purpose. For examples commercial activities, ownership or the acquisition of shareholdings in commercial companies are often strictly limited or even prohibited on these grounds.

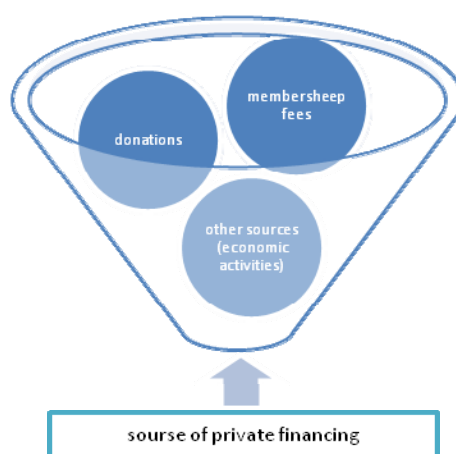


Figure 2 – sources of private financing

Membership fees are the traditional sources for internal party financing. The regular membership fees in particular, can be regarded as the most democratic and legitimate form of party financing (Biezen, 2003). Membership contributions are an attractive form of party finance because they are donated on a voluntary basis and, in spite of material motivations of an individual to join a party they do not imply a direct pay for service relationship. The contributions from members are not associated with direct demands for influence on programming decisions or access to party related functions.

From a normative point of view, membership fees are therefore the most unproblematic form of party financing. Membership contributions guarantee a certain degree of influence in the party without permitting too much influence. However, we must admit that membership fees are very difficult to acquire lately. In the last 20 years the relevance of membership fees for financing the activities of any party has been gradually declining. One reason can be the proliferation of other sources of funding (such as public subsidies), which has reduced the relative importance of membership fees.

Even in the countries with no public funding, the amount of membership contributions has diminished quite dramatically. One reason for this is the decline in the number of party members, resulting in a reduction in the revenues from membership fees, both in absolute and relative terms. In the case of countries from Central and Eastern Europe, membership fees are even less important than in the democratic countries. Of course the reasons stand in the relatively low standard of living and the lack of a democratic participatory culture.

In a post-communist democracy like Romania, membership fees have never been an important source of income for political parties. There is no practice to collect membership fees, but the option to raise membership fees is not legally restrained.

Profits of party-owned businesses - Classical forms of party-owned businesses in particular are the sales of party literature and newspapers and the ownership of publishing companies affiliated to the party. Political parties could also run their own recreation facilities, provide social security services, own travel agencies, sports teams, banks and housing projects. Since these are usually no

longer profitable areas, political parties could venture into other areas which are economically more attractive. In Austria, for example, political parties have developed commercial activities in areas such as marketing, shopping centres, and house construction through companies owned or shared by the party.

The problem is that such practices may be susceptible to corruption or at the very least have given rise to suspicion of corruption, as it is evident that certain economic activities (such as house construction for example) may very well profit from favourable political decisions. Therefore, it is clear that economic activities which have little to do with the purpose of a political party are problematic. Even if these kinds of activities are often strictly regulated, complete legal prohibitions of commercial activities are rare, if only because this may pose constitutional problems.

The growing importance of other sources of party financing such as state funding, corporate financing and private donations, poses a challenge for the legitimacy of party financing. At the same time these developments can also be seen in a more positive light: they open up the possibility to diversify the available sources of income and may thereby create an opportunity for greater checks and balances.

Donations are also one an important source for private financing. While membership fees are no longer sufficient for political parties as source of funding, donations continue to be an essential source of income for parties in most European countries. Private donations are risky because can generate inappropriate links between money and political decisions, in particular may create unwanted opportunities for influence and corruption.

Because of that, states should consider to introduce rules in order to limit the value of donations to political parties and candidates. It is recommended for state laws to provide a set of general principles regarding private donations, in order to avoid conflicts of interests and prejudice of the activities of political parties, to ensure transparency of donations and to avoid secret donations. Public law should be tailored such that it does not endanger the autonomy of political parties and that it ensures their independence. One way to limit this negative aspect of private donations is to set limit of contributions. This means, both restrictions on the accepted amount of donations and certain conditions on the qualification of donors or donations. Another principle is the transparency of donations. Transparency is seen as an effective protection against the improper influence and favouritism that arise from large undisclosed donations in that it allows the public to form its own opinions about party integrity. The purpose of limiting the donation is to prevent contributions that are seen as harmful for the democratic process.

Public financing of political parties and election campaigns

A complementary approach to control private donations is to give political parties access to money from public sources (Smilov & Toplak, 2007). If it is done right, the provision of public funding can have a significant positive impact on the role of money in the political process.

Traditionally, political parties from Western Europe have depended on private funding: membership fees and donations from trade unions in the case of socialist parties and contributions from wealthy individuals or donations from private business in the case of conservative parties. Public funding for political parties is a relatively new phenomenon in European democracies and it was first introduced by Federal Republic of Germany in 1967. After that, many countries followed the German example and introduced public subventions for political parties, often first to the parliamentary groups and later to the central party organisation.

Public financing has the role to prevent dependence on private financial donors and guarantee equality of chances. In fact, there are three main reasons in favour of public financing: to compensate for the growing cost and the increasing scarcity of resources, to guarantee free and fair political competition, and to limit the potentially disruptive role of interested money.

Today politics has become increasingly expensive, because of the use of mass-media and cost-intensive methods of campaigning. The increasing need of money for parties is coupled with a decrease in revenue.

Recently, political parties have confronted a substantial decline in the number of party members. Also, parties have lost an important share of their volunteers who worked for the party as unpaid employees or who would undertake campaigning activities. To compensate, political parties engaged a larger number of professionals, which has made party activity more expensive. At the same time, the decline in membership has deprived parties of an important source of revenue by reducing significantly the amount of income derived from membership subscriptions.

Parties in modern democracies cannot reasonably be expected to raise all necessary monetary income themselves. A role should therefore be granted to the state to provide financial support to political parties. State support can help parties meet the ever-increasing cost of democratic politics and can compensate for the scarcity of internal financing. Public subsidies thus bridge part of the gap between voluntary donations and necessary party spending.

This is especially relevant in the more recently established democracies.

Because the pre-democratic authoritarian and totalitarian regimes impeded the existence of competing political organisations, few parties survived decades of non-democratic rule. The very "newness" of the regime often meant that very few parties had historical roots dating back to the pre-authoritarian period, as much of their organisational structure had been eradicated by the repression of a non-democratic regime. Political parties themselves had been created only recently and could not draw on a developed organisational infrastructure or institutionalised links with organised and individual interests for financial assistance. In such a context, there are few alternative resources available except for state subsidies, which serve as compensation for a general scarcity of financial resources.

Expenses limits and financial reporting

Few types of expenses in election campaigns are forbidden around the world. Obvious it is forbidden to buy votes and to use public resources for partisan purposes (excluding regulated public funding). Otherwise, laws set limits on how much political parties or candidates are allowed to spend in election campaigns. The purpose here is not to control the influence of individual donors but rather to reduce the advantages of political parties and candidates with access to large amounts of money. The efficiency of expenses limits depends both on whether the limit is set at the right level and (in particular) on whether they are compulsory.

An essential element of any financing system of political parties is the requirement for disclosure policy on how they raise and how they spend money. Such reporting has two main purposes: to achieve the transparency and to make it easier for those responsible for enforcing donation and spending bans or limits to oversee whether these rules are being followed.

The information required in financial reports varies considerably among countries. Often, the most controversial is whether reports must reveal the identity of donors; this is required in approximately half of the countries with reporting requirements. In some of these countries, the identity of the donor must only be disclosed when the donor makes contributions above a certain amount. Such requirements search for a balance between transparency and protecting the privacy donors.

Regulation of financing election campaigns in Eastern European Countries

This paragraph analyses political finance regulations and practices in Eastern Europe, especially Romania. Countries in this region have diverse sizes; political regimes, constitutional models and political cultures, but all these countries have a common communist legacy.

After the fall of communism in 1989–91, many of them experienced quick democratization. Since then, these countries have been involved in a considerable effort to regulate money in politics, and in many cases Western European countries have served as a model.

However, the regulatory systems introduced have their own logic. Generally speaking, these countries have elaborate systems of rules that impose restrictions on contributions and expenditures and information mechanisms. However there is a general feeling of dissatisfaction with current levels of transparency. The meaning of measures differs across countries. In countries that lean toward authoritarianism, regulatory system of financing political parties and electoral campaigns can be used to weaken the opposition and prevent the emergence of new and powerful political actors. Therefore, it is difficult to discuss the regulation of party funding, without specifying broader contexts, constitutional and political operating. After all, one of the central tasks of the campaign finance system is to ensure a healthy democratic and pluralistic competition. Many countries in Eastern Europe have in common certain issues related to ensuring transparency and control over money in politics.

The regulations regarding the finance of political parties and election campaigns in the region are influenced by standards from the Council of Europe, the European Union and other organizations such as the Organization for Security and Co-operation in Europe (OSCE).

Some of these countries are subject to intense monitoring by EU regarding their compliance with common standards.

Political finance regulation has not been completely harmonized, although various instruments contain important sets of rules. One of the weaknesses of international efforts has been their apolitical, technical approach to party funding and campaign finance, and the excessive focus on corruption as a primary concern for regulation. As a result, political finance has become a patchwork of increasingly complex rules, the rationales of which are often inexplicable.

The Council of Europe has been the most involved in introducing international standards in the area of political finance in Europe. It has adopted a series of documents concerning the regulation of party financing, with the main text being the 2003 *Recommendation of the Committee of Ministers on Common Rules against Corruption in the Funding of Political Parties and Electoral Campaigns* (Smilov & Toplak, 2007).

This recommendation firmly establishes the principle that caps on expenditure is legitimate in Europe. Other distinct features of the document are discussions about the admissibility of corporate financing and making private donations tax deductible.

Concluding remarks

The problem of political parties financing and election campaign financing is important from two main points of view. First, political parties and independent candidates in elections are necessary elements for the democratic process. The main purpose of legal regulation of party funding is to ensure a practical political system with stable and accountable political parties capable of representing the interests of the voters.

Also, political parties financing is important from the point of view corruption. It is a common belief that the financing of political parties provides fertile ground for the development of corrupt practices. This is a problem that is not limited to Eastern Europe. Traditional democracies such as Germany, France and Italy have been plagued by corruption scandals relating to political finance, while the USA is notorious for its extravagantly expensive electoral campaigns, which regularly breed accusations of corrupt or illegitimate funding practices.

References

1. Biezen, I. v. (2003). *Financing political parties and election campaigns – guidelines*. Strasbourg: Council of Europe Publishing.
2. Brennan Center for Justice. (2012). *National Survey: Super PACs, Corruption, and Democracy - Americans' Attitudes about the Influence of Super PAC Spending on Government and the Implications for our Democracy*. Brennan Center for Justice at New York University School of Law.
3. Gilia, C. (2012). *Sisteme de finanțarea ale partidelor politice în dreptul comparat. Sfera politicii, XX(3(169))*.
4. Nitzsche, A. (2015). In *Handbook for the Observation of Campaign Finance*. OSCE/ODIHR.
5. Smilov, D., & Toplak, J. (2007). *Political Finance and Corruption in Eastern Europe. The Transition Period*. Ashgate Publishing Company.

Evaluation Methods of the Real Estate Goods

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The theme represents a synthesis of the evaluation methods of a real estate good. The used evaluation method but especially their results have a special significance to the company but also a decisive role for the crediting officer as the financing decision is influenced by the reached values.

Keywords: real estate good, market, evaluation, direct comparison method, cost approach, income approach.

JEL Classification: G32, G33, C39

1. Introduction

In the contemporary era, building evaluation gained significant importance, with a great influence for those who own a business. Thus, judicial persons who own a building are imposed at a level that is established through the decision of the Local Council.

This tax varies between 0,25% and 1,5% of the inventory value for the buildings that are part of the patrimony, for which the judicial persons have made at least one reevaluation during the last three years prior to the reference year of taxation. Companies that made no building reevaluation during the last three years prior to the reference year of taxation make the subject of a level of taxation between 5% and 10%.

Also, the choice of the most adequate approach or evaluation method depends on the consideration of the following: the adopted value type, determined by the evaluation objective, the availability of the entrance data and of the evaluation information, the approaches or the methods used by the participants on the relevant market.

In order to reach an as possible as accurate preview on the value, one can use, one, two or three approaches, especially if there are not sufficient entry data for the evaluation, as to reach a viable value by using a single approach.

Building evaluation is also needful to crediting officers as, lately they have put pressures in order to raise the value, thus pleasing the client and raising the market share of the bank, in turn, in the actual economic framework, risk departments make pressures to lower the evaluated value, aiming at protecting the bank and not willing to give risky credits during the actual lack of liquidities.

Big companies feel the pressure to make ordered evaluations for financing thirsty important investors. The solution emerges from the nature of the profession, by choosing the adequate methods of the situation, according to standards. In case we choose the market comparison method, it is very useful for the active markets, but it can represent a failure when transactions are quasi-blocked. In turn, the costs method can be once again useful, especially for new developments.

2. Evaluation premises

The casuistic consists of the evaluation of a real estate good located in Galati, represented by a field and the building on it, the surface is 250 sqm (251 according to the measurements) and the construction on this building, with a height regime of S+P+1F+ Attic, with the following surfaces: the basement has a useful surface of 65,45 sqm and the total surface is 125,7 sqm, the ground level has a useful surface of 103,48 sqm and a total surface of 132,4 sqm, the first floor has a useful surface of

105,23 sqm and a total surface of 132,4 sqm and, the last, the useful surface of the attic is 107,46 sqm, respectively a total surface of 140,25 sqm.

The evaluation objective consists of the market value estimation in order to continue the activity of the real estate good at the data of evaluation, January 15th 2015, to inform the Creditors' General Council. To reach this objective, we started from the evaluation mission indicated by the client and from the particular situation of the company willing to receive a credit as it is at a standstill. In the case of this evaluation, the company is the client and the recipient is Banca Transilvania S.A.

Considering the specific of the evaluation mission in the case of the present approach, one considered aspects of the International Valuation Standards: IVS 230 Rights on real estate property.

3. Property description

The structure of the building consists of ferroconcrete and GFC masonry and PVC joinery with double pane glasses, Lindab house top on timber support. The finish consists of floor tiles and crockery in the bathrooms and the hallways, wood flooring in the rooms, the walls are covered in washable paint, floor tiles in the trading space at the ground floor. The heating equipment with own gas thermal power stations and steel heaters, air conditioning system. The basement finish is: concrete floor, rough-cast concrete wall, and the attic has double pane glasses.

Subdivisions: Basement – depositing space; Ground floor – commercial space, coffee shop; First floor – Bowling area; Attic – living area, no information regarding reconversion authorizations was provided.

The area the building is located is a mixed one, designed for trading activities. No environmental problems were identified during the visit. Field topography: plain, rectangular shape.

As for the use of the analyzed property, it was rented as a commercial space and recreational activities space. The paid rent is estimated at 1500 euro/month, but, in the near future, the contracts will be renegotiated.

3.1. The analysis of the market it operates on

In order to evaluate the real estate property located in Galati, the real estate market specific to commercial spaces from Galati was analyzed.

First of all, one analyzed the demand which can be defined as the number of properties with the same features for which the desire or renting will is expressed, at different prices, on a certain market, during a period of time, as the volume of the demand determines the attractiveness of a property.

The field of street trading spaces is featured by the high availability of the offer, due to the incapacity of tenants of financially supporting the leasing contracts. Though the tenants' interest remained constant for this type of properties, the tenants' flow that occupy, respectively set free the commercial spaces provides a high uncertainty degree for this field. The most active tenants remain the supermarkets, which take advantage of the consumers' buying behavior.

Also, the demand, representing the number of properties with the same features that are available for selling or renting at different prices on a certain market at a certain moment in time. The upper limit of the commercial spaces' rent has faced a visible decrease, due to the owners' will of maintaining the tenants that faced problems regarding their specific market. Big commercial chains, both big box and specialized shops (clothing, shoes), desire to aggressively extend at national level, to take advantage of the reduction of the occupation costs and commercial spaces adequate to their specific requirements.

The balance between the demand and the offer on the field of commercial properties of shopping centers has reflected in the stability of rents, as they vary between 35 and 50 Euros/sqm/month for the small spaces and from 6 to 12 Euro/sqm/month for the anchor type tenants according to the analyses.

For 2014-2015, I foresee the continuous extension of the hypermarkets chains (Kaufland, Cora) and the proximity, supermarket type shops. Thus, rents in the shopping centers will remain the same, but low decreases can be expected in the case of rents for street spaces, if the internal demand doesn't face any improvements.

The information sources used in the analysis of the specific market are: transactions, offers, data bases: the internet, auctions, clients, institutions. But, compared to this sources, there are some reserves: reduced inspection possibilities of traded real estate properties, high existence probability of some "atypical" elements, incomplete and partially verifiable data.

4. Data analysis

4.1. Direct comparison approach

The direct comparison is one of the most used techniques to evaluate the surface and the most preferred method when comparable sales are available. The objective of the direct comparison approach is to select the comparable sales or offers on the market and then to adjust the differences that cannot be removed through the selection process.

Comparison elements include property rights, legal restrictions, financing conditions, sales condition (motivation), market conditions (sale date), location, physical features, available utilities, mapping and the best use. Variables that are seen as comparison elements are the physical features of the building, namely its size and shape, its façade opening, the topography, location, the view and the utilities included.

In order to estimate the market value through the comparison, we analyzed the market to find similar properties, we gathered data on: sales, rents, offers, thus identifying the differences between them and the field to be evaluated, and we finally shaped the conclusions on the most reasonable and probable market value of the field to be evaluated.

To estimate the market value of the real estate property through this method, we used information from transactions, surface offers in the area, as well as data provided by a series of real estate agents and existing information in the specialized publications.

To determine the market value of the surface through the direct comparison method, we analyzed the specific market and we chose 3 corresponding comparables.

Table no. 1. Direct comparison method

Short description	Comparable 1	Comparable 2	Comparable 3
location	Morilor n. 10 Street, Galați	Unirii nr. 11 Street, Galați	George Coșbuc nr. 5Bld, Galați
Surface (sqm)	270	290	310
Street facade (ml)	14	16	11
Offer price (euro)	64.800	65.250	66.650

As a result, the market value of the surface, estimated through the comparison method is 63.400 Euro, corresponding to 205 Euro/sqm. In the case of the shopping center represented by comparable 1, the tenant will pay 240 Euro/sqm, it has the following structure: basement, ground floor, first floor and attic, and for a shopping space of 310 sqm located in the George Cosbuc Blvd, namely 3rd comparable, 66.650 euro will be paid for the same structure like the previous building. The offer of comparable 2 is 65.250 euro, corresponding to 225 euro/sqm for a 290 sqm surface, with basement and ground floor only.

The real estate property that is evaluated and located in Galați, has a surface of 250 sqm, and the price of each square meter is 205 euro, which can be easily paid from the incomes resulted from the services made for clients.

Thus, by evaluating through the direct comparison method, a market value of the field of 63.400 euro was reached, corresponding to 205 euro/sqm. As a result, the surface of the rented space is sufficient for the depositing, service and chill out activities.

4.2. Cost approach

The cost approach is a comparative approach of the property value as a substitute for the purchase of a certain property, the possibility of building another property equivalent to the original one or a property which would have the same use and without delay costs.

The estimation of the market value of the real estate good through the cost approach supposes the summing up of: the market value of the surface (estimated through the market comparison approach), respective of the market value of the building (estimated through the cost approach). By using the cost approach to estimate the value, the market value of the analyzed property is 65.000 euro.

4.3. Income approach

The income approach is a comparative approach of the value of each income generating propriety, which considers the information regarding the incomes and expenditures associated to the evaluated propriety and estimates its value by converting the income into value. The income approach estimates the actual value of the future benefits gained from the ownership of the propriety title.

To estimate the profitableness degree of the real estate propriety, one needs to analyze the specific market and extract, interpret and assimilate the information regarding the comparable proprieties' transactions. Through this type of analysis, one is to estimate as accurate as possible, the possible rent and the corresponding capitalization rate, such as the value to be as basic as possible.

The Discounted Cash Flow method is used when the property generates, in an explicit foreseen period, an unequal annual net cash flow. This method is based on the ability of the company's activity to generate positive cash-flows.

To estimate the market value of the analyzed property, we used the Income Capitalization method. As a result, the market value of the analyzed property (land + building) estimated through the Income approach is 62.000 Euro.

4.4. Results reconciling

Table no.. 2. Results centralization

Cost approach	65.000 Euro
Income approach	62.000 Euro
Comparison approach	63.400 Euro

The income approach - the value that we have reached by using this method was used to verify the value reached through the income method

The comparison approach – as there are no transactions or offers of similar properties on the specific market (with similar surface and use), and the information on the existing comparables is not sufficient to accurately use this method, we used the comparison method to verify the result that was reached through the income approach.

The income approach – considering that the analyzed property generates incomes from space leasing, and the information on the rents that can be purchased and the corresponding costs are relevant, we chose the income capitalization method to estimate the market value of the property.

Conclusions

After applying the three evaluation methods we reach three different results with close values, so that the income that can be gained by choosing any method excepting the income one, can be only positive.

Even if the cost approach generated the highest value from the calculus, the society won't choose to sell the space, as the money that can be gained is not satisfying its needs. As for the comparison approach, though the sum from the calculus is higher than the one associated to the income based approach, this option is neither considered by the company that requested the evaluation, especially due to the fact that the existing differences between the values are not very high.

By confirming all the information that is displayed above, I conclude that the best choice remains the one of leasing the space as the rent generates secure and constant values for the society. Thus, the resulting amount that can be capitalized and the company can use these values after a certain period of time in order to reach the proposed objective.

References

1. Anghel I., Onofrei M., "Dezvoltarea imobiliară. Analiza și principii" Editura Economică, 2013;
2. Bădescu G., "Analiza investițiilor imobiliare" Editura Economică, 2009;
3. Brezeanu P., Analiză financiară, Editura Metropolis, București, 2006;
4. Burlacu C., Evaluare a proprietății, Editura Tehnică, București, 2007;
5. Crețu F., Bazele evaluării proprietăților imobiliare, Editura Universitară, București, 2013;
6. Drumea C., Evaluare întreprinderii: concept fundamentale, Editura Universității Transilvania, Brașov, 2012;
7. Iancu D., MANAGERIAL LEADERSHIP FROM THE PERSPECTIVE OF ENVIRONMENT ORGANIZATIONAL SPORTS, INTERNATIONAL CONFERENCE OF SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;
8. Iancu D., EDUCATIONAL MANAGEMENT, A NEW PARADIGM IN SOCIAL DEVELOPMENT, INTERNATIONAL CONFERENCE OF SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;

9. Isai V., *Aspects regarding the accounting of reexport and lohn operations*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2004, ISSN 1584-0409
10. Isai V., *Particularities of the managerial accounting in the companies of import and export*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2003, ISSN 1584-0409
11. Isai V., Radu R.I., Rusu R., *The biological assets and the crop production – acknowledgement and evaluation possibilities in the agricultural holdings accountancy from Romania*, 23rd IBIMA Conference, Valencia, Spain, 2014.
12. Matiş D., Timbruş R., Buglea A., Oprean V.B., *Evaluarea proprietăţilor imobiliare*, Editura Risoprint, Cluj - Napoca (2013);
13. Opreanu C., *Highest and Best Use Problems in Market Value Appraisals*, Conferinţa Internaţională, REC 2015, Galaţi
14. Orac, C. M. (2009). *Criminality and regional economic disparities at the Romanian - Hungarian border*, *Criminalitatea transfrontalieră la graniţa dintre prezent şi viitor/Cross border crime at the border between present and future*, Oradea: Fundaţia AGORA.
15. Orac, C. M. (2009). *The impact of the economic crisis on the unemployment rate in Galati County, measures aimed at its reduction*. *Public Administration & Regional Studies*.Galati.
16. Orac, C. M. (2009). *The initiation and management of European Union Regional Partnership*, *Paradigms of Knowledge Management*. *Agora International Journal of Economical Sciences* Oradea: Editura Universitatii Agora
17. Onica Mihaela-Cristina, *The internal Audit-Key Pillar of Corporate Governance*, *Rev.Acta Universitatis Danubius.Economica*, revista indexata, in BDI,vol.9(no.6),2013, pag.207-213
18. Onica Mihaela Cristina-*Corporate Governance Codes-examples of good practice*,XIVth International Annual Conference Risk in Contemporary Economy,RCE 2013,Galati, Romania,publishd in Conference Proceedings,ISSN 2067-0532
19. Onica Mihaela Cristina-*The relevance of accounting information enclosed in performance indicators*, *Rev. Acta Universitatis Danubius. Economica*, revista indexata in BDI,vol.8(no.6),2012,pag.33-46,impact factor of 0.03 according to RePec Database,DOAJ,Econ Papers
20. Popa A., *"Managementul proprietăţii imobiliare"* Editura Economică, 2013;
21. Şchiopu C., *Construcţii-Sisteme şi subsisteme constructive*, Editura Iroval, Bucureşti, 2012;

The Analysis of Restrictions System in the Financial Position Management and Financial Performances of the Company

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The „The analysis of restrictions system in the financial position management and financial performances of the” topic has as main purpose the optimal analysis of the presentation and measurement of elements of enterprises financial position and performance through the use of appropriate accounting policies in the context of different cultural referential and different accounting models of representation.

The balance sheet enable the formulation of value judgments on the performance and risks of an enterprise, as well as evaluating future cash movements. This is why businesses are tempted to improve its balance sheet structure. At the same time, the temptation is much greater in the shape of the profit and loss account and the action of the outcome in changes in balance sheet configuration, a process considered a specific accounting method, which synthetically shows the heritage situation at a specific time.

In discussing this very broad issue we need to focus on some aspects linking the financial position and performance of companies with accounting systems holding a conceptual framework and coherence of these concepts with the fundamental concepts of accounting theory and the objectives which the financial reporting assume. For this purpose should be pursued and developed the analyzes of:

- the accounting policies and their strategic dimension;
- the theoretical foundations of critical accounting policies and fundamental concepts;
- the difficulty sources in analyzing the financial position and financial performance;
- the financial and accounting model theories of value.

We believe that the debate on the topic is necessary for dealing optimal configuration on the financial position and performance of the enterprise through the use of accounting conservatism and pessimism strategies.

In this context are necessary quantitative and appropriate analyzes, regarding to:

- sources of pessimism and optimism in designing accounting policies;
- measurement of the level of prudence in the context of established accounting referential;
- conceptual and practical difficulties on optimizing financial position and financial performance of the company etc.

Generally, the outcome performance and management are defined as an intervention of the manager in the financial reporting process to acquire personal gains. But to achieve the intended purpose in terms of optimizing the company's financial position and performance must begin with analyzing the system of restrictions that should be sought in particular on: the temporal limitation, the control nature, the company's governance. These restrictions must be seen through the assumptions of remuneration, debt and size of the company.

The established and advanced assumptions in the literature are:

- as the size of a company is bigger, the more it will tend to choose accounting methods which report the future periods earnings in current period;
- as an enterprise has a higher leverage ratio, the more it will tend to select accounting procedures carried over future periods profits in the current period;
- enterprises managers where there is a sharing contract (incentive) are likely to choose the accounting procedures that report the future periods outcome in the current period.

These assumptions must be appreciated as reserves; in the first place must take into account the cultural context in which these hypotheses were generated.

Between these exists a causal link materialized in:

- the possible link between debt policy and accounting policy if account is taken of the intention of the company to justify its ex - post financial strategy. This overriding justification will exist especially for companies with a strong variation of indebtedness.

- the size hypothesis can be restarted even if its validity is questionable in conceptual terms, being possible that a future conflict between the State and the enterprise to not be fixed through justice, but rather through informal ways.

- the temporal dimension of accounting policies when maximize outcome management is not always preferred by managers.

- the manager preference for an outcome configuration will be motivated by the desire to achieve certain levels of it, embodied in threshold management.

Three thresholds have been identified in the literature: the zero outcome, the N – 1 outcome and the analysts forecasts.

Several factors have been advanced to explain this theory:

- the interveners in the market use simple reasoning to make decisions;

- enterprises have a loss of utility more important in losses than in gains – the utility function is concave for gains and convex for losses. Managers try to avoid negative variations of the outcome, as the invalid outcome.

- the market grants a bonus to companies capable of presenting a regular increase and that this bonus is more important as the growth period is increasing.

- the managerial theory lately developed suggests that companies set their goals including the last outcomes.

- the businesses whose outcome before manipulation is negative, they will seek to maximize the outcome.

- the businesses whose outcome before manipulation is inferior to the outcome published last year will try to maximize the outcome.

1.1. The temporal limitation

The temporal consistency constraint is linked on the fact that it is not always possible the output increasing or decreasing.

$Output_t = Cash\ flow\ s_t + AC_{ft}$, but

$Output_t = CAF_t + (VP_t - CAP_t)$

$Output_t = CAF_t - \Delta NFR_t + (\Delta NFR_t + VP_t - CAP_t)$

$Output_t = Cash\ flow\ s_t + (ANFR_t + VP_t + CAP_t)$

AC_{ft} = cash flow accounting adjustments

$AC_{ft} = (\Delta NFR_t + VP_t - CAP_t)$ where:

VP_t = income from commissions of t year

CAP_t = amortizations and provisions expenses of t year

ΔNFR_t = variation of the working capital need in t year

In order to shape the outcome, it should be proceeded on the NFR (the working capital need) or on the calculated income or expenses, respectively amortization expenses, adjustments and reversals of adjustments. It was found that the effect of action modeling is null on a given time horizon, but any variation is in an opposite direction in the following exercises. For example, if a firm grants too generous maturities to accelerate the completion of a sale, then sales will be lower next year. Similarly, the damping arrangements merely flaunting depreciation differently over time. Digressive amortization compared to the linear one, allows faster depreciation of an asset in the first years of use and less in the last.

In time, we should focus on that the accounting adjustments in the cash flow is reversed in time, concluding that:

- handling cash flow adjustments in the current year must be cleared by an opposite management in the coming years;

- the short-term adjustments of cash flows has greater variability than the long-term component.

1.2. Restrictions imposed by the control structure

Another element to be taken into account when analyzing management system restrictions in the financial position and financial performance of the company is the organization structure of control, these endorsing the managers' opportunistic behavior.

In practice, there are mechanisms that limit the manager's scope of discretion and that can have an influence on the outcome management.

These restrictions will be influenced by: the nature of the financial auditor and the existence of external directors (Board of Administration or Supervisory Board).

It can be shown that the nature of the auditor influence the obtained outcome, so that large auditors tend to produce a good quality audits because:

- they suffer a substantial loss of reputation in the event of proven fraud;
- due to their larger size, auditors can easily absorb a loss of a mandate in case of refusal to certify the accounts;
- valuable auditors pay attention to outcome management;
- the work of auditors is well remunerated and therefore the likelihood of legal action in case of fraudulent financial statements is higher, leading to good quality audits.

The two elements established over time come to support this statement: on the one hand, an accounting aggressive behavior can be a sign of the existence of fraud, and on the other hand, the publication of too arranged results can destroy their reputation.

These conclusions must be assimilate in reference, especially if we consider the crisis caused by the giants collapse such as World Com, Enron, Xerox, Ahold and others, where accounting and auditing were the main culprits. US Central Bank has recommended a final separatism between the audit and consulting activities, and also stable assurances about the integrity of the audit process as part of the analysis on existing good practice within the firm.

The presence of independent directors (with no relation of subordination to the company managers) has an effect on the nature of the published information.

They care more about the effect of reputation than internal managers.

The presence of independent directors tends to diminish the importance of outcome management. Manager's quota could influence the accounting policies applied to the company.

Conclusions

The enterprise governance imposes a number of restrictions in the company's financial position and performance management. These have to be appreciated on the governance model we relate, on the cause and nature of conflict in this process (dividend policy, substituting funds, investment etc.), but also on the mechanisms for resolving these conflicts, safeguard clauses, hybrid securities utilization etc.

It can be strongly stated that greater attention assigned to the control mechanism of financial statements is likely to improve understanding of outcome management. The existence not of an audit committee, the presence of external directors and ownership structure are important potential factors. In addition, the nature of the relationship between management control structure and the outcome is not always obvious because the accounting policy is not always opportunist.

Bibliography

1. Avram., V., *Value creation management and governance of the company*, Economica Publisher, Bucharest, 2003
2. Minu, M., *Accounting as a tool of power*, Economica Publisher, Bucharest, 2012
3. Nigella, L., *Accounting strategies and policies*, Economica Publisher, Bucharest, 2010
4. Feleaga, M., *Accounting policies and options*, Economica Publisher, Bucharest, 2008

REPO Operations - a Way to Adjust Liquidity Crisis on Banking Institutions

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Money market operations (open market operations) constitute the most important instrument of the monetary policy of the NATIONAL BANK of ROMANIA. They shall be carried out on the initiative of the Central Bank, having the following functions: guiding interest rates, managing the liquidity conditions of the monetary market and signaling the orientation of the monetary policy. In this context, a systematic and a market organization is essential) able to adapt to the new conditions imposed by the relaxation of credit operations. Implementation and operational systematization of such types of transaction can help banking entities in adjusting the liquidity crisis and the support on the way to economic growth.

Key words: repo, reverse repo, BNR, banks

Jel: E58

1. Introduction

As a result of the continuous development of the types of repo and reverse repo, respectively the corresponding values for these transactions reverse repo and repo market has become one of the most important and liquid financial markets in the world.

Repo transactions have generally at the base liquid financial instruments such as titles, but other evidence may be used, such as shares, bonds, municipal and corporate bonds, etc. The use of these types of transactions is very popular among banks and their clients as a result of attractive yield and security under such contracts structure. In addition, central banks use repo contracts as indispensable tools for implementing monetary policy.

As a result of the fact that, in accordance with the legal regulations in force, the Bucharest Stock Exchange (BVB) is going to be used as a secondary market of Government securities, it has been taken into account the need to implement a repo market-oriented model in electronic trading platform, developed in-house by BSE, in compliance with international standards in terms of standardized contracts (repo negotiated contracts and bilateral negotiated contracts^[1], margin system, electronic tagging, negotiation on the basis of collateral for repo rate, etc).

Regulations of the monetary market are:

Regulation NBR No. 1/2000 (republished) concerning money market operations conducted by the NATIONAL BANK of ROMANIA and permanent facilities provided by it eligible participants (MO No. 84/01.02.2008)

Regulation NBR No. 3/2012 to amend Regulation NBR 1/2000 concerning money market operations conducted by the NATIONAL BANK of ROMANIA and permanent facilities provided by it eligible participants.

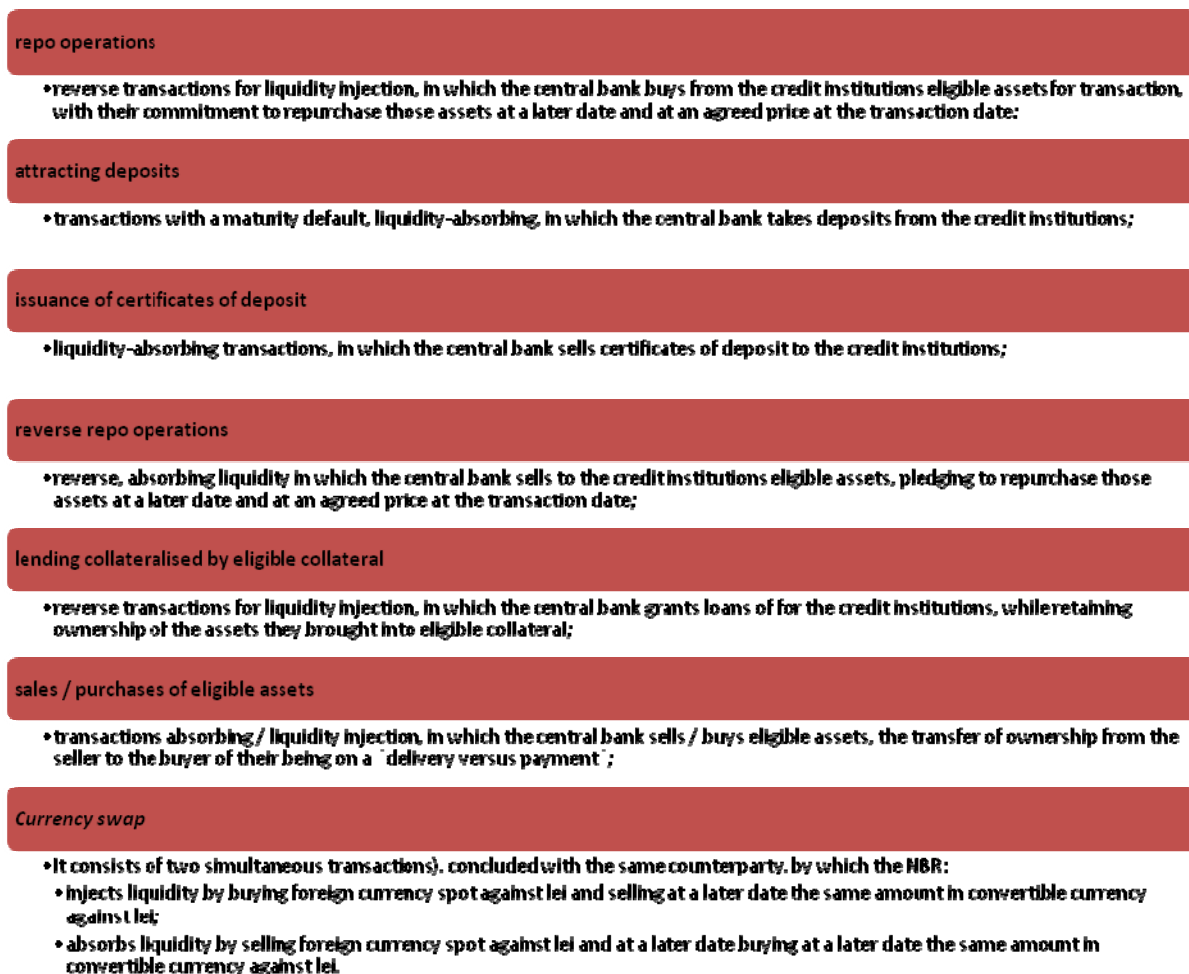
Regulation NBR No. 14/2012 for changing the reg. NBR No. 1/2000 concerning money market operations conducted by the National Bank of Romania and permanent facilities provided by it to eligible participants.

Order NBR No. 7/2006 on working procedures for the conduct of operations with deposit certificates issued by the National Bank of Romania.

The norm NBR No. 2/2015 concerning electronic transmission of documents related money market operations conducted by the National Bank of Romania through auction and permanent facilities provided by it to eligible participants.

According to the regulations in force, the main types of money market operations available at the NATIONAL BANK of ROMANIA are:

Figure1 - Schematic of money market operations available at the
NBR



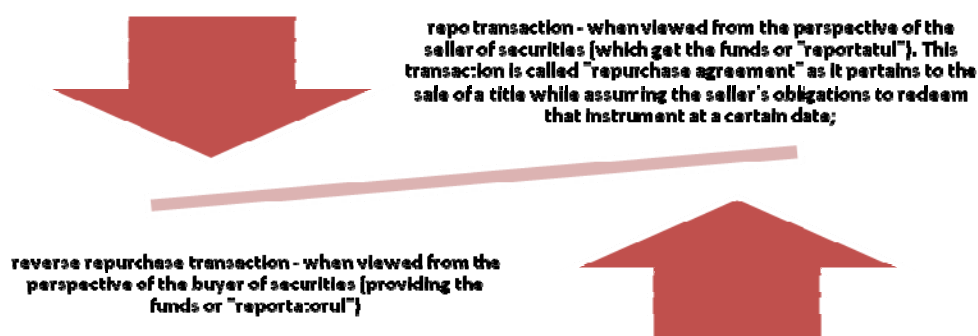
Source: Own contribution

2. Characteristics and repo market participants

Repo and reverse repo contracts are hybrid transactions that combine both the characteristics of collateralized loans (secured loans), as well as separate transactions of buying or selling (outright purchase/sale transactions), nevertheless not making distinctly a part in one of the two types[2].

Repo or reverse repo transactions may be concluded by central banks (which can carry out such transactions to implement monetary policy), commercial banks, clients, etc. According to the two parties to the contract, such a transaction is called:

Figure 2 - Types of repo transactions



Source: Own contribution

Repo market participants are grouped into categories, namely:

Figure 3-types of repo transactions



Source: Own contribution

Characteristics of repo contracts (repo and reverse repo transactions)

- ② Collateral-theoretically, for the conclusion of a repo transaction may be used as collateral any negotiable financial instrument. In practice, however, lenders prefer liquid titles that can be sold easily in the event of any disabilities^[3].
- ② Maturity-repo contracts are generally concluded for a very short term (1 day-overnight repo or a few days). Longer-term contracts are concluded for the standard as their maturity is 1, 2 or 3 weeks, as well as 1, 2, 3, even 6 months (term). In addition to these maturity standards, repo contracts can be concluded for an indefinite period and continue based, called "repo agreements continuing" or open "(continuing/open repo). These contracts are similar to those of overnight type, but are renewed every day and the rate or repo collateral shall be adjusted in the light of market conditions.
- ② Principal's value
- ② Yield-the part that borrows funds ("the lender", i.e. the buyer of securities), is entitled to be compensated by the counterparty ("the borrower", i.e. the seller- of the titles) for the use of the amounts of money involved^[4].

Although the majority of repo transactions and reverse repo are based on the transfer of very liquid securities and/or without risk or low risk, such as titles issued by State and federal agencies or Government-backed securities, etc, both sides are at risk. In the case of longer term repo, both the risk of interest rate and the loan appears.

3. Case study analysis of repo transactions statistics at the level of the NATIONAL BANK of ROMANIA

From June 1997 to the third quarter of 2008, money market operations of the NATIONAL BANK of ROMANIA were used almost exclusively for the purpose of liquidity excess drainage from the banking system. In the last quarter of 2008, on the basis of the continuing reduction in structural surplus liquidity from the banking system, the net liquidity position of banks has become negative as a result, the main role in managing liquidity and in influencing short-term interest rates was intended to be liquidity-providing operations. Subsequently, as a result of extensive movements of autonomous liquidity factors, periods characterized by negative values of net liquidity position of banks have alternated with those in which the sign was positive, causing an alternation, not necessarily in sync, the position of operational liquidity, meaning the use of principal money market instrument of the Central Bank.

From the statistical point of view the repo market transactions had a dynamic development:

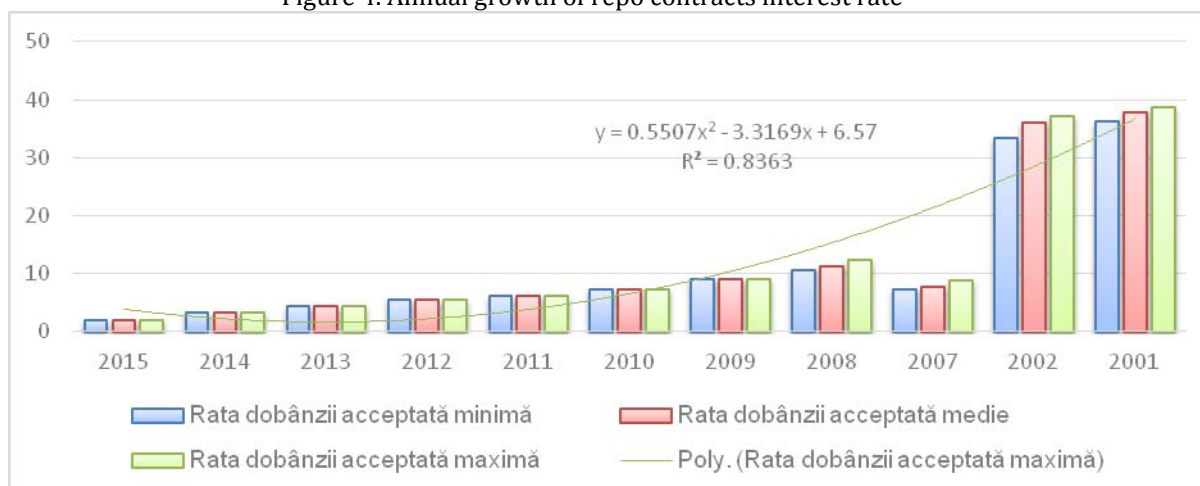
Table No. 1-presentation of repo transactions market during 2001-2015

Date	Maturity	Amount tendered	The amount awarded	The minimum interest rate supported	The average interest rate on accepted	The maximum accepted interest rate
	(days)	(million HUF)	(million HUF)	(AP)	(AP)	(AP)
	REPO_NRZ	REPO_SO	REPO_SA	REPO_DBMIN	REPO_DBMED	REPO_DBMAX
2015	7	15,754.30	15,754.30	1.85	1.85	1.85
2014	7	12,673.60	12,673.60	3.29	3.29	3.29
2013	7	264,705.40	92,041.10	4.33	4.33	4.33
2012	7	619,032.40	359,626.40	5.34	5.34	5.34
2011	7	46,743.40	46,743.40	6.17	6.17	6.17
2010	7	25,447.10	25,447.10	7.2	7.2	7.2
2009	20	137,759.90	137,759.90	8.96	8.96	8.96
2008	7	3,759.40	2,373.90	10.6	11.31	12.25
2007	8	13,076.30	11,007.50	7.2	7.59	8.7
2002	7	222	219.5	33.33	36.03	37.17
2001	14	218.5	192.2	36.17	37.87	38.77
Total	9	1,139,392.30	703,838.90	6.57	6.67	6.76

Source: BNR

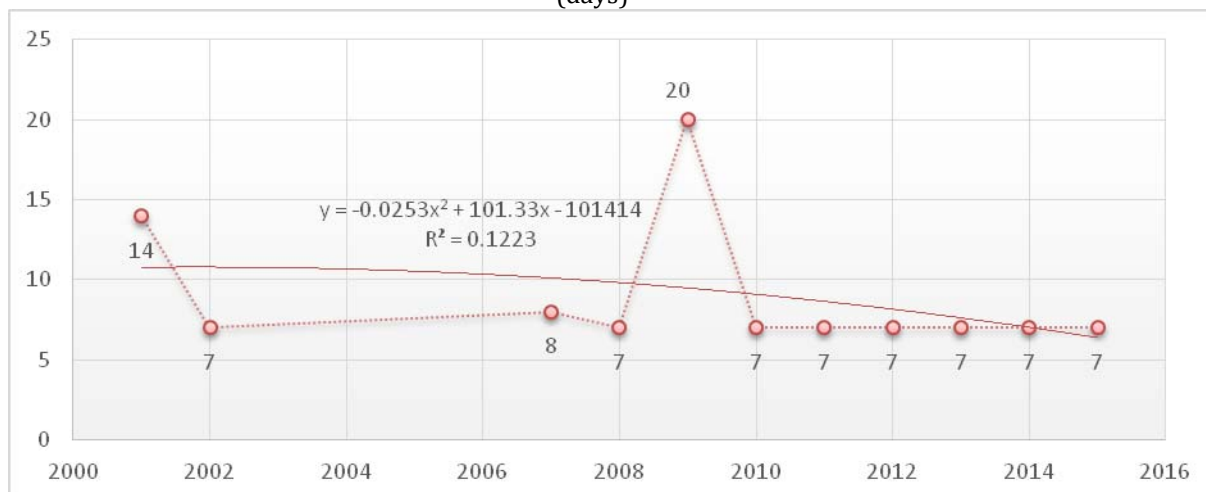
The interest rate for repo contracts has decreased significantly in the range, and its peak in 2001 to 38.7%, minimum rate touching in 2015 at 1.85%.

Figure 4. Annual growth of repo contracts interest rate



Source: Processed copyright based on data of table 1

Figure 5: The dynamics of annual repo contracts maturity (days)



Source: Processed copyright based on data of table 1

The maturity of repo contracts shows a fluctuating trend between 2001-2009, from 2010 it stabilizes, the number of days during which repo contracts reach their maturity being 7.

4. Conclusions

Repurchase agreements are included in the category of financial instruments, other than transferable securities and are defined as contracts where one party buys securities with immediate payment, with simultaneous resale at a price and term determined, of securities of the same species and effective remission with securities data to report, in accordance with the provisions of the commercial code. From this definition it follows that only the securities may be subject to repurchase agreements, which theoretically would exclude titles of State term of less than one year (T-bills) which are not currently included in the category of securities.

Operations with repurchase agreements having as their object transferable securities are exempt from the requirement to be determined solely on a regulated market, i.e. only through investment companies and other authorized financial intermediaries.

Operations with repurchase agreements are treated together with derivatives, in case the operations in respect of repurchase agreements will be carried out on a regulated market (such as the recording of transactions, managing margins), they will be administered by the market in question, and the compensation and reimbursement shall be made in accordance with the mechanisms provided for by the regulations laid down by the market in question.

Although the majority of repo transactions and reverse repo shall be based on the transfer of very liquid securities and/or without risk or low risk, such as titles issued by State or federal agencies or Government-backed securities etc., both parts are at risk. In the case of longer term repo, both the risk of interest rate and credit appears.

The importance and necessity of such operations can be substantiated by the following aspects:

- does not have significant effects on the price of assets;
- the Central Bank flexibility manifested in monitoring the operations on the money market, as it establishes the level and duration of the contract and also renewal or not at maturity;
- increase in repo operations reserves or reducing them, in the case of reverse repos, when titles reach maturity, thus a flexible tool for the management of the reserves, which presents a great variability;
- Unlike direct sales and redemptions of securities, which may lead to fragmentation of the financial system, by refinancing operations, it does not produce such an effect, since the ownership of the securities is changed only temporarily.

Repo and reverse repo transactions have in recent years become the most important tool used by NBR for use of excess liquidity.

References

1. Anghelache G.(2004), *"The capital market. Features. Developments. Transactions"*,Economic Publishing House, Bucharest, p. 58.
 2. Capraru B. (2014)*"Banking activity. Systems, operations and practices. Edition 2"*, Publisher C.H. Bucharest, pp.65-68.
 3. Moraru D., Nabi M. (2013) *"Banking products and services in 2013"*, Publisher Universitaria Pro, Bucharest, pp. 61
 4. Radu Riana Iren, Isai Violeta, *The Applicability Of The Prudence Principle To Bank Companies In The Vision Of Ias 37*, International Conference "Risk in Contemporary Economy" ISSN online 2344-5386, ISSN print 2067-0532,XIVth Edition, 2013, pp. 3
 5. Sbughea, C., 2011. *The Origins of the Global Financial Crisis and Its Impact on Romanian Economy. Economics and Applied Informatics*, (1), pp.107-112.
- **** <http://www.bnr.ro/>

The Methodology of Direct Comparison in the Context of Movable Goods Evaluation

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The theme presents a synthesis of movable goods' evaluation. The market of movable has significantly developed during the last decade, especially after Romania's accession to the European Union, when movable goods from the exterior have started entering the internal market, which led to the growth of competition and also to the price reduction. This led us to the decision of approaching this theme. The methodology of direct comparison in the context of the movable goods evaluation, considering that the development of the movable goods market has equally influenced the individuals and the judicial persons, and that is why we considered that the enhanced study of this the theme could show us which are the buyer's argument when choosing a tangible good and which are the basic elements at the base of the decision of buying such a good.

Keywords: tangible goods, market value, market economy, the direct comparison method, the evolution of the tangibles market.

JELL Classification: G33, C39

1. Introduction

Nowadays, the inflation rate varies, a phenomenon whose main effect is the devaluation of the national currency and which leads to the reduction of the buying power of the RON and to a fast/accelerated devaluation of the tangible goods.

In the context of the actual economy, the entrepreneurs' desire of knowing the market value has emerged in order to appreciate the value of the patrimony of the company, which represented a starting point in the field of evaluation.

The equipment represents an important part of the patrimony of a society and a basic element for its activity. It is chosen depending on the use and the companies' needs compared to the price, in order to gain profits.

The method of direct comparison is defined as the process through which the value of a good is estimated through market analysis in order to find similar proprieties and also to compare them to the evaluated propriety. At the basis of the valuation stands the principle of substitution, which results in the fact that the value of a propriety is represented by the price which could be paid to buy a similar propriety from the perspective of its attractiveness and use. Considering that the equipment that is the subject of this evaluation consists of goods that are frequently traded on the market and considering that the numerous offers of similar movables or which displays similar features of the evaluated goods, both new and used, we thus consider that the most relevant approach of the evaluation is made through the market, using certain offers that are available on the movables market in the moment of the evaluation.

The method of direct comparison supposes the use of adjustments to the equipment which is compared to the studied one, adjustments that are made depending on the differences the comparable goods display reported to the evaluated good.

2. The general presentation of the client and the recipient of the report

The evaluation was made in order to estimate the market value of the movables, namely the Dacia Logan MCV and Citroen Berlingo automobiles, as it is stated in the International Evaluation Standards, to inform, at the desire of the economic agent, in his/her position of beneficiary.

The market value, according to this standard, is the estimated amount of money for which an asset could be changed at the time of evaluation between a decided buyer and a decided seller, in an

objective transaction, after an adequate market and in which the parts consciously acted and with no restraints.

The calculus methodology of the market value has considered the objective of the evaluation, the properties' type and the recommendations of the International Valuation Standards IVS 220 – Mobile tangible assets. The evaluation was made on the 30th of April 2015. At the basis of the evaluation stood the information regarding the level of prices and the data provided by the client until April 30th 2015, data which is available and for which the considered hypotheses and the estimated values of the evaluator are available.

3. The identification of the property and the location of goods

The evaluation process, defined as the orientation mean of the economic entities in the national economy, has set its main objective in establishing the market value, the circulation value of goods, assets and companies. When significant changes happen in a company, as for example: changes in the structure and volume of the primary capital, in the structure of shareholders or associates, in the case of trading activities, due to privatization when the elements in the balance sheet do not reflect market values, but rather administrative values, the evaluation of a company becomes mandatory.

The casuistry is made according to the value of the movable goods and their technical description, as following: Mobile good – Dacia Logan MCV automobile

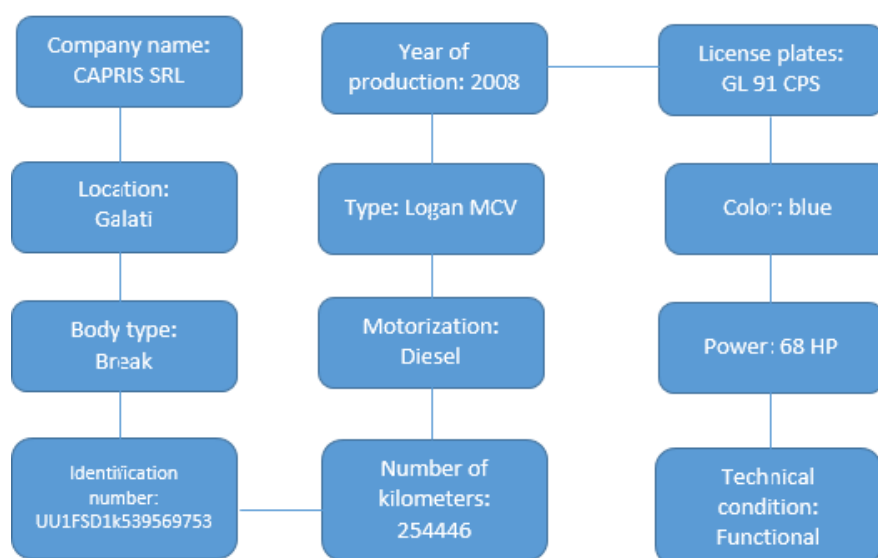


Fig. 1. Technical and functional description of Dacia Logan MCV

Source: Authors' processing based on the company information



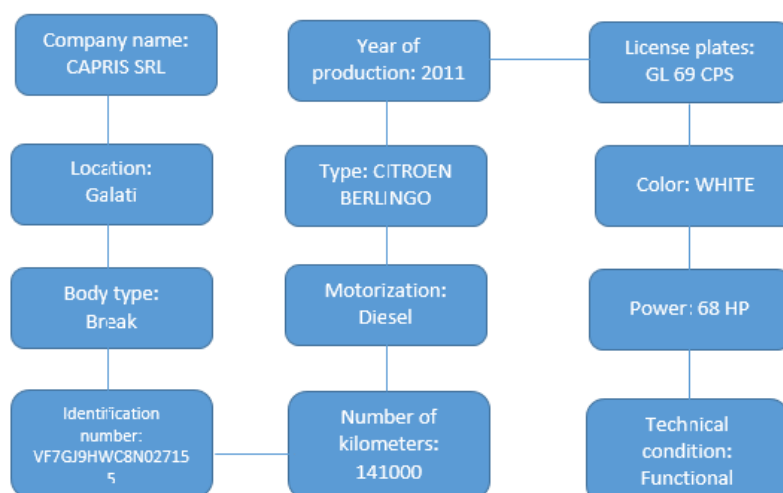


Fig. 2. Technical and functional description of Citroen Berlingo
 Source: Authors' processing based on the company information



The analysis of the good's market

The goods' market represents the economic environment in which buyers and sellers carry out their economic activity and the place where demand and offer meet, which leads to the determination of the good's price. The goods' market is influenced by the economic, social or governmental situation, but it is also influenced by buyers' and sellers' motivation and attitude.

The movable goods' market is a complex and vast one, with a very large number of participants, and, in order to carry out a detailed and accurate analysis, one must structure/rank it in undermarkets, depending on the utility and the features of goods, leading to a segmentation of the goods' market.

The movable goods' market can be classified after:

1. The location of the market
 - Local
 - National
 - International
2. The status of the good or the method of trading the goods on the market
 - New goods
 - Used goods

The movable goods that are evaluated in this report have a both local, national and international trading area, and most transactions are reported as second hand goods.

5. Offer analysis

Offer is represented by the quantity of a certain good which is available for sale or rent at different prices, on a market at a certain moment in time.

Such an offer can emerge in various fields, such as:

- The offer of new goods coming from the movable goods producers or clients' orders for goods that are adapted to their requirements compared to standard products. It can include, from case to case, guarantees on the purchased product or technical support services that are available during the guarantee period.
- The offer of used goods that comes from the companies that own equipment which either end their activity, reduce it or reorient themselves. The goods rapidly depreciate, especially in the first 2 years from the purchase. Though the equipment is not old, its repeated maintenance or reconditioning leads to a significant depreciation of the good. The movable goods market displays a significant offer for the studied equipment, considering the whole variety of types and dimensions, and also the producers.

6. Demand analysis

Demand is represented by a quantity in a certain type of goods for which the buying or renting desire is expressed, at different prices, on a market, at a certain moment in time. Demand is directly influenced by the attractiveness level of a property.

On the movable goods market, demand is different depending on the equipment condition, its use, its power or the notoriety of the producing company.

7. Market balance

On the movable goods market, there are specialized companies that deal with the maintenance and reconditioning of the equipment which is purchased at low costs, thus removing any type of damage or every other issue that influences the value of a good. One needs to delimitate the market balance on the two market fields, namely:

- The market of new goods, where trades happen between producers or providers of movable goods and their buyers. Large producers provide significant discounts to companies that purchase a high volume of equipment and they can also help buyers to get attractive financing sources. This market also generally include warranty on products, spare parts or technical assistance.
 - The market of used goods, where trades happened between the ones that own the equipment and the buyers in this field, either their users or intermediates.
4. Case study regarding the evaluation of movable goods evaluated through the method of direct comparison

The method of direct comparison consist of the use of adjustments, depending on the differences between the features of each comparable good and the ones of the evaluated good: these adjustments are used to remove the differences between the comparable goods and the evaluated good.

To use this method, one must collect information from the second-hand market of the evaluated good, the selling prices of similar goods that have as similar as possible features as the evaluated one. In this report, the price is established by comparisons to similar equipment found on websites that are especially designed for the trading of movable goods www.autovit.ro and www.bestauto.ro

Assuming that it is only a strictly literal interpretation of the term 'position', a fundamental law principle tells us that any ambiguous clause leading to the interpretation of an act or a contract shall be construed in favor (and not at the expense of A.N.) of the one it refers to, this is why we believe that, here, the meaning of position must be interpreted as submitted by Law no. 188/1999.¹⁴¹

¹⁴¹ Mihailescu Madalina-Elena, Can a national secretary working for a public institution, subordinate to the Romanian Government, be considered a civil servant? Revista de Studii Juridice, Iasi, Edit Lumen, nr. 3-4/2014, an IX,

Table no. 1. Direct comparison approach for Dacia Logan MCV

Criteria	Subject	Comparable A	Comparable B	Comparable C
Price (euro)		3.950	4.250	3.390
Source		autovit.ro	autovit.ro	autovit.ro
1. Name of good	Dacia Logan	Dacia Logan	Dacia Logan	Dacia Logan
Variation (adjustment)		0%	0%	0%
Adjusted value		3.950	4.250	3.390
2. Model	MCV	MCV	MCV	MCV
Variation (adjustment)		0%	0%	0%
Adjusted value		3.950	4.250	3.390
3. Selling date/offer		recent	recent	recent
Variation (adjustment)		0%	0%	0%
Adjusted value		3.950	4.250	3.390
4. Production year	2008	2008	2008	2008
variation (adjustment)		0%	0%	0%
Adjusted value		3.950	4.250	3.390
5. Body type	Laureate	Laureate	Laureate	Ambiance
variation (adjustment)		0%	0%	+5%
Adjusted value		3.950	4.250	3.559,5
6. Number of kilometers	254.446	89.000	78.000	83.000
variation (adjustment)		-12%	-10%	-15%
Adjusted value		3.476	3.825	3.025,57
7. Fuel type	Diesel	Diesel	Diesel	Diesel
Variation (adjustment)		0%	0%	0%
Adjusted value		3.476	3.825	3.025,57
8. Condition	Good	Good	Good	Good
Variation (adjustment)		0%	0%	0%
Adjusted value		3.476	3.825	3.025,57
9. Maximum power (HP)	68	75	86	70
Variation (Adjustment)		-5%	-10%	-3%
Adjusted value		3.302,2	3.442,5	2.934,8
Total gross adjustment		647,8	807,5	455,2
Total gross adjustment %		16,4%	19%	13,43%
Adopted value : Comparable C (the value with least adjustments)				
Property value (approximate)		3.000 euro		

Source: Author's processing of the information from the company and www.autovit.ro, www.bestauto.ro

Note: <http://www.cursbnr.ro> exchange

Exchange at 30.04.2015 1 Eur = 4.2025 lei

Equivalent property value in RON = 12.600 RON

Table no. 2. Direct comparison approach for Citroen Berlingo

Criteria	Subject	Comparable A	Comparable B	Comparable C
Price(euro)		7.600	7.950	7.850
Source		autovit.ro	autovit.ro	autovit.ro
1. Name of good	Citroen	Citroen	Citroen	Citroen
Variation (adjustment)		0%	0%	0%
Adjusted value		7.600	7.950	7.850
2. Model	Berlingo	Berlingo	Berlingo	Berlingo
Variation (adjustment)		0%	0%	0%
Adjusted value		7.600	7.950	7.850
3. data of sale/offer		recent	recent	recent
Variation (adjustment)		0%	0%	0%
Adjusted value		7.600	7.950	7.850
4. Production year	2011	2011	2011	2012
Variation (adjustment)		0%	0%	-3%
Adjusted value		7.600	7.950	7.614,5
5. body type	attraction	attraction	attraction	attraction
Variation (adjustment)		0%	0%	0%
Adjusted value		7.600	7.950	7.614,5
6. Number of kilometers	141.000	167.200	80.235	109.079
Variation (adjustment)		+5%	-15%	-5%
Adjusted value		7.980	6.757,5	7.233,78
7. Fuel	Diesel	Diesel	Diesel	Diesel
Variation (adjustment)		0%	0%	0%
Adjusted value		7.980	6.757,5	7.233,78
8. Condition	Good	Good	Good	Good
Variation (adjustment)		0%	0%	0%
Adjusted value		7.980	6.757,5	7.233,78
9. Maximum power(HP)	99	75	75	75
Variation (adjustment)		+10%	+10%	+10%
Adjusted value		8.778	7.433,25	7.957,16
Total gross adjustment		-1.178	516,75	868,6
Total gross adjustment %		-15,5%	6,5%	11,06%
Adopted value : Comparable B (the value with least adjustments)				
Property value (approximate)		7.500 euro		

Source: Author's processing of the information from the company and www.autovit.ro, www.bestauto.roNote: <http://www.cursbnr.ro> exchange

Exchange at 30.04.2015 1 Eur = 4.2025 lei

Equivalent property value in RON = 31.500 lei**Conclusions**

Equipment market has faced a rapid development lately, which led to a significant growth of the offer, with multiple leasing or installment payment of the movable goods that are directly purchased from the producers or authorized dealers or from the second hand market. Movable goods

on the second hand market represent a less expensive alternative for similar use goods, but which are used and reconditioned.

Due to this reason, the method of direct evaluation supports the establishment of the market value of the studied goods, by evaluating each equipment and comparing it to similar goods from the perspective of use and conditions. The method of direct comparison is defined as the process through which the value of a good is estimated through the analysis of the market in order to find similar properties and compare them to the evaluated propriety. The principle of substitution stands at its basis, leading to the fact that the value of a propriety is represented by the price that could be paid to buy a similar propriety from the perspective of attractiveness and use. The market value the evaluator established as relevant and feasible is 3000 eur, namely 12.600 Ron for Dacia Logan MCV, respectively 7.500 Eur, namely 31.500 Ron, as complete data was gathered from the market regarding the evaluated good. The criteria considered by the author were the adequacy, the precision and the quality of the information. The evaluation of movable goods was made through the method of direct comparison, based on which accurate and real information is used, information that is collected from the second-hand market regarding the objective of the evaluation and the features of the goods.

References

1. Demetrescu, T.C., *Evaluarea mijloacelor fixe mobile*, Editura Iroval, București, 2008.
2. Stan, S.V., *Evaluarea întreprinderii*, Editura Iroval, București, 2008.
3. *Ghid de evaluare. GME 620 – Evaluarea mașinilor, echipamentelor și instalațiilor*.
4. ANEVAR, *Standardele de Evaluare ANEVAR*, București, 2014.
5. Iancu D., *MANAGERIAL LEADERSHIP FROM THE PERSPECTIVE OF ENVIRONMENT ORGANIZATIONAL SPORTS*, INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;
6. Iancu D., *EDUCATIONAL MANAGEMENT, A NEW PARADIGM IN SOCIAL DEVELOPMENT*, INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;
7. Isai V., *Aspects regarding the accounting of reexport and lohn operations*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2004, ISSN 1584-0409
8. Isai V., *Particularities of the managerial accounting in the companies of import and export*, *The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics*, 2003, ISSN 1584-0409
9. Isai V., Radu R.I., Rusu R., *The biological assets and the crop production – acknowledgement and evaluation possibilities in the agricultural holdings accountancy from Romania*, 23rd IBIMA Conference, Valencia, Spain, 2014.
10. Opreșcu C., *Highest and Best Use Problems in Market Value Appraisals*, *Conferința Internațională, REC 2015, Galați*
11. Orac, C. M. (2009). *Criminality and regional economic disparities at the Romanian - Hungarian border, Criminalitatea transfrontalieră la granița dintre prezent și viitor/Cross border crime at the border between present and future*, Oradea: Fundația AGORA.
12. Orac, C. M. (2009). *The impact of the economic crisis on the unemployment rate in Galati County, measures aimed at its reduction*. *Public Administration & Regional Studies*. Galați.
13. Orac, C. M. (2009). *The initiation and management of European Union Regional Partnership, Paradigms of Knowledge Management*. *Agora International Journal of Economical Sciences* Oradea: Editura Universitatii Agora
14. Mihailescu Madalina-Elena, *Can a national secretary working for a public institution, subordinate to the Romanian Government, be considered a civil servant?* *Revista de Studii Juridice, Iasi, Edit Lumen*, nr. 3-4/2014, an IX,

Intangible Wealth, between Recognition and Evaluation

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The theme of this work is the recognition, assessment and importance of intangible property in the financial statements of an enterprise. The paper presents an insight into intangible assets recognition of causality, with highlight relevant aspects of how education contribute in a decisive manner, through the generation and dissemination of knowledge in order to achieve specific strategic goals of economic policy. This issue has also been a challenge and it still represents one for companies that have intangible assets overstated or that have kept in their balance sheet intangible assets without a properly assessed market value. The paper also addresses the issue by restricting the proposed theoretical aspects in favor of those which are directly related to the accounting practice in line with International Accounting Standards and with the accounting regulations of our country.

Keywords: intangible assets, intellectual capital, divergence, recognition, evaluation.

Any scientific investigation incites curiosity and qualities of the researcher to express ideas formulated following a process of studying and research. A description of the incompatibility between what it is observed and what it exists may give rise to the emergence of proposals for solutions for the suppression of this inconsistency. A large part of the things you need to know about the intangible assets have not been discovered yet, and may be the subject of a scientific study as a foundation for the implementation of a new insights on accounting in Romania. This unknown part cannot be contained into a single article, but it clearly shows what we investigate and discover it represents very little in comparison with what we will know about after a couple of years.

Developed countries' economies have dematerialized in the past two decades. They have gone from an economic system in which competitive advantages depended on material and financial resources, managed and controlled by State-owned enterprises, to an economic system in which the achievement of the performance shall be the subject, in principle, immaterial, intangible resources, created in the previous activity of firms. The global economic system is transformed into a system of intellectual economy (Bianchini, 2004).

This poses a challenge to identify the practices adopted by countries in order to assess and reporting intangible capital and it proposes solutions to expedite the process of harmonizing accounting requirements. Intangible assets are elements of intellectual capital, which is likely to be recognized as an asset if the recognition of the International Accounting Standard established criteria are met (Meritum Project, 2001).

Thus, the concept of intangible assets has become an important subject of analysis for industrial competitiveness. Since 1994, the European Commission has launched a number of studies and projects aimed to understand the depth of the knowledge-based economy and the importance of intangible assets as factors of competitiveness.

Along the time it has been shown that there are considerable differences between the market value of a firm's net accounting value, due to the existence of certain intangible assets, which has led to a concentration of efforts to identify missing items and quantification. For example, statistics from 2004 showed that Microsoft's market value was 286.2 billion dollars, while the book value was only 57.5 billions of dollars, which means a ratio of 5:1 in favor of intangible resources. At eBay, the company's market value was \$ 54.5 billion, and the accounts of 4.9 billion dollars, resulting in a ratio of 11:1 (Dess and others, 2006).

To meet the information needs of financial statements users, some firms will establish special reports which present the nature and value of intellectual capital (Castilla and Gallardo, 2008). Efficiency and effectiveness of the various relationships with customers or suppliers, and correct

management are not just in trend concepts, contrary, they make the difference between success and failure of a business and define the enterprise's ability to coordinate and combine all our resources to achieve a profitable outcome.

Intangible resource-between knowledge and recognition

Introducing in the financial statements of a factor such as the value of the intangible assets held by the company, along with tangible factors such as the company income, it meant recognition of the fact that a good portion of the value of these companies is derived from the existence of these intangible values, as well as intellectual capital. Furthermore, a number of studies conducted on Western markets showed that, in most cases, intangible asset headings get averaged to represent more than one third of the total value of the companies. Even before the advent of these studies, there were several instances of Western markets which showed that markets concerned recognize, at least in informal mode, the fact that there are many intangible factors that influence decisively the value of the company in question. Thus, it has become a practice in many acquisitions of companies made in the 1980s that the price paid for their purchase to be higher than the price of the shares on the market, as in the case with the Rowntree company's acquisition by Nestle, or Pilsbury company by Grand Metropolitan. In each of these cases, the price paid was higher than the value of tangible assets owned by the companies purchased (Procter and Gamble, 2010).

This trend continued in the following years, when intangible values held by various companies have come to play an increasing role in their developments on the market. An admitted example which highlights the importance of recognition of intangible assets was recorded in 1988, when the company Rank Hovis McDougal (RHM), one of the largest food production companies from United Kingdom, was the subject of a purchasing offer of the Australian competitor, Goodman Fielder Wattie. RHM has successfully managed to convince shareholders not to accept the offer, explaining that the Australian bid had not counted intangible assets of the company. Although at the time the practice was quite controversial due to the fact that there was not any standard method for calculation of sufficient fixed non corporate values. In 1989, the London Stock Exchange has accepted the introduction of intangible values into the proposed price to shareholders, thus accepting the proposed practice that RHM claimed a year before.

Introducing the intangible values in the financial results of companies gradually became a standard, recognized by the legislation of many countries. Thus, in 1999 the United Kingdom introduced the financial standard FRS 10/11, and in 2002 the USA has introduced the financial standard FASB141/142, both designed to allow companies to introduce intangible values into their financial balance sheets, and the way of recognizing and assessing intangible was established by IAS 38.

Intangible asset headings are recognized in the statement of financial position if they meet the definition and recognition criteria. Their definition is in direct correlation with the character identification, the control over a resource and the existence of future economic benefits and their use to be over a number of years. It is not sufficient as an asset to satisfy only the rules of definition, but also in recognizing the effect of controlled resources.

In the recognition of separately acquired intangible assets the professional reasoning must be present in order to assess and evaluate the level of associated safety obtaining future economic benefits attributable to the asset use, on the basis of the evidence existing at the time of initial recognition, requiring greater evidence. Also, if exercised control exists, if the entity has the ability to obtain the future economic benefits and to restrict access to other entities in the future through sustained legal rights in court. Legal rights are not a condition sine-qua-non to controlling. There are other possibilities to control future benefits. For instance, technical knowledge can generate future economic benefits. Such knowledge can be protected by copyright, or a restriction imposed by a commercial contract, legal obligation to preserve the confidentiality of employees. But, on the other hand, where an entity holds the qualified personnel able of additional expertise and through continuous education and training could generate future economic benefits, it does not have enough control over the benefits to be generated for these elements corresponding to the definition of an intangible royalty.

Altogether, the recognition of an intangible asset, however, is conditioned by the probability that the economic advantages attributable to revert to the entity. Assessment of the probability of future economic benefits must be based on rational calculations representing the best evaluation for the existing economic conditions throughout immobilization period.

Business valuation according to intangible factors

Evaluation is a complex process, which does not summarize assessment methods. The evaluation must be familiar with the basic principles and experience of specialized companies for each type of evaluation.

Recognition of the legislation of the entities right to evaluate their business and relying on held intangible value has led to diversification and development of numerous evaluation methods, as well as the goals for this assessment is used. For example, the assessment of intellectual capital is difficult to achieve because the big problem this procedure creates, called "accounting for goodwill" is that it does not provide a scientific basis for assessment of the value of intangible assets held by the entity in question. Potential buyer evaluates the value of the intangible assets of the entity by relying on his knowledge about the business in which it intends to invest. This means that, almost invariably, one of the two sides will end up to evaluate its or, even, to underestimate the value of intangible assets. To avoid this problem, more and more companies have begun to look for ways of calculating their intangible assets and, obviously, they value their input into the calculation of the total value of the company. Thus, in the mid-'80s, Reckitt and Colman, a company based in England, introduced Airwick, his brand, the company's balance sheet, taking advantage of the fact that the country's legislation allowed the inclusion of newly acquired brands like intangible values in the balance sheet of the company (Peter Cheverton, 2004).

The inclusion of the value of intangible assets owned by companies in calculating their financial statements has led to diversification goals in which assessment is used. Use the value of the intangible assets in commercial or legal disputes, for example in the case of disputes such as the dissolution of a partnership, copyright violation or non-compliance of agreements between companies, it very often will appear the problem of damage produced to the company. Therefore, in order to calculate the damages, it is very important for companies to know the total value of the assets which have suffered damage.

In the case of brands, companies are increasingly using brand value estimation in order to provide a scientific basis on their decisions about the allocation of budgets to promote various brands. Thus, if it is accurately known the value of a brand, its managers will fix much easily the budget dedicated to it, which is the value of in question brand budget related to the budgets of the other brands of the company and whether the strategy adopted for the respective brand will be one of development, maintenance, or, on the contrary, the collapse of its importance (Moisescu, 2013). Thus, the evaluation of the brand does not influence only the company's policy regarding the respective brand, but also the decisions taken in a global level for the development of the company.

International financial Standards allow companies to evaluate their assets as correctly as possible, reducing the undercutting or overvaluing of those elements. Valuation of intangible assets can be done by considering the set of intangible elements as part of the company evaluation or by separately evaluating a single item of intangible asset.

Evaluation of intangible assets can be accomplished by several means, by analogy with material possessions. In this sense, the value can be established by one or more of the following forms:

- *evaluation of separately acquired intangible assets at cost of acquisition*

The cost of separately acquired intangible assets can be reliably evaluated especially when the counter value takes the form of cash. Cost recognition in the book value of an intangible assets item shall cease when the asset is in a condition to be functioning and in the manner desired by management. This means that any cost should not be recognized after the asset was acquired and meets all the conditions.

- *an intangible asset evaluation as part of a combination of enterprises (companies)*

Evaluation of the entry of an intangible assets acquired as part of a combination of undertakings, is its fair value at the date of acquisition. A market price quoted on an active market ensures the most reliable estimation of the fair value of an intangible. If the current bid price is not available, the price of the most recent similar transactions can provide a basis from which to make an estimate of the fair value provided to significant changes between the transaction date and the date on which it is estimated the fair value of the asset. It is unusual for there to be an active market for intangible assets, for example, there can be an active market for patents and trademarks considering that each is unique. Where there is no active market, the cost will be the amount that an entity would have to pay for an asset in a voluntarily and assumed transaction between the parties, at a price that has been set. An immobilization from business gained from a combination of undertakings may be separable, together with a related contract, with an asset or a liability. Thus, the Purchaser acknowledges a restraint from business separately from goodwill, but together with the corresponding element. Where expenditure

does not satisfy the recognition criteria, the items must be passed on the expenses at the time it appears.

- *evaluation of an intangible asset acquired through government subsidies*

Assets subsidies consist in Government subsidies for the granting of which the recipient entity should purchase, construct or otherwise acquire intangible assets. The book value of an intangible asset and the Government subsidy should be estimated at fair value. Another alternative for the initial recognition of intangible asset is recording both the asset and the subsidy at face value, if the entity chooses not to recognize the initially fair value of the assets. This value is added to any cost directly attributable for preparing the restraint for the use intended.

- *evaluation of intangible assets in the enterprise through the exchange of intangible assets*

An intangible asset may be acquired by sharing one or more non-monetary assets, or a combination of monetary or non-monetary assets. The evaluation of a non-monetary active with one another is made at fair value. The cost of an intangible asset with another intangible asset is valued at fair value if:

- Exchange transaction lacks commercial character. Risk, placing in time and amount of cash flows of the asset received is different from the announcement of cash flows of the asset transferred.
- the fair value of the asset received, respectively transferred cannot be reliably assessed, at fair value.

If acquired assets is not valued at fair value, its cost is valued at the book value of the asset given away. For the exchange of intangible assets with an intangible element that is similar, with similar purposes and with a fair amount of similar does not recognize any gain or loss from the transaction.

- *evaluation of internally generated intangible*

It is not always easy to assess whether an internally generated intangible asset meets the criteria for defining and accolades. It is for this reason that an entity divides the process of generating assets in two phases:

- Research phase generates only period expenditures. In this phase any intangible asset will not be recognized because it is not possible to demonstrate that it will generate future benefits;
- Development phase-the entity is able to identify an intangible asset and demonstrate that it meets the criteria for defining and recognizing.

In the development phase, cost marks, technical boxes marks, publication titles, customer lists and similar items internally generated cannot be fixed at the cost of development as a whole. Therefore, these items are not recognized as intangible assets. If the enterprise cannot distinguish the two phases for the creation of an intangible asset, it treats that project expenditure as if it were made only as a research stage.

The link between intangible assets of a company and its profit lies in the attention that should be given to entry in the heritage of the granted rights by the law in this area, the correct assessment, as well as the keeping of up-to-date accounts of the movement of these values. At the level of research and development it is seen a special interest in the establishment of evaluation procedures as a result of two main directions requests: the creation of intellectual property assets on the part of economic agents and the pressure of its own employees in developing procedures to encourage the research, namely the remuneration of creative-innovative work, activity.

Practically, it has been noticed the difficulty of developing an overall valid methodology, thus implying a high risk of error, generated by the diversity economic at macro-economic level of economic and organizational structures.

Evaluation of intangible assets can be accomplished by several means, by analogy with material possessions. Intangible asset headings generally should be valued at cost. This will include, among other things, the purchase price and any other costs which can be directly related to preparing the asset for use. The only exception to this rule is the cost of any intangible assets which are acquired during a purchase. Such intangible assets, recognized at fair value, which is the price, impartially fixed, for which an asset can be voluntarily, knowingly exchanged by the parties.

Intangible wealth-a national and international divergence

The internationalization of accounting appeared in the time of Romania's accession to the EU, this being conditional on both knowledge and thorough compliance with the International Accounting Standards/International Financial Reporting Standards (IAS/IFRS), taking account of the development of market economy in Romania.

At the level of treatment of intangible assets, there are certain distinctive approaches between international standards and national regulations.

National accounting regulations compliant with European directives foresee that an entity may include formation expenses to "Fixed Assets". In this case, formation expenses shall be systematically amortized over a period not exceeding 5 years. There is no distribution of profits if as formation expenses have not been completely written off, unless the amount of the reserves available for distribution and profits brought forward is at least equal to that of unredeemed expenditure. The amounts which are entered under "formation expenses" must be disclosed in the notes.

According to IAS 38 "intangible assets", the formation expenses shall be recognized as expenses of the period in which they are incurred. Formation expenses are defined as the costs of establishment, such as the costs of the secretariat and supported the establishment of the legal entity, the legal expense to open a new business, expense for starting new operations or launching new products. ..

According to Romanian accounting rules, there are no restrictions on the registration of fixed assets as expenses incurred by an enterprise development. Also, national regulations provide that these development expenses to be amortized during the leasing or using period. If the duration of the contract or the duration of use exceeds 5 years, it must be presented in the notes, specifying the reasons for it. Where development expenses have not been completely written off, no distribution of profits, unless the amount of the reserves available for distribution and profits brought forward is at least equal to that of unredeemed expenditure.

According to the international demands, sometimes it is difficult to assess whether a restraint from business internally generated qualify for recognition, due to problems of identification and determination of the cost of the asset.

According to the national demands, concessions, patents, licenses, trademarks, similar rights and assets, purchased or representing the input gained through other means, shall be recorded in the accounts of intangible assets in the amount of the contribution or the acquisition cost. In this case the value of the consideration shall be treated as fair value. Received concessions are reflected as intangible assets when the concession contract sets a determined duration and a value for the concession. Depreciation of the concession to be registered for the duration of its use, as determined in accordance with the contract. In a situation where the contract provides for the payment of rent and not depreciable value in the accounts of the entity that receives the grant, recording the expense it represents the rent without the recognition of an intangible.

IAS 38 specifies that the marks, the titles of newspapers and magazines, customer lists and other similar items internally generated should not be recognized as intangible assets. The trademarks, titles of newspapers and magazines, customer list and other similar items in fund, internally generated cannot be differentiated from the cost of development of the enterprise as a whole. Therefore, such items shall not be recognized as intangible assets.

Goodwill, in accordance with the accounting rules in our country, represents that portion of goodwill not included under other items of the heritage, but which contributes to the maintenance or the development potential of the unit, such as: customer, Fund, reputation and other intangible items.

In certain situations, a series of expenses are incurred to generate future economic benefits, but this does not result in the creation of an intangible asset that meets the criteria for recognition from the international norm. Such charges are often presented as contributing to internally generated goodwill. Internally generated goodwill is not recognized as an asset because it is not an identifiable resource controlled by the enterprise, which may be reliably assessed at cost. Differences between the fair value of an entity and the book value of its fixed assets net identifiable at all time, can be influenced by a range of factors that influence the value of the entity. However, such differences do not constitute intangible cost-controlled entity.

Conclusions

National accounting rules are restrictive about the recognition and valuation of intangible assets, and, on the other hand, about the identification and measurement of assets that determines the difference between the net accounting value markets and involves additional costs.

In Romania, the transition from the old accounting system to IFRS-based accounting system is a long-term process which is currently underway. Both nationally and internationally, over the past twenty years have been marked by a significant increase in the number of accounting rules and their complexity mainly due to the increase in the level of activity of the entity that generated and an increase and diversification of the risks to which they were and are subjected to.

Taking into account the significant differences between an accounting system based on strict rules existing in Romania until the introduction of compulsory application of IFRS accounting system and a subjective, influenced by the judgment of professionals and selected policies, how is the system regulated by IFRS is expected to be able to identify various problems arising from the transition from one system to another.

The issue of recognition and evaluation of intangible assets for which I am trying to point out a few defining elements, continues to incite controversy even more so as, in a society marked by competition and change, where an estimate of future benefits generated by investments depend on more of the characteristics of the market.

Up till now, Romanian accounting regulations encourage businesses to make the notes categories of investments that have a significant influence on the long-term performance of the enterprise, but not exceeding the threshold of their recognition as assets in the balance sheet. Accounting evolution is slow and there will always be a gap between the level of immaterial investments and recognized intangible assets because it cannot achieve a credible assessment of all components involved in the investment process.

Bibliography

- [1] Brennan, N., " Reporting intellectual capital in annual reports: the evidence from Ireland", *Accounting, Auditing and Accountability Journal*, Vol 10, no. 2, 2001, pp. 18-30
- [2] Castilla, Gallardo Vázquez, "Social information within the intellectual capital report", *Journal of International Management*, 2008, pp. 353-363
- [3] Charles t. Horngren, "Financial Accounting", Pearson Education, Australia, 2006
- [4] Dess, G.G., Lumpkin, G.T., Eisner, A.B., "Strategic management", second edition, McGraw-Hill Irwin, Boston, 2006, pp. 119
- [5] Feleaga N., Feleaga. L., "Consolidated Accounting", Bucharest, 2007
- [6] Florentina, Moisescu, "The Decapitalization of the Business Companies in Romania." *Procedia-Social and Behavioral Sciences* 81 (2013): 45-49.
- [7] Garcia-Meca, E. Martínez, "The use of intellectual capital information in investment decisions. Year empirical study using analyst's reports ", *The International Journal of Accounting*, 42, 2007, pp. 57-85
- [8] Gröjer, J.E., Johanson, U., "Current development in human resource costing and accounting", *Accounting, Auditing and Accountability Journal*, vol. 11, no. 7, 1998, pp. 14-21
- [9] M. Bianchini, apud Mahendra, "Social Responsibility and Environmental Ethics-Elements of the Ecological Culture in the 21st Century Organizations: A study on Romanian companies, the Munich Personal RePEc Archive, 2008, pp. 58
- [10] Peter Cheverton, "Key marketing skills: strategies, tools, and techniques for marketing success", Kogan Page Limited, 2004, pp. 196.
- [11] Procter and Gamble, Annual Report 2010 published by Procter and Gamble. 2011, pp. 10
- [12] W. Steve Albrecht, "Accounting Concepts and Applications", South-Western Educational Publishing, 2007
- [13] http://www.pnbukh.com/files/pdf_filer/FINAL_REPORT_MERITUM.pdf , pp. 13-16

SECTION

SUSTAINABLE DEVELOPMENT AND CORPORATE SOCIAL RESPONSIBILITY

Gold Nanoparticles as a Novel Tool for Detection of Pathogens

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The gold-standard in diagnosis of a disease; is the detection of the causative agent, the pathogen. The currently used predominant techniques for detection of pathogens are rely not only upon conventional clinical microbiology but also the modern molecular techniques. However, these methods are laborious, time consuming and expensive. Consequently, reliable, faster and accurate assays are required to quickly determine the presence of pathogen. Recently, nanotechnology, which is concerned with nano-materials with significantly novel and improved physical, chemical and biological properties, has been leading to a technological revolution in the field of pathogen detection. Gold nanoparticles is a popular choice for innovative diagnostics due to their unique physicochemical properties allowing them to be used in wide range of colorimetric, scanometric and fluorometric diagnostic assays. The present review will shed some light on the properties, synthesis, and applications of gold nanoparticles in detection of bacterial, viral and parasitic pathogens.

Keywords: gold nanoparticles ;diagnostics; pathogens; nanomedicine

1. Introduction

Gold nanoparticles (AuNPs) based diagnosis have been a promising approach for rapid, sensitive and specific detection of pathogens over the last two decades due to their unique physicochemical properties. The ease of synthesis, characterization and functionalization with different bio molecules, oligonucleotides, antibodies, and proteins, allowing AuNPs to be widely used in diagnostics [1, 2].

2. Synthesis of gold nanoparticles

Historically, synthesis of gold nanoparticles returns back to many centuries ago when the synthesis of gold colloids was used as a colour decoration in staining of glasses. It was until 1857 when Michael Faraday found that the “fine particles” formed from the aqueous reduction of gold chloride by phosphorus could be stabilized by the addition of carbon disulfide, resulting in a “beautiful ruby fluid”[3]. In the last two decades there has been a lot of interests in the synthesis of gold nanoparticles, focusing on the ability to control the size, shape, structure, and surface properties of gold nanoparticles[1]. Today, there are numerous strategies for synthesis of gold nanoparticles, in both aqueous and non-polar organic solvents. However, generally follow a similar strategy, whereby solvated gold salt such as chloroaurate, to metallic gold is reduced in the presence of surface capping ligands which is important to prevent aggregation of the particles by electrostatic and/or physical repulsion. while the particle size is adjusted by varying the gold ion: reducing agent or gold ion : stabilizer ratio, with larger sizes obtained from larger ratios [2, 4]. The most common methods used for the synthesis of gold nanoparticles are citrate reduction, Brust-Schiffrin, and seeding growth methods[5, 6]. Characterization of the fabricated gold nanoparticles can be done using several tools

such as: ultraviolet-visible (UV-vis) spectrophotometry, X-ray diffraction (XRD), transmission electron microscopy (TEM), and scanning electron microscopy (SEM) (Fig.1) [5, 7]

2.1. Citrate reduction method

Citrate reduction is one of the most popular, simplest methods of AuNPs synthesis and also has the advantages of being carried out in an aqueous phase and produces almost uniform spherical particles over a tunable size range [2]. It was first reported by Turkevich et al. in 1954[8] and in 1973, Frens performed systematic studies of Turkevich's citrate-mediated growth method, producing monodisperse spherical gold nanoparticles 16–150 nm in diameter[9]. Briefly, an aqueous solution of chloroaurate is reduced to metallic AuNPs by the addition of citrate which acts both as a reductant and surface capping agent that stabilizes the formed AuNPs, preventing particle growth[2, 6, 8, 9]. Size of AuNPs Prepared by this Method typically ranging between 16 and 147 nm and can be controlled by changing the reaction conditions [5, 9]. The size and distribution of the particles are controlled by reaction parameters including PH, concentrations, reducing/stabilizing agent to gold precursor ratio and temperature [10, 11].

2.2. The Brust-Schiffrin method

In 1994 Brust and co-workers reported that using two-phase (water-toluene) reduction of AuCl_4^- by sodium borohydride (NaBH_4) in the presence of an alkanethiol, solutions of 1–3 nm gold particles bearing a surface coating of thiol have been prepared and characterised (Brust Schiffrin method)[12]. Brust-Schiffrin's method starts by transferring AuCl_4^- from aqueous solution to toluene using tetra octyl ammonium bromide (TOBA) as the phase-transfer agent. AuCl_4^- is then reduced by aqueous solution of sodium borohydride in the presence of dodecanethiol (DDT); a thiol capping ligand (Fig.2)[2, 12, 13]. Brust and co-workers extended their method by the synthesis of p-mercaptophenol stabilized AuNPs in a single phase system[14]. This methodology produces low dispersity AuNPs from 1.5 to 5 nm by varying the reaction conditions such as gold-to-thiol ratio, reduction rate, and reaction temperature[15]. These alkanethiol-protected AuNPs possess higher stability when compared to most other AuNPs due to the synergic effect of the strong thiol-gold interactions and van der Waals attractions between the neighboring ligands[16]. These nanoparticles can be dried and redispersed in solution without any aggregation making them excellent precursors for further functionalization[1].

2.3. Seed growth method

For the synthesis of Au NPs in aqueous phase, seeded growth method have been reported for controlling particle size, most of the methods have been based on the modification of Turkevich method through a two-step process (nucleation and growth). Seeding growth is a common method for controlling the size of nano particles, and is used when large particles are required [6, 17-19]. In this method, firstly small mono-dispersed particles are prepared by common methods then used as seeds for the preparation of larger particles. The reducing agents used in seed growth methods usually are weak; they are capable of reducing metal ions only in the presence of seeds. Particle size can be controlled by adjusting metal ions to seeds ratio [2, 6, 17].

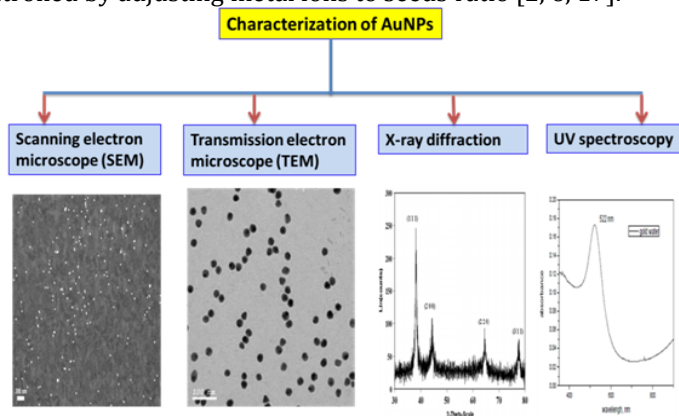


Fig.1 Different characterization methods of gold nanoparticles

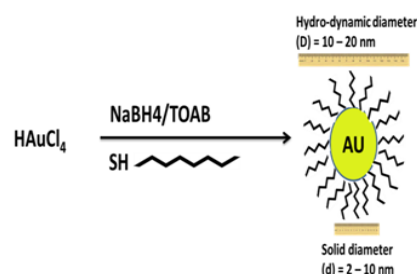


Fig. 2 Brust Schiffrin method, two phase synthesis of gold nanoparticles by reduction of gold salts in presence of external thiol ligands.

Perrault et al. [17] reported the synthesis of AuNPs with sizes 50 – 200 nm. AuNP seeds were prepared by citrate reduction then used in growth reaction containing hydroquinone as reducing agent (weak reducing agent) that can only reduce gold in the presence of metallic gold seeds. Reducing number of seeds resulted in larger particles [2, 17]. Substantially, Citrate method is more suitable to synthesis of AuNPs > 10 nm while Brust method < 5 nm but if larger size particles is required Seed growth method is the best.

3. Properties of gold nanoparticles

Gold nanoparticles typical structure is spherical nano-sized gold particles, but they also be consisted of a thin gold shell surrounding a dielectric core (an insulating material, e.g. silica), referred to as nanoshells. They range in size from 0.8 to 250 nm and are characterized by high absorption coefficients [20, 21]. AuNPs have useful Properties such as size and shape-related optoelectronic properties [22, 23], excellent biocompatibility, large surface to volume ratio, and low toxicity [24, 25]. The most important physical properties of AuNPs include surface plasmon resonance (SPR); which responsible for their unique optical properties, when an electromagnetic radiation of a wavelength larger than the diameter of the AuNPs, hits the particles, it induces coherent, resonant oscillations of the metal free electrons across the nanoparticles. These oscillations are known as the SPR, which lie within visible frequencies and result in strong optical absorbance and scattering properties of the AuNPs, and the ability to quench fluorescence. The Spherical AuNPs exhibit a range of colours (e.g., orange, brown, red and purple) in aqueous solution as the core size increases from 1 to 100 nm, and generally show a size relative absorption peak from 500 to 550 nm [1, 2, 26, 27]. The aggregation of nanoparticles results insignificant red shifting of SPR frequency, broadening of surface plasmon band and changing the solution colour from red to blue due to the interparticle plasmon coupling [1, 28]. Thus, the binding of AuNP-labeled entities to their respective target would lead to aggregation of the nanoparticles and a detectable shift in the optical signal. The strong absorption of AuNPs can also be used in colorimetric detection of analytes by measuring changes in the refractive index of the AuNP's environment caused by adsorption of the target analytes [2, 29].

4. Gold nanoparticles based Nucleic acid detection

Unmodified AuNPs using unmodified AuNPs constitutes simple, sensitive, fast and cheaper assays for detection of nucleic acid. It mainly based on; Citrate coated AuNPs carrying negative charge on surface, which allows the adsorption of single of single-stranded DNA (ssDNA) or RNA, which can uncoil exposing their nitrogenous bases, allowing electrostatic attraction to the AuNP's surface. Subsequently, negative charges on the AuNPs increases and so does the repulsion among the AuNPs, thus preventing their aggregation and its colour is deep red. Upon addition of AuNPs to a saline solution containing the target nucleic acid and its complementary unlabeled oligonucleotide sequence, AuNPs aggregate and the solution colour changes from red to blue (Fig.3). This is occur due to the oligonucleotide sequences bind to their complementary target, and this double-stranded structure cannot adsorb on AuNPs due to the repulsion between its negatively-charged phosphate backbone and the negatively charged citrate ions on the surfaces of the AuNPs. In this case, the oligonucleotides are not free to adsorb and stabilize the AuNPs, salt induced aggregation occur and the solution colour changes to blue. In contrast, in case of absence of the complementary target, aggregation of the AuNPs is prevented due to the presence of free oligonucleotide sequences that adsorb and stabilize them, and the solution colour remains red [2, 30-32].

Modified AuNPs In this method AuNPs conjugated to oligonucleotides and used as probes in various detection assay formats. The conjugation can be done in a number of ways; for example, the AuNPs have a high affinity to thiols and can thus readily bind to thiolated oligonucleotides; when DNA, which is complementary to the two grafted sequences, was added to the solution, a polymer network is formed. This condensed network brought the conjugated AuNPs to self assemble into aggregates with a concomitant red-to-purple colour change. Transfer of the hybridization mixture to a reverse phase silica plate resulted upon drying in a blue colour that could be detected visually. [13, 33].

5. Biomedical diagnostic role of gold nanoparticles

5.1. Detection of viruses

Recently AuNPs-Based diagnostic assays have been reported for qualitative and quantitative detection of viral nucleic acid.

Griffin et al.[34]employed the fluorescence quenching properties of AuNPs and designed a NSET probe for the homogenous detection and quantification of a synthetic hepatitis C virus (HCV) RNA target. The assay had a detection limit of 300 fM of RNA was obtained with particle size of 110 nm.

Shawky et al. [32]developed a colorimetric assay for direct detection of unamplified HCV RNA from clinical specimens. The assay had a detection limit of 50 copies/reaction and exhibited a sensitivity of 92 %,a specificity of 88.9 %, in addition to a short turnaround time of about 30 min.

Zhao et al.[35]describe a rapid and simple gold nanoparticles (NP)based genomic microarray assay for specific identification of avian influenza virus H5N1 and its discrimination from other major influenza A virus strains (H1N1, H3N2). The assay was able to detect and distinguish H5N1 sequences from those of major influenza A viruses (H1N1, H3N2) and it had LOD of 0.1 pM. So, this method may be useful for simultaneous detection and sub typing of major influenza A viruses.

Xie et al.[36]demonstrated a rapid, convenient method to the colorimetric detection of HIV-1 RNase H activity through the use of unmodified gold nanoparticles. In contrast to conventional methods, this approach offers significant advantages in terms of non-pre modified RNA and fast assay response.

Tang et al.[37]developed a bio-barcode assay for detection of human immunodeficiency virus type 1 (HIV-1) with a detection limit 100 – 150 times lower than the corresponding ELISA. The assay was able to detect concentrations of the HIV-1 p24 antigen as low as 0.1 pg/mL vs. 10 – 15pg/mL detected by ELISA. Also, in patients with seroconversion, the assay detected infection 3 days earlier than the ELISA.

Jaroenram et al.[38] combined an AuNPs colorimetric assay with loop-mediated isothermal amplification technique (LAMP) for detection of yellow head virus in shrimp visually. This assay had High sensitivity and specificity, the relatively short detection time, and amplicon confirmation by hybridization.

Yortyot et al.[39] developed a similar combination of DNA-functionalized AuNPs with LAMP for detection of white spot syndrome virus (WSSV) in shrimp.

Toubanaki et al.[40]developed a method for detection of fish nervous necrosis virus (NNV) using a gold nanoparticles-based biosensor for detection of viral nucleic acids after amplification by RT-PCR. This method was quite cost effective, as it did not require antibody conjugation.

Saleh et al.[41]developed a direct colorimetric assay for detection of spring viremia of carp virus (SVCV) using unmodified Au-NPs. The lower detection limit of the assay was estimated to be 10^{-3} TCID₅₀ ml⁻¹ SVCV-RNA, and it has the feasibility to detect the target virus-RNA in clinical specimens without previous amplification.

Saleh and El-Matbouli[42] developed a label-free colorimetric diagnostic method for direct detection of unamplified cyprinid herpes virus-3 CyHV-3 DNA of fish using a gold nanoparticle-based hybridization assay. The CyHV-3 AuNPs assay could detect as little as 50 fg of CyHV-3 DNA corresponding to 150 virions.

Duan et al.[43]developed an assay for simultaneous detection of hepatitis B virus (HBV) and HCV antibodies using a protein chip and AuNP-based detection. The assay had a turnaround time less than 40 min, and it detected down to 3 ng/mL of IgG.

Shenet al.[44] developed an electrochemical immunoassay based on copper-enhanced AuNP tags for the detection of hepatitis B surface antigen (HBsAg) using anodic stripping voltammetry.. The assay had a linear range from 0.1 to1500 ng/mL, a detection limit of 87 pg/mL, and a turnaround time of 70 min. The assay had a comparable performance to HBsAg enzyme-linked immunosorbent assay (ELISA) but with a considerable reduction in turnaround time .

5.2. Detection of Bacteria many AuNPs-Based diagnostic assays have been developed for detection of pathogenic bacteria.

Padmavathy et al.[45]reported a protocol for the use of gold nanoparticles functionalized with single stranded oligonucleotide (AuNP- oligo probe) as visual detection probes for rapid and specific detection of *Escherichia coli* (Fig.4).The AuNP- oligo probe on hybridization with target DNA containing complementary sequences remains red whereas test samples without complementary DNA sequences to the probe turns purple due to acid induced aggregation of AuNP- oligo probes. The colour change of the solution is observed visually by naked eye demonstrating direct and rapid detection of the pathogenic *Escherichia coli* from its genomic DNA without the need for PCR amplification. The limit of detection was ~54 ng for unamplified genomic DNA. The method requires less than 30 minutes after genomic DNA extraction. However, by using unamplified enzymatic digested genomic DNA, the

detection limit of 11.4 ng was attained. Results of UV-Vis spectroscopic measurement and AFM imaging further support the hypothesis of aggregation based visual discrimination. The limit of detection was ~54 ng for unamplified genomic DNA. The method requires less than 30 minutes after genomic DNA extraction. However, by using unamplified enzymatic digested genomic DNA, the detection limit of 11.4 ng was attained. The assay was validated on clinical strains of pathogenic *Escherichia coli* obtained from local hospitals and spiked urine samples. It was found to be 100% sensitive and proves to be highly specific without any cross reaction with non-*Escherichia coli* strains.

Liandris et al.[46]developed of a colorimetric method that depends on the use of gold nanoparticles for fast and specific detection of *Mycobacterium spp.* dispensing with the need for DNA amplification. The minimum detection limit of the assay was defined at 18.75 ng of mycobacterium DNA diluted in a sample-volume of 10 μ L.

Saleh et al.[47]developed an immunoassay using antibody coated AuNPs for direct, specific and rapid detection of *A. salmonicida* in fish tissues. The assay could detect *A. salmonicida* in fish tissues down to 1×10^4 CFU mL⁻¹ and results were obtained within 45 min.

Preechakasedkit et al.[48]developed an immune chromatographic strip test using gold nanoparticles for the rapid detection of *Salmonella typhi* (*S. typhi*) in human serum. The limit of detection (LOD) was found to be 1.14×10^5 cfu mL⁻¹, which could be visually detected by the naked eye within 15 min. This strip test provided a lower detection limit and analysis time than a dot blot immunoassay (8.88×10^6 cfu mL⁻¹ for LOD and 110 min for reaction time).

Jung et al.[49]developed assay for detection of *Chlamydia trachomatis* in urine using unmodified AuNPs. This assay includes PCR amplification of the bacterial DNA, where one of the primers used was thiol-labelled, so, the resulting amplicon was thiolated at one end. After mixing with AuNPs, the amplicon adsorbed strongly on the surface of the AuNPs due to the strong affinity between AuNPs and thiols. Therefore, the AuNPs resisted salt-induced aggregation and the solution colour remain red (positive sample). This resistance was attributed to electrostatic repulsion caused by increased of negative charge density on the surface of AuNPs on account of the adsorbed amplicons. Presence of the adsorbed amplicons imparts a physical barrier that impedes particle aggregation. In contrast negative samples, AuNPs aggregated upon salt addition (0.37M) and solution colour changes to blue. This approach does not require modification of AuNPs and can detect 100 copies of template DNA.

Hao et al.[50]demonstrated that DNA probe functionalized QCM biosensor based on gold nanoparticle amplification could specifically recognize the target single-stranded DNA sequences from *B. anthracis* within 30 min, and that the limit of detection (LOD) reached 3.5×10^2 CFU/ml of *B. anthracis* vegetative cells just after asymmetric PCR amplification.

Rong-Hwa et al.[51]reported gold nanoparticle-based lateral flow assay for detection of staphylococcal enterotoxin B. With this method, 1 ng/ml of SEB can be detected in less than 5 min and was highly reproducible. Signal can be amplified to 10 pg/ml by silver enhancement. This assay also showed no cross-reaction with other SEs, such as SEA, SEC, SED and SEE. The assay was significantly faster than the ELISA or real-time PCR assay and should facilitate early and rapid SEB detection in clinical and food samples.

Mollasalehi and Yazdanparast[52]integrated two techniques (RNA amplification and gold nanoprobe detection) into a single detection-associated amplification method. Furthermore, the developed assay applied to the detection of *S. Typhimurium dna K* target mRNA in pure form using Non-cross linking gold nanoprobe.

Zhang et al.[53]described a Fluorescent bio-barcoded DNA assay for the detection of the *Salmonella enteric* serovar *Enteritidis*. The system is based on two nanoparticles: gold nanoparticles and magnetic nanoparticles. The Au-NPs work as transducer and signal amplifier and the MNPs act as separator and pre-concentrator. The detection limit of this bio-bar-coded DNA assay is 1 ng/mL (or 2.15×10^{-16} mol).

Hussain et al.[54]developed an unmodified gold nanoparticles assay for direct and rapid detection of *Mycobacterium tuberculosis* complex DNA after PCR amplification and optimized version of the assay prototype directly detected unamplified TB DNA isolated from clinical specimens using a single oligo-targeted. The prototype detection limit was 1 ng for PCR product and 40 ng for genomic DNA.

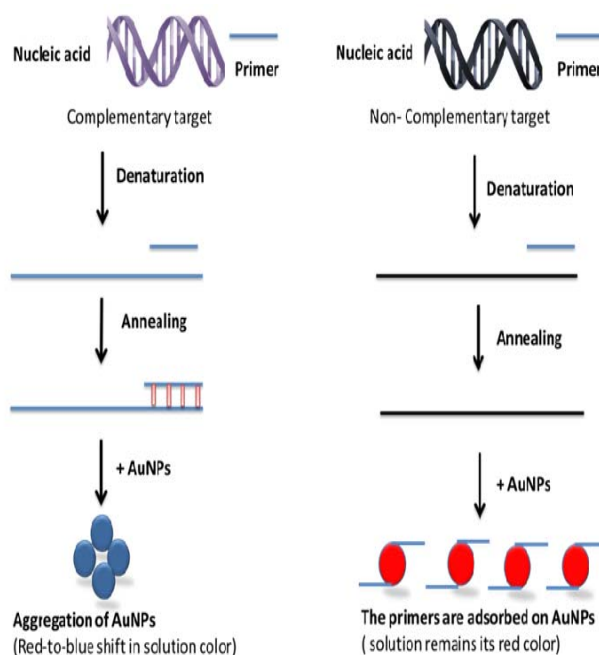


Fig. 3. Colorimetric assay based on unmodified gold nanoparticles (AuNPs) for detection of nucleic acid (DNA or RNA) of pathogens. Firstly, the target nucleic acid is denatured then the complementary oligo-probe hybridizes to the target forming double strands. When AuNPs are added, the colour will be changed from red to blue because the probe isn't free to stabilize the AuNPs. In the presence of a non-complementary target, the probe will be free to adsorb onto and stabilize the AuNPs, therefore preventing their aggregation, and the colour remains red.

Haichao et al.[55] developed a novel and sensitive colorimetric method for assay of *Escherichia coli* O157:H7 as a model for Gram-negative bacteria by a mercaptoethylamine-modified gold nanoparticles (MEA-AuNPs) sensor.

Soo et al.[56] developed a colorimetric AuNP-based assay for detection of *Mycobacterium tuberculosis* (MTB) and MTB complex (MTBC) in 600 sputum samples. The assay had a sensitivity of 96.6 % and specificity of 98.9 % for detection of MTBC. The reported sensitivity and specificity for MTB detection were 94.7 % and 99.6 %, respectively.

5.3. Detection of parasites

Andreadou et al.[57] Constructed assay of functionalized gold nanoparticles (AuNPs) that incorporated into an easily applicable DNA detection methodology for the identification of *Leishmania spp.* in clinical samples. AuNPs were conjugated with four oligonucleotide probes, targeting kinetoplast minicircle DNA of *Leishmania spp.* In the absence of complementary DNA, AuNPs–probes precipitate under acid environment causing a change of colour from red to purple, which can be detected by visual observation. In the presence of target DNA the colour of the solution remains red. The specific methodology was applied to positive and negative control samples and whole blood collected from dogs with suspected canine leishmaniosis. The method's minimum detection limit was defined to 11.5 ng of target DNA per μl of sample. Repeatability and reproducibility were 100%. Relative sensitivity and specificity referenced to PCR were calculated to 92% and 100% regarding 40 collectively control and clinical samples.

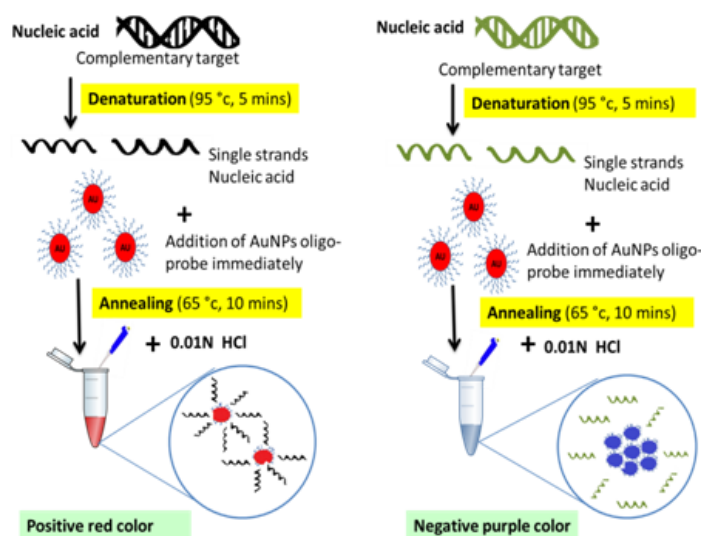


Fig.4 AuNP- oligo probe assay. a) In the presence of Bacterial genomic DNA, AuNP oligo probes are stabilized and prevented from aggregation upon addition of HCl. Red colour of the solution indicates presence of target DNA. b) In the absence of target bacterial genomic DNA, AuNP- oligo probes loses its stability and tend to be aggregated shifting the solution colour to Purple indicates absence of target DNA

Guirgis et al.[58]developed gold nanoparticle-based fluorescence immunoassay for malaria antigen detection. The estimated LOD for the assay is $2.4 \mu\text{g.mL}^{-1}$ and the LOQ is $7.3 \mu\text{g.mL}^{-1}$. The fluorescence immunoassay was successfully applied to the detection of antigen in malaria-infected human blood cultures at a 3% parasitemia level, and is assumed to detect parasite densities as low as $1,000 \text{ parasites.}\mu\text{L}^{-1}$

Rule and Vikesland.[59]reported the using of a rapid surface-enhanced resonance Raman spectroscopy (SERRS) method that has been developed for the detection of two waterborne Protozoan parasites, *Cryptosporidium parvum* and *Giardia lamblia*. Raman labels were prepared by conjugating gold nanoparticles with commercial antibodies and dye molecules. The immunogold signal intensities were optimized by testing several sizes of gold nanoparticles. Ultimately, 40 nm gold nanoparticles were conjugated with rhodamine B isothiocyanate and malachite green isothiocyanate for the *C. parvum* and *G. lamblia* immunogold syntheses, respectively.

6. Conclusion

Gold nanoparticles have become one of the most effective tools used in molecular diagnostics. AuNPs based diagnostics are most promising due to higher sensitivity, shorter turn-around-time, and cost-effectiveness. As illustrated, there is a great research concern over the last two decades especially in clinical diagnosis.

References

1. Yeh, Y.-C., B. Creran, and V.M. Rotello, *Gold nanoparticles: preparation, properties, and applications in bionanotechnology*. *Nanoscale*, 2012. **4**(6): p. 1871-1880.
2. Azzazy, H.M., et al., *Gold nanoparticles in the clinical laboratory: principles of preparation and applications*. *Clin Chem Lab Med*, 2012. **50**(2): p. 193-209.
3. Faraday, M., *The Bakerian Lecture: Experimental Relations of Gold (and Other Metals) to Light*. *Philosophical Transactions of the Royal Society of London*, 1857. **147**: p. 145-181.
4. Dreaden, E.C., et al., *The golden age: gold nanoparticles for biomedicine*. *Chemical Society Reviews*, 2012. **41**(7): p. 2740-2779.
5. Daniel, M.C. and D. Astruc, *Gold nanoparticles: assembly, supramolecular chemistry, quantum-size-related properties, and applications toward biology, catalysis, and nanotechnology*. *Chem Rev*, 2004. **104**(1): p. 293-346.
6. Jana, N.R., L. Gearheart, and C.J. Murphy, *Seeding Growth for Size Control of 5–40 nm Diameter Gold Nanoparticles*. *Langmuir*, 2001. **17**(22): p. 6782-6786.
7. Sun, K., et al., *Preparation and characterization of gold nanoparticles using ascorbic acid as reducing agent in reverse micelles*. *Journal of Materials Science*, 2009. **44**(3): p. 754-758.

8. Turkevich, J., P.C. Stevenson, and J. Hillier, A study of the nucleation and growth processes in the synthesis of colloidal gold. *Discussions of the Faraday Society*, 1951. **11**(0): p. 55-75.
9. Frens, G., Controlled nucleation for the regulation of the particle size in monodisperse gold suspensions. *Nature*, 1973. **241**(105): p. 20-22.
10. Ji, X., et al., Size Control of Gold Nanocrystals in Citrate Reduction: The Third Role of Citrate. *Journal of the American Chemical Society*, 2007. **129**(45): p. 13939-13948.
11. Pong, B.-K., et al., New Insights on the Nanoparticle Growth Mechanism in the Citrate Reduction of Gold(III) Salt: Formation of the Au Nanowire Intermediate and Its Nonlinear Optical Properties. *The Journal of Physical Chemistry C*, 2007. **111**(17): p. 6281-6287.
12. Brust, M., et al., Synthesis of thiol-derivatised gold nanoparticles in a two-phase Liquid-Liquid system. *Journal of the Chemical Society, Chemical Communications*, 1994(7): p. 801-802.
13. Wang, Z. and L. Ma, Gold nanoparticle probes. *Coordination Chemistry Reviews*, 2009. **253**(11-12): p. 1607-1618.
14. Brust, M., et al., Synthesis and reactions of functionalised gold nanoparticles. *Journal of the Chemical Society, Chemical Communications*, 1995(16): p. 1655-1656.
15. Hostetler, M.J., et al., Alkanethiolate Gold Cluster Molecules with Core Diameters from 1.5 to 5.2 nm: Core and Monolayer Properties as a Function of Core Size. *Langmuir*, 1998. **14**(1): p. 17-30.
16. Love, J.C., et al., Self-assembled monolayers of thiolates on metals as a form of nanotechnology. *Chem Rev*, 2005. **105**(4): p. 1103-69.
17. Perrault, S.D. and W.C.W. Chan, Synthesis and Surface Modification of Highly Monodispersed, Spherical Gold Nanoparticles of 50–200 nm. *Journal of the American Chemical Society*, 2009. **131**(47): p. 17042-17043.
18. Brown, K.R. and M.J. Natan, Hydroxylamine Seeding of Colloidal Au Nanoparticles in Solution and on Surfaces. *Langmuir*, 1998. **14**(4): p. 726-728.
19. Brown, K.R., D.G. Walter, and M.J. Natan, Seeding of Colloidal Au Nanoparticle Solutions. 2. Improved Control of Particle Size and Shape. *Chemistry of Materials*, 2000. **12**(2): p. 306-313.
20. Azzazy, H.M. and M.M. Mansour, In vitro diagnostic prospects of nanoparticles. *Clin Chim Acta*, 2009. **403**(1-2): p. 1-8.
21. Liu, W.-T., Nanoparticles and their biological and environmental applications. *Journal of Bioscience and Bioengineering*, 2006. **102**(1): p. 1-7.
22. Hu, M., et al., Gold nanostructures: engineering their plasmonic properties for biomedical applications. *Chem Soc Rev*, 2006. **35**(11): p. 1084-94.
23. Sau, T.K., et al., Properties and applications of colloidal nonspherical noble metal nanoparticles. *Adv Mater*, 2010. **22**(16): p. 1805-25.
24. Khlebtsov, N. and L. Dykman, Biodistribution and toxicity of engineered gold nanoparticles: a review of in vitro and in vivo studies. *Chem Soc Rev*, 2011. **40**(3): p. 1647-71.
25. Murphy, C.J., et al., Gold nanoparticles in biology: beyond toxicity to cellular imaging. *Acc Chem Res*, 2008. **41**(12): p. 1721-30.
26. Eustis, S. and M.A. el-Sayed, Why gold nanoparticles are more precious than pretty gold: noble metal surface plasmon resonance and its enhancement of the radiative and nonradiative properties of nanocrystals of different shapes. *Chem Soc Rev*, 2006. **35**(3): p. 209-17.
27. Jain, P.K., et al., Calculated absorption and scattering properties of gold nanoparticles of different size, shape, and composition: applications in biological imaging and biomedicine. *J Phys Chem B*, 2006. **110**(14): p. 7238-48.
28. Su, K.H., et al., Interparticle Coupling Effects on Plasmon Resonances of Nanogold Particles. *Nano Letters*, 2003. **3**(8): p. 1087-1090.
29. Baptista, P., et al., Gold nanoparticles for the development of clinical diagnosis methods. *Anal Bioanal Chem*, 2008. **391**(3): p. 943-50.
30. Li, H. and L. Rothberg, Colorimetric detection of DNA sequences based on electrostatic interactions with unmodified gold nanoparticles. *Proc Natl Acad Sci USA*, 2004. **101**(39): p. 14036-9.
31. Li, H. and L.J. Rothberg, Label-free colorimetric detection of specific sequences in genomic DNA amplified by the polymerase chain reaction. *J Am Chem Soc*, 2004. **126**(35): p. 10958-61.
32. Shawky, S.M., D. Bald, and H.M. Azzazy, Direct detection of unamplified hepatitis C virus RNA using unmodified gold nanoparticles. *Clin Biochem*, 2010. **43**(13-14): p. 1163-8.
33. Sato, K., K. Hosokawa, and M. Maeda, Colorimetric biosensors based on DNA-nanoparticle conjugates. *Anal Sci*, 2007. **23**(1): p. 17-20.
34. Griffin, J., et al., Size- and distance-dependent nanoparticle surface-energy transfer (NSET) method for selective sensing of hepatitis C virus RNA. *Chemistry*, 2009. **15**(2): p. 342-51.
35. Zhao, J., et al., Multiplexed, rapid detection of H5N1 using a PCR-free nanoparticle-based genomic microarray assay. *BMC Biotechnol*, 2010. **10**: p. 74.
36. Xie, X., et al., Colorimetric detection of HIV-1 ribonuclease H activity by gold nanoparticles. *Small*, 2011. **7**(10): p. 1393-6.
37. Tang, S. and I. Hewlett, Nanoparticle-based immunoassays for sensitive and early detection of HIV-1 capsid (p24) antigen. *J Infect Dis*, 2010. **201** Suppl 1: p. S59-64.
38. Jaroenram, W., N. Arunrut, and W. Kiatpathomchai, Rapid and sensitive detection of shrimp yellow head virus using loop-mediated isothermal amplification and a colorogenic nanogold hybridization probe. *Journal of Virological Methods*, 2012. **186**(1-2): p. 36-42.

39. Seetang-Nun, Y., et al., Visual detection of white spot syndrome virus using DNA-functionalized gold nanoparticles as probes combined with loop-mediated isothermal amplification. *Molecular and Cellular Probes*, 2013. **27**(2): p. 71-79.
40. Toubanaki, D.K., M. Margaroni, and E. Karagouni, Nanoparticle-based lateral flow biosensor for visual detection of fish nervous necrosis virus amplification products. *Molecular and Cellular Probes*, 2015. **29**(3): p. 158-166.
41. Saleh, M., et al., Direct detection of unamplified spring viraemia of carp virus RNA using unmodified gold nanoparticles. *Diseases of Aquatic Organisms*, 2012. **100**(1): p. 3-10.
42. Saleh, M. and M. El-Matbouli, Rapid detection of Cyprinid herpesvirus-3 (CyHV-3) using a gold nanoparticle-based hybridization assay. *Journal of Virological Methods*, 2015. **217**: p. 50-54.
43. Duan, L., et al., Rapid and simultaneous detection of human hepatitis B virus and hepatitis C virus antibodies based on a protein chip assay using nano-gold immunological amplification and silver staining method. *BMC Infect Dis*, 2005. **5**: p. 53.
44. Shen, G. and Y. Zhang, Highly sensitive electrochemical stripping detection of hepatitis B surface antigen based on copper-enhanced gold nanoparticle tags and magnetic nanoparticles. *Anal Chim Acta*, 2010. **674**(1): p. 27-31.
45. Bakthavathsalam, P., V.K. Rajendran, and J.A. Baquir Mohammed, A direct detection of *Escherichia coli* genomic DNA using gold nanoprobe. *Journal of Nanobiotechnology*, 2012. **10**(1): p. 1-10.
46. Liandris, E., et al., Direct detection of unamplified DNA from pathogenic mycobacteria using DNA-derivatized gold nanoparticles. *Journal of Microbiological Methods*, 2009. **78**(3): p. 260-264.
47. Saleh, M., et al., Antibody-coated gold nanoparticles immunoassay for direct detection of *Aeromonas salmonicida* in fish tissues. *J Fish Dis*, 2011. **34**(11): p. 845-52.
48. Preechakasedkit, P., et al., Development of a one-step immunochromatographic strip test using gold nanoparticles for the rapid detection of *Salmonella typhi* in human serum. *Biosens Bioelectron*, 2012. **31**(1): p. 562-6.
49. Jung, Y.L., et al., Direct colorimetric diagnosis of pathogen infections by utilizing thiol-labeled PCR primers and unmodified gold nanoparticles. *Biosensors and Bioelectronics*, 2010. **25**(8): p. 1941-1946.
50. Hao, R.-Z., et al., DNA probe functionalized QCM biosensor based on gold nanoparticle amplification for *Bacillus anthracis* detection. *Biosensors and Bioelectronics*, 2011. **26**(8): p. 3398-3404.
51. Rong-Hwa, S., et al., Gold nanoparticle-based lateral flow assay for detection of staphylococcal enterotoxin B. *Food Chemistry*, 2010. **118**(2): p. 462-466.
52. Mollasalehi, H. and R. Yazdanparast, Non-crosslinking gold nanoprobe for detection of nucleic acid sequence-based amplification products. *Analytical Biochemistry*, 2012. **425**(2): p. 91-95.
53. Zhang, D., D.J. Carr, and E.C. Alocilja, Fluorescent bio-barcode DNA assay for the detection of *Salmonella enterica* serovar Enteritidis. *Biosensors and Bioelectronics*, 2009. **24**(5): p. 1377-1381.
54. Hussain, M.M., T.M. Samir, and H.M. Azzazy, Unmodified gold nanoparticles for direct and rapid detection of *Mycobacterium tuberculosis* complex. *Clin Biochem*, 2013. **46**(7-8): p. 633-7.
55. Su, H., et al., Gold nanoparticles as colorimetric sensor: A case study on *E. coli* O157:H7 as a model for Gram-negative bacteria. *Sensors and Actuators B: Chemical*, 2012. **161**(1): p. 298-303.
56. Soo, P.-C., et al., A simple gold nanoparticle probes assay for identification of *Mycobacterium tuberculosis* and *Mycobacterium tuberculosis* complex from clinical specimens. *Molecular and Cellular Probes*, 2009. **23**(5): p. 240-246.
57. Andreadou, M., et al., A novel non-amplification assay for the detection of *Leishmania* spp. in clinical samples using gold nanoparticles. *Journal of Microbiological Methods*, 2014. **96**: p. 56-61.
58. Guirgis, B.S., et al., Gold nanoparticle-based fluorescence immunoassay for malaria antigen detection. *Anal Bioanal Chem*, 2012. **402**(3): p. 1019-27.
59. Rule, K.L. and P.J. Vikesland, Surface-Enhanced Resonance Raman Spectroscopy for the Rapid Detection of *Cryptosporidium parvum* and *Giardia lamblia*. *Environmental Science & Technology*, 2009. **43**(4): p. 1147-1152.

The Importance of Environment European Funds Implementation towards Ensuring Durable Economic Development in Romania

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Protecting and safeguarding the environment has an important role in close connection with Romania's sustainable development, which is seriously conditioned by environmental protection. Sustainable development cannot be achieved without protecting the environment. The environment should be one of the population's top priorities, because it is the result of the interference between natural elements - earth, air, water, climate, and biosphere - and the elements created by human activity. The interaction between natural and man-made elements has a big influence on favorable conditions and the possibilities of future generations' development. Another important part in the implementation of the European Union's environmental policy is represented by the financial elements created in order to enhance environmental performances.

Keywords: environmental protection; structural funds; sustainable development; environmental economics.

1. Introduction

Considering the latest damages to the environment, a considerable increase in involvement and responsibility of international players was imperative for quite some time. The first concerns towards the environment appeared in the European Union in the early 1970s, when the EU's environmental policy was created through the Treaty of the European Community, with the main purpose of ensuring the sustainability of environmental protection measures.

Through the Maastricht Treaty, environmental protection becomes one of the European Union's key priorities, signaling the necessity of integrating and implementing the environmental policy in some of the sectorial policies such as agriculture, energy, industry, transportation. At the same time, the sustainable development concept is brought to light, representing the environmental policy's main pillar that was intended to be a transversal policy that included all the other community's policies. This underlined the need of integrating the requests of environmental protection in defining and implementing all the European policies.

The concept of sustainable development, promoted worldwide by the European Union, and thus becoming a global promoter of sustainable development, has implemented mechanisms and policies which allow both economic development and environment conservation. This was done by simultaneously increasing the degree of responsibility and economic efficiency towards minimizing environment damage reduction costs due to human consumption. The policy of the EU in this field has gradually evolved, from minimal environmental protection measures to taking on greater environmental problems, through complex and specific solutions. Thus, in 1972, as a result of environmental Conference held by the United Nations, the first stages in achieving an environmental policy for the EU area have been outlined, an environmental policy framework being created through the first "Environmental Action Program" (EAP 1), when the "sustainable development" concept substantiates.

Environmental Action Program 1 (EAP 1) had the following objectives: preventing, reducing and limiting environmental damage; ecological balance preservation; sensible use of natural resources, by

taking into consideration the following general principles, which sit even now at the base of environmental policy, these being *prevention, action at the source* and *polluter pays*¹⁴².

The following Environmental Action Programs brought several contributions to attain environmental policies:

- Environmental Action Program 2 (1978 - 1982) brings back into focus EAP 1's objectives;
- Environmental Action Program 3 (1982 - 1986) changes the approach, the program evaluates how environmental policies have an influence on the Internal Market, pollutant emissions standards, emission limit values are suggested¹⁴³;

- Environmental Action Program 4 (1987 - 1992) was interested in coordinating environmental objectives with Internal Market development, environmental protection was seen as an integrated activity into the production process, new instruments appear (taxes, subventions, environmental permit commerce), and the sustainable development becomes a normative reference for the environmental policy;

- Environmental Action Program 5 (1993 – 1990), sustainable development becomes a strategy for the environmental policy, fiscal and economic instruments are introduced and partner consulting arises, replacing the approach based on command and control;

- Environmental Action Program 6 (2001 - 2012), four priority areas for the environmental policy's next 10 years have been highlighted: climate change, nature and biodiversity protection environment and health, natural resources conservation and waste management¹⁴⁴;

- Environmental Action Program 7 (2013 - 2020) created a general framework for all EU's environmental policies, from now on until 2020. The program is consistent with the current strategy Europe 2020 and has nine priority objectives; three of them cover the main action domains: protecting the nature; a more efficient use of resources and creating a low carbon emission economy; protecting human health against environmental issues. Other four objectives focus on measures that EU and member states can take in order to accomplish these desires. The last two objectives aim for urban environment improvement and global cooperation¹⁴⁵.

Art. 174 of the European Community Treaty set the objectives which form the base of environmental policy construction. Thus, it is established that the environmental European policy objectives are: conservation, protecting and improving environmental quality; human health protection; cautious and sensible use of human resources; nationally promoting measures to solving regional environmental issues and not only.

Some financial instruments have been used for the implementation of EU's environmental policy's objectives: The Life Program, Life+, Eco-innovation program, Sectorial Operational Environmental Program 2007-2013, etc.

2. Romania's Sectorial Environmental Program during the funding period, 2007 – 2013

As a member state of the European Union, Romania benefited, before and after joining the EU, from European funds during its development process, this being Romania's chance of catching up with other member states' socio-economical development and becoming competitive among member states.

Being implemented using own contribution principle (EU offers a percentage of the total costs and the member state commits to sustaining its own contribution from these costs), European funds represent a net gain for Romania - development objectives can have relatively lower costs than if done outside the European funding.

Within the financing stage of 2007 - 2013, the European Union funded Romania with over 19 billion euro, to which the national contribution of about 5 billion euro has been added so, the total budget was up to over 24 billion euro.

National Development Plan (NDP) was created to adjust the national development policy to the European development priorities which are found in the EU's Cohesion Policy. More precisely, through the National Development Plan, public investments have been prioritized, being brought up to date

¹⁴² Lenschow, A., Environmental Policy In: H. Wallace, W. Wallace und M. Pollack (Hg.), *Policy Making in the European Union*, 5th edition, Oxford: Oxford University Press, 2005, p. 305-327.

¹⁴³ Hey, Ch., *EU Environmental Policies: A short history of the policy strategies*, in Scheuer, Stefan (ed.), *EU Environmental Policy Handbook. A Critical Analysis of EU Environmental Legislation. Making it accessible to environmentalists and decision makers*, Brussels: European Environmental Bureau, 2005.

¹⁴⁴ Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme.

¹⁴⁵ Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020, *Living well, within the limits of our planet*, Text with EEA relevance.

with the Structural and Cohesion Funds intervention domains. The National Strategic Reference Framework was created based on the National Development Plan - the document which established the strategic intervention domains of structural instruments and of Operational Programs designed for administrating and implementing structural funding. The following Operational Programs through which the National Strategic Reference Framework's priorities were implemented are: Sectorial Operational Program (SOP) and the Regional Operational Program (ROP).

The Environmental Sectorial Operational Program¹⁴⁶ has been officially submitted to the European Commission by the Romanian authorities on the 31st of January, 2007 and it has been conducted in close connection with the national strategic objectives of the National Development Plan composed between 2007 – 2013 and the National Strategic Reference Framework, which was based on the principles, practices and objectives established at EU level. The Environmental Sectorial Operational Program was conceived to represent the base of a more competitive economy, a better environment and a balanced regional development. The Environmental Operational Program's aim was to fulfill the priorities of the EU's environmental and infrastructure development policies, taking into consideration not only Romania's international commitments but also its national interests. Through the program, national environmental infrastructure development programs were also continued and finalized which began during the EU pre-accession, such as PHARE and ISPA. The Environmental Sectorial Operational Program tried to establish efficient management structures for the relevant services considering environmental protection, there were

The protection and improvement of environment quality and Romania's life standards were prioritized through the global objective of the Environmental Sectorial Operational Program's, trying to get in line with the environmental acquis stipulations by reducing the existing gap between EU and Romania regarding environmental infrastructure, quantity wise, as well as quality wise, developing efficient public services, by taking into consideration the principle of sustainable development and "the polluter pays" principle.

Besides the global principle, the Environmental Sectorial Operational Program has established the following specific objectives:

- a. Quality improvement and access to the potable and waste water infrastructure, by providing water supply services and sewage services, in the majority of urban areas and establishing efficient regional structures for potable and waste water management.
- b. Creating premises to facilitate adequate implementation for investment projects in the potable water/waste water, related to the next financial programming period.
- c. Developing durable waste management systems by improving waste management and reduction of the number of historically polluted areas in at least 30 counties, objective which should have been accomplished by 2015.
- d. Reducing the negative impact towards the environment and diminishing climate changes caused by urban heating systems in the most polluted urban areas, also due by 2015.
- e. Preserving biodiversity and natural heritage by supporting the management of protected areas, also through Nature 2000 network implementation.
- f. Reducing the risk of natural disasters that affect the population by implementing prevention measures in the most vulnerable areas, by 2015.

In order to achieve the afore-mentioned objectives, the following priority axis were identified:

- ✚ Priority axis 1: Extension and modernization of potable water and waste water systems.
- ✚ Priority axis 1A: Support for the infrastructure development in the potable water/waste water sector related to the next period of financial programming.
- ✚ Priority axis 2: Development of integrated waste management systems and rehabilitation of historically contaminated sites.
- ✚ Priority axis 3: Reduction pollution and diminishing climate change by restructuring and rehabilitating urban heating systems, in view of reaching energy efficiency targets in the identified local environmental hotspots.
- ✚ Priority axis 4: Implementation of adequate management systems for nature protection.
- ✚ Priority axis 5: Implementation of adequate infrastructure of natural risk prevention in the most vulnerable areas.
- ✚ Priority axis 6: Technical Assistance.

The general strategy of the SOP Environment was created so that it could respond to the following three main strategic directions:

¹⁴⁶ The Environmental Sectorial Operational Program 2007 – 2013, August 2015 version.

• Access improvement to public utilities in Romania and supporting regional economic development: the aim was to improve the integrated water systems and waste management through a regional approach (priority axis 1 and 2), with the most costly investments (a total of 4.150.629.473 euro with a share of 75.95% of the entire financial cost).

• Improving protection of the environment as a prerequisite for sustainable development; the program focused on preventing pollution and damage to the biodiversity (in particular priority axis 2, 4 and 5) on one hand and, on the other hand, the SOP Environment approached reduction of environmental pollution/damages in the most sensitive areas (urban heating – priority axis 3, prevention of natural risks – priority axis 5) as part of long-term investment strategies (after 2013).

• Strengthening institutional capacity and governance as a key priority, with the purpose of developing an efficient management structure for environmental services, the SOP Environment addressed requests for a better quality and efficiency within the public sector, essential for enhancing reforms and a better governance in the environment sector. Governance is a key element which integrates all actions with the interest of a better management, a more efficient the SOP Environment and for improving the quality of environmental policy-making process. This will contribute not only to the enhancement of EU cohesion policy implementation, but also of overall economic performance.

In this context, the financial allocation (see table no. 1) of the SOP Environment for the period between 2007-2013 focused on collective investments and services, which were necessary for long-term competitive growth, creating new jobs and sustainable development. Creating an efficient water and environmental infrastructure developed favorable environment for new jobs (construction, services, SME, etc.), reducing labor migration, thus offering the local population the possibility of developing businesses or attracting other investors by offering competitive local advantages (cheaper resources, valuable natural areas, etc.), public services quality growth, etc.

Table no. 1 – The SOP Environment financial plan, programming period 2007 – 2013, for each priority axis¹⁴⁷

Priority axis	Community financing (Euro)	National contribution (Euro)	Total financing (Euro)	Co-financing rate %	Share within the program	
					UE%	BS%
Priority axis 1	2.776.532.160	372.891.796	3.149.423.956	88,16	62,92	47,89
Priority axis 1A	100.000.000	22.728.555	122.728.555	81,48	2,27	2,92
Priority axis 2	734.223.079	144.253.883	878.476.962	83,58	16,64	18,53
Priority axis 3	229.268.644	159.371.487	388.640.131	58,99	5,20	20,47
Priority axis 4	171.988.693	19.109.855	191.098.548	90,00	3,90	2,45
Priority axis 5	270.017.139	45.822.236	315.839.375	85,49	6,12	5,88
Priority axis 6	130.440.423	14.493.381	144.933.804	90,00	2,95	1,86
Total	4.412.470.138	778.671.193	5.191.141.331	85,00	100	100

In comparison to the 2007 – 2013 financing stage, when environmental investments were found in an Operational Program, based on 6 priority axis, during the 2014 – 2020 financial stage there will be a continuation and completion of environmental investments that have been previously started. New investments will be made through a general program – The Large Infrastructure Operational Program (LIOP) composed of only three priority axis. The Large Infrastructure Operational Program (LIOP) addresses the developing needs of four sectors: transport infrastructure, environmental protection, risk management and adaptation to climate change, energy and energetic efficiency, contributing to the EU's strategy for an intelligent, sustainable and inclusive growth, by financing 4 of the 11 thematic objectives (TO) set in the Regulation no. 1303 from 2013. Only one strategic objective has environmental protection financing as priority: Thematic Objective – TO6, which will be promoting investments in potable water and waste water systems, waste integrated management, biodiversity protection and air quality monitoring.

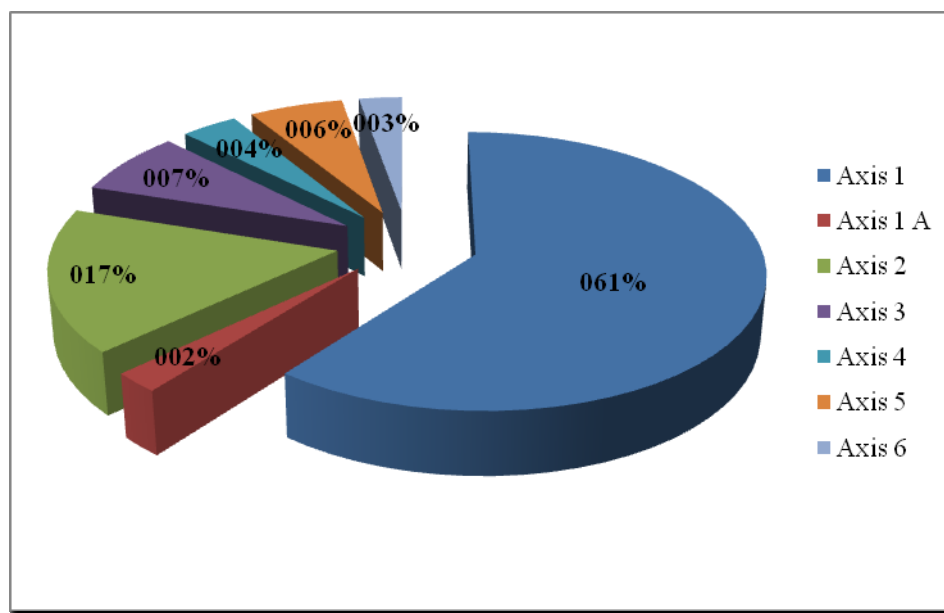
The total financial allocation for the environment in the 2014 – 2020 financial stage, in The Large Infrastructure Operational Program (LIOP), for the three priority axis dedicated to the environment, will be of 4.466.704.830 euro, of which the Community financing will consist of 3.796.699.104 euro and the national financing will consist of 670.005.726 euro.

The allocation of environmental financial resources is made from the Cohesion Fund and the European Fund for Regional Development/Thematic Objective 6, which covers part of investment needs for the compliance with waste, water/wastewater and biodiversity European directives, being

¹⁴⁷ Data extracted from the Environmental Sectorial Operational Program, 2007 – 2013, August 2015.

also focused on finalizing projects that began in 2007 – 2013 and also for covering the investment needs for prevention and defense against phenomena generated by climate change.

Figure no. 1 – The total value of financial allocations per priority axis (%)



3. The Environmental Sectorial Operational Program: Achievements and Implementation in Romania

After Romania's EU accession in 2007, structural funds have been an extraordinary chance towards the development and recovery of functional gaps and environmental infrastructure. The extent to which our country has succeeded or not to seize this historic opportunity is defined by the absorption rate, the institutional capacity of putting to these financial instruments work for the benefit of each citizen and every community, in the 2007-2013 programming period. From the beginning of the program until the 31st March 2016, 776 projects were submitted, with a total value of 8.665.635.568,95 euro out of which, the EU contribution of 5.476.068.395,88 euro represented 124,1% of EU allocation for 2007-2013 period. Of the total 776 projects until 31st March 2016, 594 projects were approved with the total value of 8.236.697.496, 48 euro of which, 326 projects for public beneficiaries, a share of 54,88% of the total approved projects and 268 projects for private beneficiaries.

Related to the counties (Table no. 2), a large number of projects have been approved for Bucharest – 200 projects, representing 33, 67% of the total of 594 approved projects, most of which were public beneficiaries' projects with a total of 184 projects and, on the second place, very far behind, Cluj with a total of 23 projects. Brăila, Călărași and Teleorman were the counties with the least approved projects, 3 for each of them. At the region level (Table no. 6), Bucharest-Ilfov region took a comfortable 1st place with a total of 207 approved projects, representing 34, 84 % of the total of 594 approved projects. The Muntenia-South region registered the lowest number of only 37 approved projects.

Related to the total value of the Environmental Sectorial Operational Program projects (Table no. 3), in the amount of 8.236.697.496,48 euro, private beneficiaries have manifested greater interest in the program implementation than public beneficiaries. Even though they had a smaller number of approved projects, their share of the total value was larger, in the amount of 5.534.359.980, 35 euro, meaning 67,19% of the total amount. The highest total value approved at the county level was Bucharest's, with a total amount of 762.176.192,46 euro, representing 9,25% of the total amount, followed by Constanța with a value of 478.425.702,03 euro, representing 5,8% of the total amount. The last place goes to Sălaj with a value of 30.632.974,29 euro, representing 0,37% of the total amount. On the other hand, at the region level (Table no. 6), the North-East region had the largest total number of approved projects in the amount of 1.311.010.429,91 euro, representing 15,91% of the total amount. The lowest rate went to West-Oltenia region with a total value of 849.170.287, 42 euro, representing 10, 3% of the total value.

The total payment value by 31st of March 2016 from EU and state financing towards the program's beneficiaries was 3.528.937.833,67 euro (Table no. 5), of which 2.961.933.303,25 euro EU financing (Table no. 4), representing 83,93% of the total payment value and 567.004.530,42 euro state financing (Table no. 5), representing 16,07% of the total payment value.

The largest share of the EU financing payments went towards the private beneficiaries, in the amount of 2.065.714.555,96 euro, representing 69,74% of the value of EU financing, share value that was also kept regarding national financing, in the amount of 306.973.588,53 euro, representing 54,14% of the total payments of the national financing.

At county level, EU financing payments related, Constanta county was ranked first with a level of revenue of 246.738.977,60 euro, last place going to Salaj County, with only EUR 15.386.096,88 received; and regarding payments to beneficiaries of funding from the state budget, the first place was occupied by Constanța with a revenue of EUR 39.083.943,54; assuming the last place with only 3,385,153,54 euro in payments related to financing from state budget, is also Sălaj County.

Table no. 2 - Number of approved projects SOP Environment programming period 2007-2013 for each county until the reporting date 31.03.2016

No.	County	Number of projects			No. Crt.	County	Number of projects		
		Public	Private	Total			Public	Private	Total
1	Alba	2	8	10	22	Harghita	3	9	12
2	Arad	2	11	13	23	Hunedoara	1	8	9
3	Argeș	3	6	9	24	Iași	3	8	11
4	Bacău	6	8	14	25	Ilfov	2	5	7
5	Bihor	8	6	14	26	Maramureș	6	4	10
6	Bistrița-Năsăud	3	7	10	27	Mehedinti	4	8	12
7	Botoșani	2	4	6	28	Mureș	5	5	10
8	Brașov	0	8	8	29	Neamt	6	6	12
9	Brăila	1	2	3	30	Olt	3	3	6
10	București	184	16	200	31	Prahova	5	2	7
11	Buzău	4	4	8	32	Sălaj	4	0	4
12	Călărași	1	2	3	33	Satu Mare	0	4	4
13	Caraș-Severin	3	5	8	34	Sibiu	2	3	5
14	Cluj	12	11	23	35	Suceava	2	8	10
15	Constanța	3	11	14	36	Teleorman	0	3	3
16	Covasna	4	5	9	37	Timiș	7	3	10
17	Dambovita	3	6	9	38	Tulcea	9	9	18
18	Dolj	5	22	27	39	Vâlcea	3	9	12
19	Galati	3	5	8	40	Vaslui	2	6	8
20	Giurgiu	2	4	6	41	Vrancea	4	7	11
21	Gorj	4	7	11		Total	326	268	594

Table no. 3 - The value of projects approved SOP Environment programming period 2007-2013 for each county until the reporting date 31.03.2016

No.	County	Value of projects (euro)		
		Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
1	Alba	60.411.757,82	116.461.600,38	176.873.358,20
2	Arad	33.536.947,32	141.377.849,57	174.914.796,88
3	Argeș	24.869.325,32	126.199.979,01	151.069.304,33
4	Bacău	131.974.961,48	148.279.700,52	280.254.661,99
5	Bihor	155.701.256,45	124.090.031,27	279.791.287,71
6	Bistrița-Năsăud	43.484.307,57	111.186.347,68	154.670.655,25
7	Botoșani	16.877.162,61	170.608.633,67	187.485.796,28
8	Brașov	-	170.802.287,78	170.802.287,78
9	Brăila	26.243.391,25	95.026.457,78	121.269.849,03
10	București	442.613.094,00	319.563.098,47	762.176.192,46
11	Buzău	1.560.465,86	122.450.882,60	124.011.348,46
12	Călărași	37.763.561,87	99.853.656,79	137.617.218,66
13	Caraș-Severin	42.296.873,62	127.352.283,54	169.649.157,16
14	Cluj	106.569.820,89	259.532.032,29	366.101.853,18
15	Constanța	188.992.780,00	289.432.922,04	478.425.702,03
16	Covasna	31.849.155,15	82.800.147,40	114.649.302,54
17	Dambovita	10.368.177,86	153.832.852,80	164.201.030,66
18	Dolj	65.909.395,67	221.322.544,16	287.231.939,84

No.	County	Value of projects (euro)		
		Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
19	Galati	2.713.460,04	154.863.332,51	157.576.792,55
20	Giurgiu	22.846.132,61	61.600.149,41	84.446.282,02
21	Gorj	6.711.837,55	76.834.159,95	83.545.997,50
22	Harghita	50.802.988,59	93.854.879,07	144.657.867,66
23	Hunedoara	70.526.139,76	182.065.660,72	252.591.800,48
24	Iasi	186.407.784,13	157.630.290,33	344.038.074,46
25	Ilfov	97.970.140,70	2.159.202,27	100.129.342,97
26	Maramures	92.636.790,99	153.315.951,94	245.952.742,93
27	Mehedinti	27.250.813,81	88.691.444,27	115.942.258,08
28	Mures	89.924.460,33	123.546.455,10	213.470.915,43
29	Neamt	42.001.713,16	129.541.953,68	171.543.666,84
30	Olt	40.297.211,74	76.362.137,03	116.659.348,77
31	Prahova	44.032.838,51	183.768.792,01	227.801.630,52
32	Sălaj	30.632.974,29	-	30.632.974,29
33	Satu Mare	-	95.584.059,67	95.584.059,67
34	Sibiu	22.310.522,81	206.993.602,74	229.304.125,56
35	Suceava	52.365.269,22	110.543.307,05	162.908.576,28
36	Teleorman	-	113.690.444,20	113.690.444,20
37	Timiş	110.679.427,61	156.033.115,44	266.712.543,05
38	Tulcea	73.748.568,91	119.890.006,48	193.638.575,38
39	Vâlcea	112.659.601,58	133.131.141,66	245.790.743,24
40	Vaslui	26.524.303,33	138.255.350,74	164.779.654,06
41	Vrancea	78.272.101,75	95.831.236,35	174.103.338,10
	Total	2.702.337.516,13	5.534.359.980,35	8.236.697.496,48

Table no. 4 - The amount of payments to beneficiaries of EU funding SOP Environment programming period 2007-2013 for each county until the reporting date 03.31.2016

No.	County	Value payments to beneficiaries - Community financing (euro)		
		The value of public projects (euro)	The value of private projects (euro)	The total project value (euro)
1	Alba	11.000.265,71	59.128.380,16	70.128.645,86
2	Arad	16.285.739,73	42.534.596,05	58.820.335,78
3	Argeş	8.907.867,03	40.142.771,67	49.050.638,70
4	Bacău	32.756.630,64	67.941.306,74	100.697.937,37
5	Bihor	42.448.204,34	28.688.395,21	71.136.599,54
6	Bistrita-Năsăud	22.455.191,21	41.708.641,10	64.163.832,31
7	Botoşani	28.933.541,45	20.967.946,59	49.901.488,04
8	Braşov	0,00	61.931.789,42	61.931.789,42
9	Brăila	10.521.329,55	48.609.432,79	59.130.762,34
10	Bucureşti	131.818.577,84	12.696.068,88	144.514.646,72
11	Buzău	1.107.939,23	63.234.889,89	64.342.829,11
12	Calarasi	11.290.797,91	52.501.126,55	63.791.924,45
13	Caraş-Severin	12.514.480,43	21.547.462,31	34.061.942,74
14	Cluj	27.299.955,33	135.051.476,65	162.351.431,99
15	Constanta	100.796.135,52	145.942.842,08	246.738.977,60
16	Covasna	11.834.065,03	35.576.851,51	47.410.916,54
17	Dambovita	5.939.217,15	54.327.629,29	60.266.846,44
18	Dolj	29.418.573,50	69.516.625,82	98.935.199,32
19	Galati	275.823,30	75.520.204,57	75.796.027,87
20	Giurgiu	12.255.340,69	34.020.552,07	46.275.892,76
21	Gorj	2.486.282,91	34.314.660,43	36.800.943,34
22	Harghita	9.630.501,15	34.178.299,13	43.808.800,28
23	Hunedoara	29.903.043,36	88.911.499,07	118.814.542,43
24	Iasi	62.534.083,57	57.059.263,24	119.593.346,81
25	Ilfov	232.561,58	48.504.341,96	48.736.903,54
26	Maramures	24.954.428,84	55.474.124,66	80.428.553,50
27	Mehedinti	8.373.820,14	9.689.288,11	18.063.108,25
28	Mures	28.305.452,58	50.213.182,88	78.518.635,46
29	Neamt	18.767.634,05	46.940.497,58	65.708.131,63
30	Olt	16.690.381,67	33.631.553,25	50.321.934,92
31	Prahova	10.698.465,73	43.045.681,71	53.744.147,44
32	Sălaj	15.386.096,88	-	15.386.096,88
33	Satu Mare	0,00	37.751.963,28	37.751.963,28
34	Sibiu	10.878.818,59	102.240.216,18	113.119.034,77
35	Suceava	20.457.483,87	54.707.735,58	75.165.219,45

No.	County	Value payments to beneficiaries - Community financing (euro)		
		The value of public projects (euro)	The value of private projects (euro)	The total project value (euro)
36	Teleorman	0,00	52.628.728,81	52.628.728,81
37	Timiș	43.815.366,50	44.972.478,22	88.787.844,72
38	Tulcea	16.356.488,68	59.376.204,58	75.732.693,26
39	Vâlcea	24.842.332,74	37.422.315,31	62.264.648,05
40	Vaslui	12.270.019,21	10.747.317,60	23.017.336,80
41	Vrancea	21.775.809,68	52.316.215,02	74.092.024,70
	Total	896.218.747,29	2.065.714.555,96	2.961.933.303,25

Table no. 5 - The amount of payments to beneficiaries of funding from the state budget and total amount of payments of Community funding and the state budget the SOP Environment programming period 2007-2013 for each county until the reporting date 03.31.2016

No.	County	Value payments to beneficiaries - State budget (euro)			Payments Community financing + state budget
		The value of public projects (euro)	The value of private projects (euro)	The total project value (euro)	
1	Alba	2.495.541,55	9.118.398,46	11.613.940,01	81.742.585,88
2	Arad	2.763.023,85	5.925.717,96	8.688.741,82	67.509.077,59
3	Argeș	2.143.633,24	6.077.543,23	8.221.176,47	57.271.815,17
4	Bacău	23.385.478,86	7.331.962,86	30.717.441,72	131.415.379,09
5	Bihor	27.331.702,99	3.900.615,13	31.232.318,12	102.368.917,66
6	Bistrita-Năsăud	5.035.074,16	6.238.468,15	11.273.542,31	75.437.374,62
7	Botoșani	15.001.215,05	3.167.153,32	18.168.368,37	68.069.856,41
8	Brașov	0,00	9.595.385,82	9.595.385,82	71.527.175,25
9	Brăila	2.113.454,84	7.618.017,87	9.731.472,71	68.862.235,05
10	București	24.383.201,03	1.687.405,55	26.070.606,58	170.585.253,30
11	Buzău	161.589,51	9.260.853,78	9.422.443,28	73.765.272,39
12	Calarăși	2.540.429,53	8.029.584,07	10.570.013,60	74.361.938,06
13	Caras-Severin	2.808.942,31	2.050.018,09	4.858.960,40	38.920.903,14
14	Cluj	5.318.088,30	19.903.215,71	25.221.304,02	187.572.736,00
15	Constanta	16.967.922,37	22.116.021,17	39.083.943,54	285.822.921,14
16	Covasna	2.287.324,74	5.511.887,58	7.799.212,32	55.210.128,86
17	Dambovita	1.320.090,16	8.219.593,14	9.539.683,30	69.806.529,74
18	Dolj	5.471.794,14	9.365.868,95	14.837.663,09	113.772.862,41
19	Galati	47.992,05	11.397.201,47	11.445.193,51	87.241.221,39
20	Giurgiu	2.751.565,31	5.146.032,11	7.897.597,43	54.173.490,18
21	Gorj	276.253,66	4.728.116,44	5.004.370,10	41.805.313,44
22	Harghita	5.388.171,16	1.935.760,32	7.323.931,48	51.132.731,76
23	Hunedoara	5.592.936,92	11.701.495,04	17.294.431,97	136.108.974,40
24	Iași	9.696.793,05	16.550.845,02	26.247.638,07	145.840.984,88
25	Ilfov	25.840,28	6.927.143,62	6.952.983,90	55.689.887,44
26	Maramureș	3.918.649,75	8.353.422,74	12.272.072,49	92.700.625,99
27	Mehedinti	1.460.638,07	1.509.911,90	2.970.549,97	21.033.658,22
28	Mureș	6.295.280,02	7.165.662,34	13.460.942,36	91.979.577,82
29	Neamt	4.169.999,33	6.893.214,37	11.063.213,70	76.771.345,33
30	Olt	3.886.828,06	5.125.661,39	9.012.489,45	59.334.424,37
31	Prahova	2.175.725,71	6.556.140,21	8.731.865,91	62.476.013,36
32	Sălaj	3.385.153,54	-	3.385.153,54	18.771.250,42
33	Satu Mare	0,00	5.657.388,84	5.657.388,84	43.409.352,12
34	Sibiu	2.433.334,30	15.525.595,51	17.958.929,81	131.077.964,58
35	Suceava	3.975.428,68	8.211.860,60	12.187.289,29	87.352.508,74
36	Teleorman	0,00	8.012.649,80	8.012.649,80	60.641.378,61
37	Timiș	22.447.680,29	6.505.590,58	28.953.270,87	117.741.115,59
38	Tulcea	3.761.423,82	9.264.859,22	13.026.283,04	88.758.976,30
39	Vâlcea	20.770.018,18	5.422.930,85	26.192.949,03	88.457.597,08
40	Vaslui	2.756.023,40	1.232.624,56	3.988.647,97	27.005.984,77
41	Vrancea	13.286.699,64	8.031.770,78	21.318.470,42	95.410.495,12
	Total	260.030.941,89	306.973.588,53	567.004.530,42	3.528.937.833,67

Table no. 6 - Projects approved by the SOP Environment programming period 2007-2013 for each region up to the reporting date 31.03.2016

Region	Number of projects			The value of the projects (euro)		
	Public	Private	Total	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
Center	16	38	54	255.298.884,70	794.458.972,46	1.049.757.857,16
West	13	27	40	257.039.388,30	606.828.909,26	863.868.297,56
South-Muntenia	14	23	37	139.880.036,18	738.945.874,22	878.825.910,40
North-East	21	40	61	456.151.193,92	854.859.235,99	1.311.010.429,91
North-West	33	32	65	429.025.150,19	743.708.422,85	1.172.733.573,04
South-East	24	38	62	371.530.767,80	877.494.837,75	1.249.025.605,56
Bucharest-Ilfov	186	21	207	540.583.234,70	321.722.300,73	862.305.535,43
South-West Oltenia	19	49	68	252.828.860,35	596.341.427,07	849.170.287,42
Total	326	268	594	2.702.337.516,14	5.534.359.980,35	8.236.697.496,48

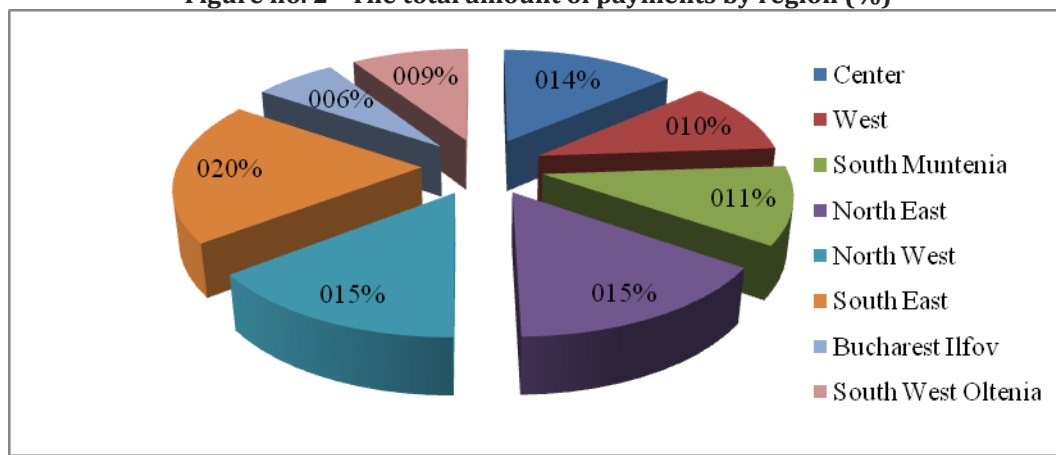
At region level, related to the community financing payments (Table no. 7), South-East region came in first with a level of revenue of 595.833.314,88 euro, a percentage of 20,11% of the community funding payments; last place went to Bucharest - Ilfov region, with only 193.251.550,27 euro received, a percentage of 6,52 % of the payments of Community financing; regarding payments to beneficiaries of funding from the state budget (Table no. 8), the first place was occupied by the South-East region, with a revenue of 104.027.806,51 euro, a percentage of 18,34 % of the payments related to financing from state budget, last place going to the Bucharest - Ilfov region, in the amount of just 33.023.590,48 euro, representing a percentage of 5,82 % of payments financing from state budget.

Table no. 7 - The amount of payments to beneficiaries of EU funding under the SOP Environment, the 2007-2013 programming period for each region up to the reporting date 03.31.2016

Region	Payments value to beneficiaries - Community financing (euro)		
	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
Center	71.649.103,06	343.268.719,28	414.917.822,34
West	102.518.630,01	197.966.035,65	300.484.665,66
South Muntenia	49.091.688,51	276.666.490,10	325.758.178,61
North East	175.719.392,79	258.364.067,32	434.083.460,11
North West	132.543.876,60	298.674.600,90	431.218.477,50
South East	150.833.525,95	444.999.788,93	595.833.314,88
Bucharest Ilfov	132.051.139,42	61.200.410,84	193.251.550,27
South West Oltenia	81.811.390,96	184.574.442,92	266.385.833,88
Total	896.218.747,29	2.065.714.555,96	2.961.933.303,25

Table no. 8 - The amount of payments to beneficiaries of funding from the state budget and total amount of payments of Community funding and the state budget the SOP Environment 2007-2013 programming period for each region up to the reporting date 31.03.2016

Region	Value payments to beneficiaries - State budget (euro)			Total payments Community financing + state budget
	Value of public (euro)	Value of private projects (euro)	Total value of projects (euro)	
Center	18.899.651,78	48.852.690,03	67.752.341,81	482.670.164,15
West	33.612.583,38	26.182.821,68	59.795.405,06	360.280.070,72
South Muntenia	10.931.443,95	42.041.542,56	52.972.986,51	378.731.165,12
North East	58.984.938,38	43.387.660,73	102.372.599,12	536.456.059,23
North West	44.988.668,75	44.053.110,57	89.041.779,31	520.260.256,81
South East	36.339.082,23	67.688.724,28	104.027.806,51	699.861.121,39
Bucharest Ilfov	24.409.041,31	8.614.549,17	33.023.590,48	226.275.140,75
South West Oltenia	31.865.532,11	26.152.489,52	58.018.021,63	324.403.855,51
Total	260.030.941,89	306.973.588,53	567.004.530,42	3.528.937.833,67

Figure no. 2 - The total amount of payments by region (%)

Related to the priority areas, funding was achieved on target areas, represented by funding allocation to each Priority Axis of the SOP Environment.

Analyzing the implementation of SOP Environment from the priority axis perspective, we find that there are still discrepancies between the priorities, particularly with regard to the employment of amounts available under the financing agreements and the different degree of difficulty of project implementation.

Thus, the contracting rate for the Priority Axes, at the end of 31.03.2016 (Table no. 9), belonged to Priority Axis 1, accounted for 64,37%, only by private beneficiaries in the amount of 5.301.960.519,91 euro.

Regarding payments done based on financing contracts, the highest payment value was recorded for Priority Axis 1, both in terms of payments to beneficiaries of EU funding (Table no. 10) and payments to beneficiaries of funding from the state budget (Table no. 11), the highest amount of payments being recorded for Priority Axis 1, with a value of 1.991.829.163,68 euro in payments, accounting for 67,42% of the total payments to beneficiaries of EU funding, and EUR 293.048.342,30, accounting for 51,68% of the total payments to beneficiaries of funding from the state budget.

Table no. 9 - The number and value of projects approved the SOP Environment 2007-2013 programming period for each priority to the reporting date 31.03.2016

Axis	Number of projects			Value of the projects (euro)		
	Public	Private	Total	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
Priority axis 1	0	94	94	-	5.301.960.519,91	5.301.960.519,91
Priority axis 1A	0	24	24	-	121.538.913,06	121.538.913,06
Priority axis 2.1	32	0	32	1.318.337.555,89	-	1.318.337.555,89
Priority axis 2.2	6	0	6	196.199.836,52	-	196.199.836,52
Priority axis 3	7	0	7	417.313.812,45	-	417.313.812,45
Priority axis 4	70	150	220	116.422.048,60	110.860.547,38	227.282.595,98
Priority axis 5.1	39	0	39	363.275.387,36	-	363.275.387,36
Priority axis 5.2	3	0	3	142.267.775,20	-	142.267.775,20
Priority axis 6.1	145	0	145	116.662.634,16	-	116.662.634,16
Priority axis 6.2	24	0	24	31.858.465,95	-	31.858.465,95
Total	326	268	594	2.702.337.516,14	5.534.359.980,35	8.236.697.496,48

Table no. 10 - The amount of payments to beneficiaries of EU funding under the SOP Environment, the 2007-2013 programming period, Community for each axis until the reporting date 31.03.2016

Axis	Value of payments to beneficiaries - Community financing (euro)		
	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
Priority axis 1	1.991.829.163,68	-	1.991.829.163,68
Priority axis 1A	11.368.646,70	-	11.368.646,70
Priority axis 2.1	-	425.383.093,34	425.383.093,34
Priority axis 2.2	-	44.690.993,93	44.690.993,93
Priority axis 3	-	128.207.099,74	128.207.099,74

Axis	Value of payments to beneficiaries - Community financing (euro)		
	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)
Priority axis 4	62.516.745,57	50.922.257,93	113.439.003,50
Priority axis 5.1	-	141.839.677,56	141.839.677,56
Priority axis 5.2	-	85.860.290,72	85.860.290,72
Priority axis 6.1	-	17.135.419,66	17.135.419,66
Priority axis 6.2	-	2.179.914,42	2.179.914,42
Total	2.065.714.555,96	896.218.747,29	2.961.933.303,25

Table no. 11 - The amount of payments to beneficiaries of funding from the state budget and total amount of payments of Community funding and the state budget SOP Environment 2007-2013 programming period for each axis Community to the reporting date 31.03.2016

Axis	Value of payments to beneficiaries - State budget (euro)			Total payments Community financing + state budget
	Value of public projects (euro)	Value of private projects (euro)	Total value of projects (euro)	
Priority axis 1	293.048.342,30	-	293.048.342,30	2.284.877.505,98
Priority axis 1A	2.378.935,84	-	2.378.935,84	13.747.582,54
Priority axis 2.1	-	88.569.237,27	88.569.237,27	513.952.330,61
Priority axis 2.2	-	7.484.462,96	7.484.462,96	52.175.456,89
Priority axis 3	-	110.552.610,00	110.552.610,00	238.759.709,74
Priority axis 4	11.546.310,39	10.919.601,55	22.465.911,94	135.904.915,44
Priority axis 5.1	-	23.606.879,71	23.606.879,71	165.446.557,27
Priority axis 5.2	-	14.600.818,55	14.600.818,55	100.461.109,27
Priority axis 6.1	-	3.577.371,50	3.577.371,50	20.712.791,16
Priority axis 6.2	-	719.960,36	719.960,36	2.899.874,77
Total	306.973.588,53	260.030.941,89	567.004.530,42	3.528.937.833,67

Analyzing the previously mentioned tables in comparison to the situation of financial allocations, a relatively improper use of financial allocations related to the environmental sector can be appreciated.

Absorption capacity "is the degree to which a country is able to spend the financial resources allocated from the Structural Funds in an effective and efficient way"¹⁴⁸. Absorption capacity depends on administrative and institutional capacity, namely the existence of institutional structure able to develop and implement projects, and the capacity for coordination and correlation between the institutions involved.

Within the priority axes, the funds absorption rate was low, therefore the community financing (Table no. 12) was only 67,13% of the funding from the state budget (Table no. 13) to 72,82% and 67,98% of total funding (Table no. 14), due to non-completion of contracted projects, and in some cases the necessary expenses for finalizing the projects would be covered from own sources in accordance with the decisions/financing contracts and different issues encountered in implementing the program.

The problems encountered in implementing the operational program were related primarily to: relatively long duration of the evaluation process of the projects, the poor quality of the documents/ materials developed by consultants, long analysis of technical assistance projects for preparation of project portfolio problems of an institutional nature (late completion for lists of primary investment, agreements for the investments proposed by County Counsel/Local that were obtained late), poor quality of the documents, late response time from beneficiaries. Difficulties were encountered in contracting components of the projects, these being the main problems that incurred during project implementation, as well as overall layout and long durations of procurement procedures, diverging views of the responsible authorities for public procurement, lack of documentation for the awarded project contracts from the date of signing the contract, the difficulties in adapting to standardized documentation.

¹⁴⁸ Oprescu, Gh., (coordinator), *Analysis of the absorption capacity of the EU funds in Romania*, European Institute of Romania – Pre-accession impact studies III, 2006, p. 9.

Table no. 12 - The rate of absorption of funds from the Community financing

Axis	Community financial allocation (euro)	Payments to beneficiaries of EU funding (euro)	The rate of absorption of funds from the Community financing
Priority axis 1	2.776.532.160	1.991.829.163,68	71,74%
Priority axis 1A	100.000.000	11.368.646,70	11,37%
Priority axis 2	734.223.079	470.074.087,27	64,02%
Priority axis 3	229.268.644	128.207.099,74	55,92%
Priority axis 4	171.988.693	113.439.003,50	65,96%
Priority axis 5	270.017.139	227.699.968,28	84,33%
Priority axis 6	130.440.423	19.315.334,08	14,81%
Total	4.412.470.138	2.961.933.303,25	67,13%

Table no. 13 - The rate of absorption of funds from national funding

Axis	National financial allocation(euro)	Payments to beneficiaries of national funding(euro)	The rate of absorption of funds from the national financing
Priority axis 1	372.891.796	293.048.342,30	78,59%
Priority axis 1A	22.728.555	2.378.935,84	10,47%
Priority axis 2	144.253.883	96.053.700,23	66,59%
Priority axis 3	159.371.487	110.552.610,00	69,37%
Priority axis 4	19.109.855	22.465.911,94	117,56%
Priority axis 5	45.822.236	38.207.698,26	83,38%
Priority axis 6	14.493.381	4.297.331,86	29,65%
Total	778.671.193	567.004.530,42	72,82%

Table no. 14 - The rate of absorption of funds from Community funds and the state budget

Axis	Total financial allocation (euro)	Payments to beneficiaries of Community + national funding(euro)	The rate of absorption of funds from the Community + national financing
Priority axis 1	3.149.423.956	2.284.877.505,98	72,55%
Priority axis 1A	122.728.555	13.747.582,54	11,20%
Priority axis 2	878.476.962	566.127.787,50	64,44%
Priority axis 3	388.640.131	238.759.709,74	61,43%
Priority axis 4	191.098.548	135.904.915,44	71,12%
Priority axis 5	315.839.375	265.907.666,54	84,19%
Priority axis 6	144.933.804	23.612.665,94	16,29%
Total	5.191.141.331	3.528.937.833,67	67,98%

Besides the problems listed above, financial mismanagement of projects existed in some circumstances, in terms of failure by beneficiaries, planning and financial forecasts, the deficit of cash flow as a result of identifying irregularities in implementation, the difficulty of implementing the legislation on public procurement, the inability of financially insolvent entrepreneurs to complete the work related to contracts, financial crisis related issues.

These problems determined, by partial use of European funds, a low absorption rate of all structural funds, placing the country among the last Member States regarding the degree of absorption. The low absorption rate of European funds is linked to the inability of the institutions responsible for administering these funds to have effective mechanisms and management systems, suited for engaging in the implementation of a budget, the size of which is unprecedented in the history of fund management by Romania.

4. Conclusion

The end of the 2007 - 2013 funding period, is a moment of evaluation of the impact of projects implemented with the support of Structural Instruments SOP Environment they had nationally by creating opportunities and by financing projects that were able to be implemented through co-financing coming from the European Union.

After the experience with the first round of funding, the use of structural and cohesion funds can be encouraged in the next stage of funding (2014 – 2020), by establishing clearer and simplified procedures, by creating an institutional framework more effective for the next programming period, by bringing to the fore the added value produced in the Romanian economy and society since the implementation of these projects creates prospects for the development and modernization of Romania.

By implementing projects with the support of Structural Instruments SOP, the slogan "a cleaner world" is no longer only a slogan but a goal that each of us conceive and to which we can contribute, thus achieving a crucial intervention by implementing solutions that targeted prevention and

remedying of environmental degradation, which ensure the balance between the need for economic and technological progress of the country and the impact this has on its resources. Therefore, systems of biodiversity development and safeguarding, greening and green areas' increase, community and industrial waste management have been implemented and, not in the least, informing and educating the public related to environmental issues and the measures to be taken.

References

1. Lenschow, A., *Environmental Policy In: H. Wallace, W. Wallace und M. Pollack (Hg.), Policy Making in the European Union, 5th edition, Oxford: Oxford University Press, 2005.*
2. Hey, Ch., *EU Environmental Policies: A short history of the policy strategies, in Scheuer, Stefan (ed.), EU Environmental Policy Handbook. A Critical Analysis of EU Environmental Legislation. Making it accessible to environmentalists and decision makers, Brussels: European Environmental Bureau, 2005.*
3. *Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme.*
4. *Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020, Living well, within the limits of our planet, Text with EEA relevance.*
5. Opreescu, Gh., (coordinator), *Analysis of the absorption capacity of the EU funds in Romania, European Institute of Romania – Pre-accession impact studies III, 2006.*
6. *The Environmental Sectorial Operational Programme, 2007 – 2013, http://www.fonduri-structurale.ro/Document_Files/mediu/00000029/g71qf_POS_Mediu_RO.pdf.*
7. *The Large Infrastructure Operational Programme, 2014 – 2020, <http://www.fonduri-ue.ro/poim-2014>.*

Opportunities and Conditionality in the Development of Fishing Communities in the Lower Prut

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Among all the factors that determine the development of the Romanian economy, alongside measures and levers used on the macroeconomic level, a particular importance is given to the development and application by local communities of strategies that take into account some particularities, restrictions and opportunities of the socio-economic environment, but also their opportunities of strategic action. In this context, taking into account the transformations that dominate the socio-economic environment and the previsions of the evolution of the local economy, we can identify a number of elements that can generate some performance in the fishing industry and complementary activities that could be initiated in rural areas related to this perimeter of the lower Prut floodplain.

Keywords: development, rural economy, fishing community, tradition, complementary activities.

JEL classification: M 21, O 13

1. Introduction

Lower Prut Basin fisheries areas have a special importance in terms of economic and social, [1] of their size, diversity of natural and human resources that we have, impacting directly and indirectly in social development and ensure profitability rural economy. Moreover, fishing can be a profitable activity for the area's economy, given that there are legitimate concerns to ensure economic sustainability, halting poaching, adaptation to permanent changes of nature, etc.

In general, fishing areas are economically weak, with few jobs, from causes related to lack of income or reduced income earned by the population in these areas, deficient public services and infrastructure, limited access to information, [2] as well as the low representation of community interests among local authorities. On the other hand, awareness of the human and material potential is not a sufficient condition for development of rural communities in general, and of the fishery, in particular, but it involves the transformation of the peasant into a key element of the regional economy, and encouraging their entrepreneurial spirit.

Promoting traditional activities as activities generating opportunities for local economic development and diversifying and sustaining activities complementary to fishing is a socio-economic necessity for medium and long term. Such an approach can be an motor of economic growth by creating new jobs and increasing incomes for the rural population, but attention should be focused on economic and social potential of each locality in part by creating and developing modern market infrastructure, adapted to the specificity of the homestead[3].

Considering the genuine potential of the fishing area of Lower Prut due to the existence of a rich, valuable and attractive, natural and human heritage, there can be developed a wide range of activities complementary to fishing, activities that may give an additional value to the economy of the area and which may be a prerequisite for socio-economic development. Fisheries activities have developed a multifunctional dimension [4] and a relevant role in areas such as environment, culture, recreation and tourism, science, energy and education.

The fishing communities in the Lower Prut perimeter play a very important economic and social role in the development of the area. By their specificity, these areas have exploited fishery resources and water surfaces appointed as hatcheries and fish farms, which allow implementation

under appropriate conditions of fishing activities, particularly recreational fishing, recreational and sports fishing.

2. Description of the development framework of fishing communities

The settlements in the territory of the lower Prut floodplain are poorly developed economically and socially, some communes or villages in this area still holding some potential that is not exploited but with many material resources, natural and human. which remain inactive. Within this perimeter there are delineated two territorial structures, each with specific well defined features: a structure located near the city of Galați, with relatively more pronounced economic and social development, with a younger population, whose employment opportunities are given by steel company Mittal Steel, the shipyard Damen, and various public institutions and trade, and the second territorial structure includes towns in northern perimeter, at a considerable distance from Galați, less developed economically and socially which has an aging population, and the main sources of employment of labor are provided by agriculture in a proportion of 80-90%, livestock, fisheries.

Throughout the territory for the lower Prut floodplain there are many problems caused by inadequate management of ponds landscaped as fish farms, but the situation is also difficult in the case of land left derelict or puddle, as Lake Pochina from Rogojeni. In general, municipalities are characterized by an obvious restriction of fishing activities due to various causes, such as the low level of the Prut River, the absence of fish species in the river, numerous privately owned ponds, etc. On the other hand, commercial fishing is practiced in this area for dozens of fishermen, mostly, recreational fishermen, grouped in associations. The fisheries sector is "down" after 1990, causing the bankruptcy of the company Pescogal, and the privatization process was slow, mainly due to the uncertain status of land under water. Currently, there are a few farms that are "fighting" for survival, such as Șovârca farm near Oancea and farm Vlădești. The recreational and sport fishing sector is managed by the County Association of Hunters and Anglers, who took over a few years ago the former production farm Mața – Rădeanu, in the north of the Galați county.

Importantly, both fishing communities and local stakeholders are aware of the untapped potential natural and human resources, somewhat caught in a certain "inertia" inherited and perpetuated, potential that can be engaged in various activities complementary to fishing, activities that can raise the standard of living of residents. It should be noted that in some places in this area there have existed but no longer exist, various kinds of "business" initiated mainly by foreign investors, who have been successful, but for relatively short periods of time - for example in the village Rogojeni there was a crayfish farm, a mushroom farm, and an unfinished initiative of building a typical peasant household to receive amateur fishermen in the surroundings of Galați.

On the fishing communities of the lower Prut floodplain area there was conducted a study where there were applied and synthesized information gathered through a questionnaire.

In order to have a more complete and complex image on the development of economic, social life in the fishing communities, there was considered necessary to conduct this study, which had the following **objectives**:

- shaping community profile and the current limits of fishing activities;
- identifying the target group attitude towards the way in which local authorities are involved in activities specific to local economy;
- establishing the importance and place that would be occupied by activities other than the traditional ones in the developing of fishing communities;
- defining complementary activities in the economy of each locality;
- structuring new insights into economic and social development within the entire perimeter of the lower Prut floodplain;
- identifying possible activities that could be initiated and developed within each locality and ways to improve living standards and life of humans within local economies.

The representative sample was composed of 83 respondents from towns Galați – Port area, Tulucești, Frumușița, Foltești, Măstăcani, Vlădești, Oancea, Suceveni and Cavadinești. In this research, we chose a relatively complex approach, namely issues related to the activities currently carried out in the towns located along the lower Prut floodplain, the role of community - local authorities in the rural economy, the appreciation of the current economic and social context, the role of the processes of information - communication in relation fishermen - factors with local responsibility, the academic community, etc..

3. Analysis of fishing communities in the current socio-economic context

The analysis of the questionnaire highlighted the following characteristics of fishing communities in the analyzed area:

- fishing is a traditional activity, important for rural communities, practiced since ancient times for family maintenance, feeding and environmental protection;
- fishing areas are economically weak, with few jobs and low income;
- fishing activities are developed "gradually" being correlated with the existing and future development of settlements located along the lower Prut floodplain;
- the relationship local community - local authorities is "shaky", even non existent in some localities of the examined area;
- the need to identify opportunities for business development in the fishing sector and the complementary one, based on the existing social and economic context;
- expectations of members of fishing communities are related to issues which can considerably increase discretionary income, which can generate new jobs and which can contribute to the optimism of residents.

The questionnaire launched to establish the actual framework of fishing communities was structured on a set of nine open questions, from simple to complex, which covered the whole range of objectives set initially. Following data collection and processing, the most representative aspects that were revealed are:

- linked to employment of the respondents in the analyzed territory, it has been found that there exists a concentration and distribution of responses, depending on the degree of local development. Thus, places the least developed economically and socially are from the northern perimeter analyzed: Cavadinesti with a 1% within respondents, Suceveni respectively Rogojeni village with a rate of 5% and the place Vlădești with only 7 %, for the situation to change as the settlements are located in the municipality of Galați: Oancea, 31%, neighborhood Port Galați, with a percentage of 22%, Frumușița 14% and an equal percentage of 10% localities Foltești and Tulucești.

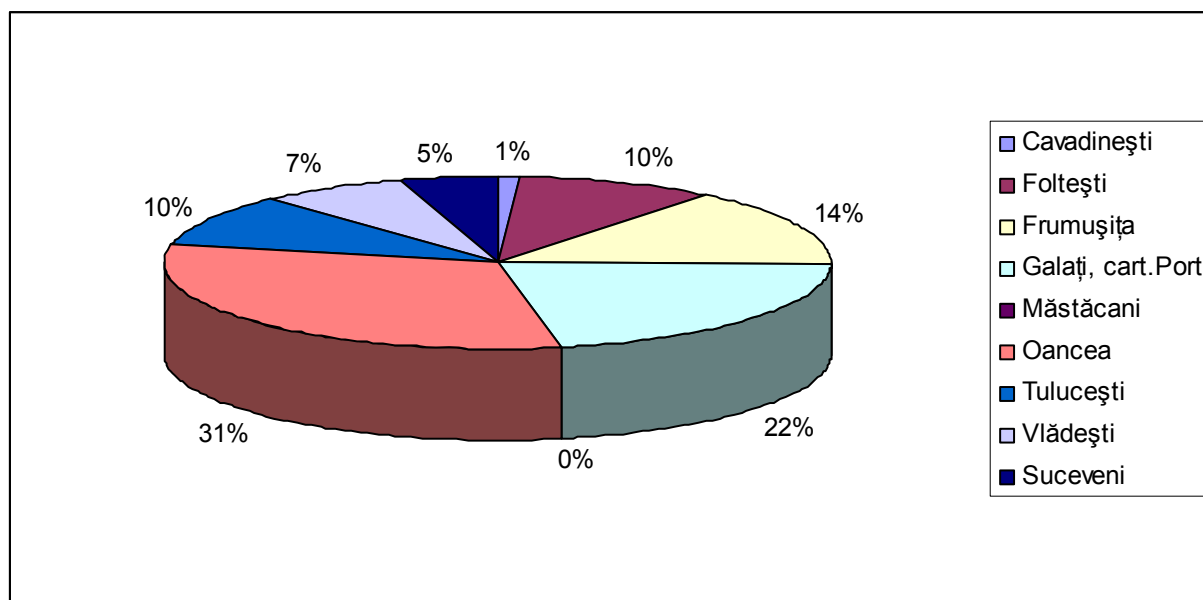


Fig.1.1. Target group representation in the territorial profile

- another important milestone of the study was assessing the degree of development of fishing activities in the locality. Responses to this question were structured on a rating scale with five steps, and after processing the information, there was noted an upper limit of 26 respondents who value these activities as developed to a large extent, followed by a number of 20 respondents who rated the fishery activities as developed to a very great extent. The lower limit is between 10-19%

and is given by people who claimed that such activities are developed in a much lesser extent in the localities analyzed.

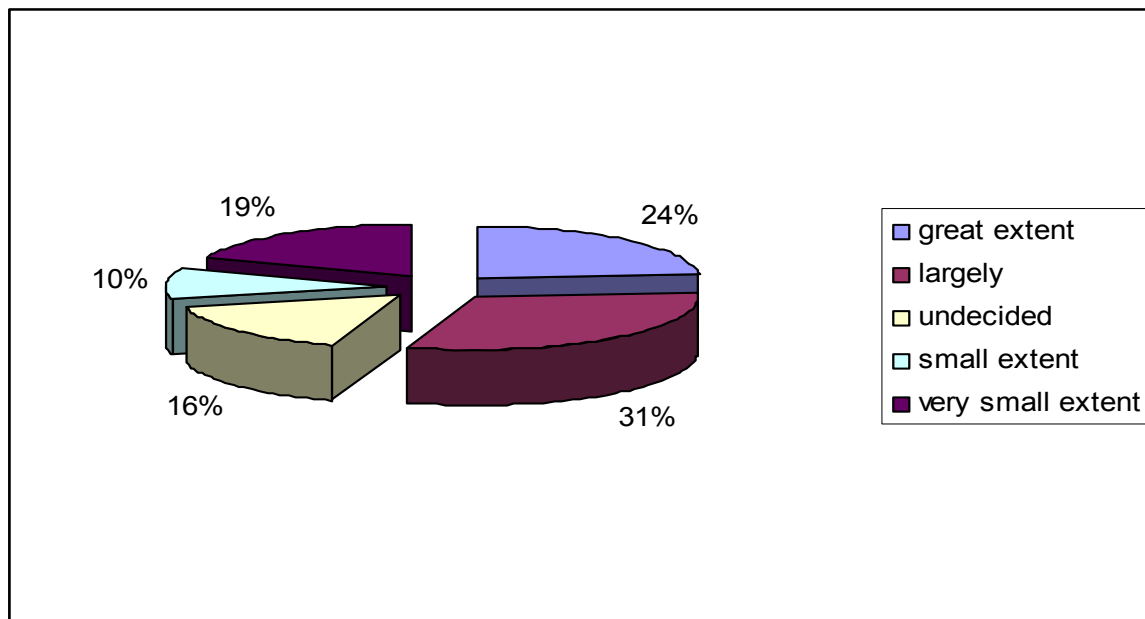


Fig.1.2. Representation of the degree of development of fishing activities in the village

- assessing the place and role of activities complementary to fishing in the development of local economy in the current context, divided into five levels of assessment, from strongly agree to strongly disagree, revealed that there is an upper limit with a high percentage of 59% of the responses that were in total agreement on the important role that such activities may have on the future development of cities and a lower limit of 8% of all respondents that disagreed with this statement of the question.

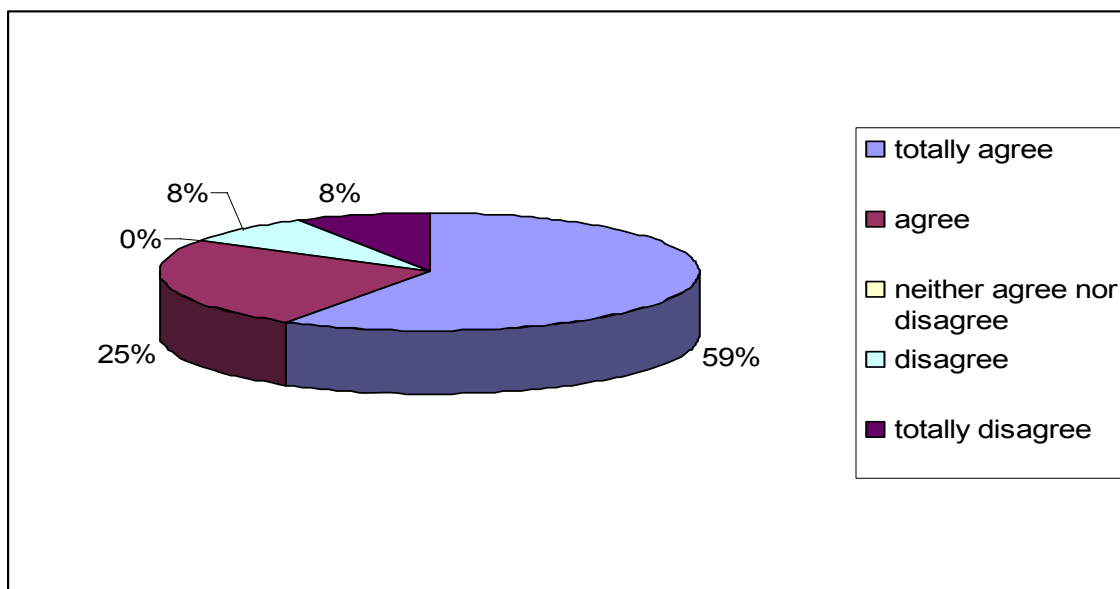


Fig.1.3. Representation of the role of complementary activities in the local economy

- another major element of the study regarded the expectations of fishing communities concerning the development of activities that are complementary to the traditional which can generate benefits to all members of municipalities and a higher income.

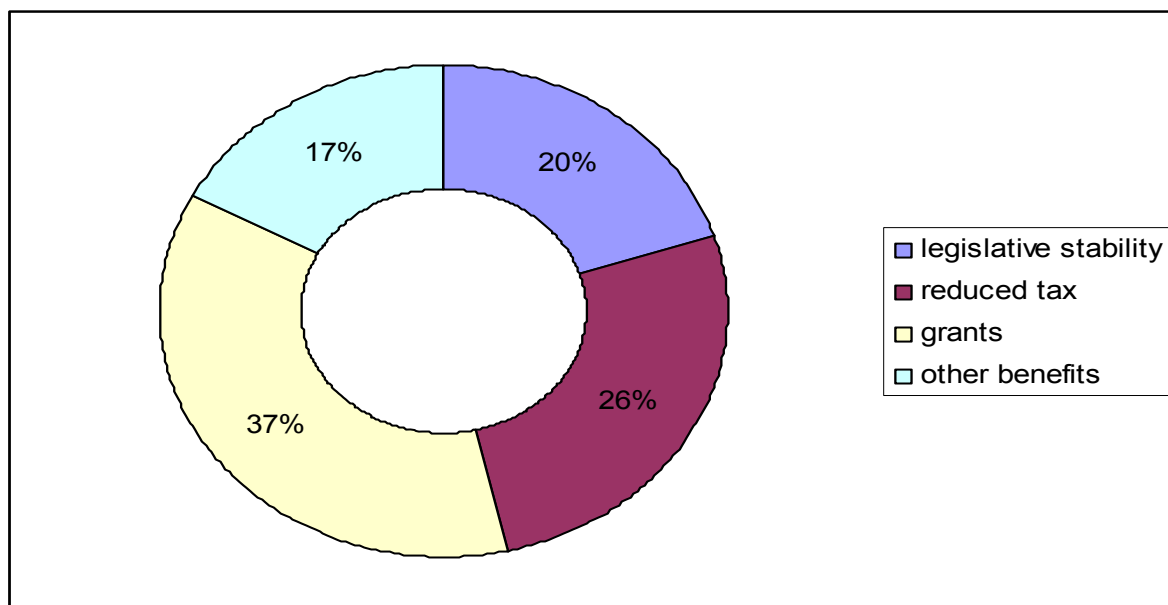


Fig.1.4. Representation of the expectations of target group in connection with complementary activities

The analysis of the information collected revealed the following structure of the expectations relating to starting activities complementary to fishing: 42 respondents have expectations connected to obtaining grants to facilitate the start of complementary activities, 31 respondents aim to achieve a low-taxation, which bring them more discretionary income households and only 23 respondents considered a legislative stability that lead them to initiate and different activities outside the traditional communities in which they belong.

✚ establishing the options of the members of fishing communities in relation to the types of complementary activities that could be initiated and developed in areas of meadow of lower Prut, activities that would have a significant contribution to the future development of local economy there could be highlighted some such activities "approved" in the local economy. The highest share in this respect, is held by angling with a percentage of 26% of the total, craft activities with a total of 20%, while agritourism is appreciated at a rate of only 7% of the total and repairs for boats 5% of the total of 83 interviewed.

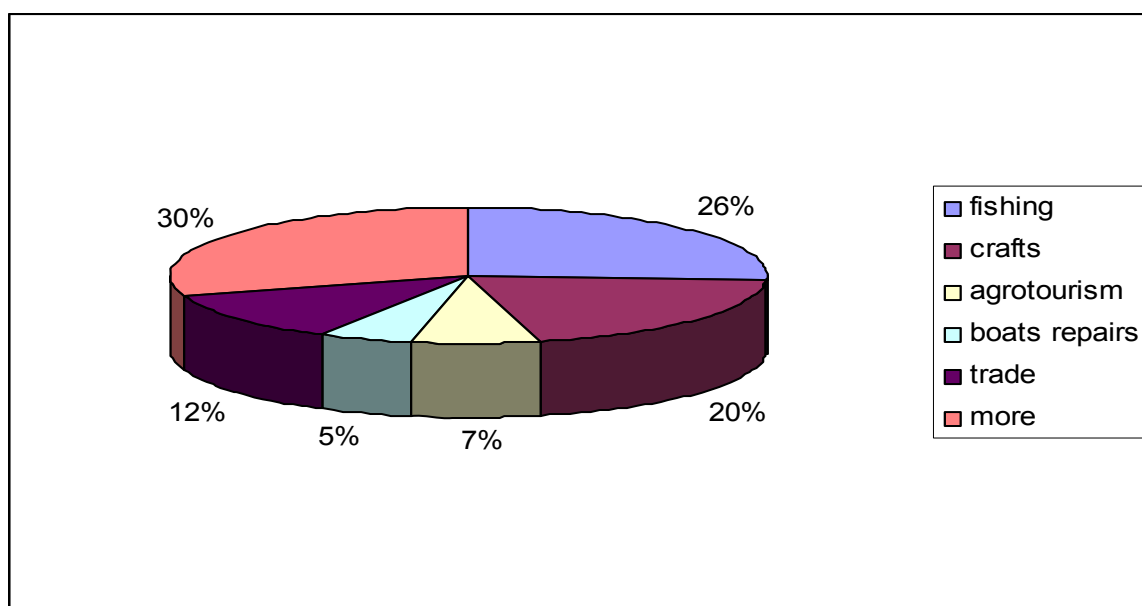


Fig.1.5. Representation of types of complementary activities that could be initiated

The involvement of the rural population in economic, cultural and social activities, increases economic opportunities for those with low incomes, facilitates intercultural experiences, boosting the preservation of representative traditions and values amplifies and enhances the capacity of rural communities and fisheries to decide how to manage their own resources in the spirit of the connections between past, present and future.

4. Conclusions

The durable economical and social development of rural areas is linked to understanding and adapting all the traditional or complementary activities to the dynamism of daily life by initiating actions to prioritize and promote the traditions, customs, values through marketing communication that can strengthen the bridge between past, present and future and provide to the community extra energy, value and openness. Integrated development of rural areas, educating people in this environment and their orientation towards complementary economic activities, as well as the increase in the growth potential of this type of activity will inevitably lead to increasing employment and improving quality of life. The increase of employment opportunities by supporting new forms of occupational rural communities, promoting entrepreneurial culture in the development of non-agricultural activities form a durable and sustainable community development.

References

[1] www.flag.galati.ro;

[2] Management Authority for PNDR, (2013), *Socio-economic analysis from the perspective of rural development 2014-2020*, www.madr.ro;

[3] Nechita, D.,(2015), *The importance of carrying out complementary activities in the lower Prut area*, *The International Conference Risk in Contemporary Economy*,pp 27-31;

[4] Departamentul pentru Ape, Păduri și Piscicultură, (2014), *Strategia națională a domeniului pescăresc 2014-2020*, www.apepaduri.gov.ro.

Renewable Energy in Romania after 2007

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Sustainable development requires obtaining energy from alternative sources which are clean and sustainable. In Romania, there are categories of renewable energy that basically were not used, such as solar PV and wind energy by 2007. Even today, their share is minor compared to energy from conventional sources, but they were made important steps, including in legislation domain. The paper aims to present the evolution of renewable energy in Romania after 2007, as a result of EU integration. The analysis is done separately for installed capacity in the following chapters: Hydropower, Wind Onshore, Solid biomass, Solar Photovoltaic and Biogas.

Keywords: green economy, renewable energy, solar PV, wind energy

JEL Code: Q 01, L89

1. Introduction

The paper aims to analyze the dynamic evolution of renewable energy capacity in Romania after 2007 in the context of sustainable development.

Vitally important for human society and for the world, sustainable development and, thus, its theoretical and practical aspects, represents theoretical principles with practical implications particularly important, which occurred relatively recently and are being substantiation and reaching adulthood¹⁴⁹[1].

The concept of sustainable development has emerged as an objective necessity in times when human society has become aware and concerned about the plight of the environment and especially the extremely negative impact that human activity has on it.

A brief history of worldwide meetings on sustainable development and environmental impact, shows that the international community has addressed this problem very seriously from the first international conference on environment in 1972 (Stockholm Conference on the Human Environment) in which it was debated issue of global environment and development needs and UNEP (United Nations Environment Programme) was created.

Another foundation stone was laid at the United Nations Conference on Environment and Development (UNCED) called "Rio Conference" in 1992 when it was officially recognized the need to integrate economic development and environmental protection objective of sustainable development, and not least, the United Nations Summit on Sustainable Development (World Summit on Sustainable Development - WSSD) in Johannesburg in 2002, where it was ratified the Johannesburg Declaration on Sustainable Development as well as the implementation plan for sustainable development directions¹⁵⁰[1].

In 2007, the Treaty of Lisbon and the additional protocols include climate change and the fight against global warming. Some articles in the Treaty refers to the union on matters relating to energy supply and changes in energy policy, and in 2012 at the UN Conference on Sustainable Development (UNCSD) is launched the concept of Green Economy. It has established an appropriate international framework, including both binding legal measures (treaties or conventions) or non-binding (declarations, resolutions) as well as guidelines and policy orientations including institutional arrangements and viable financing mechanisms[1].

In accordance with international treaties and as a result of EU accession, the Romanian Government approved the National Strategy for Sustainable Development at the horizon of 2013-2020-2030.

¹⁴⁹ <http://www.mmediu.ro/beta/domenii/dezvoltare-durabila/concepte-si-principii-de-dezvoltare-durabila/>

¹⁵⁰ *ibidem*

The strategy sets "concrete objectives for moving in a realistic and reasonable time, to a new model of development, the sustainable development, specifically to the European Union and widely shared globally, oriented on continuous improvement of people's lives and relationships of them, in harmony with the natural environment"¹⁵¹[3].

Sustainable National Development Plan 2007-2013 (NDP) is the "strategic planning document and multiannual financial programming that guides and stimulate economic and social development of the country, consistent with the principles of EU Cohesion Policy"¹⁵²[2].

Under the plan, the overall objective is to reduce as quickly as possible differences in socio-economic development of Romania and the other Member States of the European Union and detailing the specific objectives on six priority areas that integrate directly and / or indirectly to sustainable development requirements in the short and medium term.[2]

The first objective is the "competitiveness and knowledge economy development which includes as one of the main priorities the improvement of energy efficiency and use of renewable energy to reduce climate change." [2]

Thus, this paper aims to analyze the situation of Romania in terms of renewable energy potential after EU accession, ie 2007.

For these analyzes were used personal processing, using data from the statistical summaries databases following international specialized agencies: IRENA (International Renewable Energy Agency), UNEP, IEA (International Energy Agency), Enerdata, under reference types.

2. Renewable energy power capacity for Romania after 2007

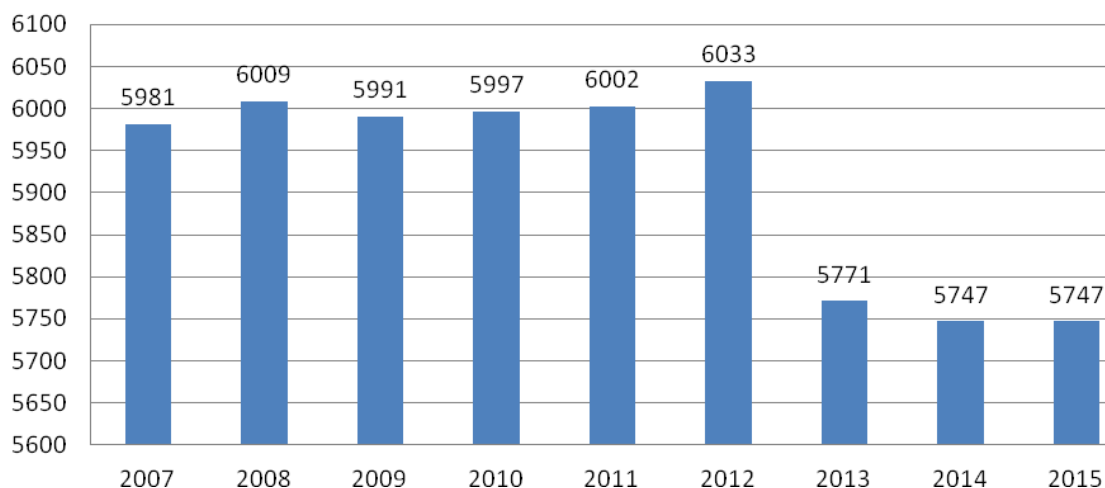
The analysis is done separately for installed capacity in the following chapters: Hydropower, Wind Onshore, Solid biomass, Solar Photovoltaic and Biogas. The data reflects the capacity installed and connected and is measured in megawatts (MW).

A. Hydropower energy power capacity

In the case of hydro, analysis is made under subtechnology namely: large, medium and small Hydropower.

In the case of Large Hydropower, ie hydropower with installed capacity of over 1000 MW, renewable energy power capacity situation after 2007 is presented in Figure 1.

Figure 1. Dynamic of Large Hydropower energy power capacity (MW)



Data source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

An analysis of installed capacity shows a relatively constant development over the period 2007-2012, with increases or decreases of up to 0.5% from year to year and a maximum of 6033 MW in 2012, after which, as a result of drought years but also of the reductions imposed, installed capacity was reduced by approximately 4.7% in 2012 compared to 2015.

The situation is particularly in case of Medium Hydropower and Small Hydropower, where

¹⁵¹ <http://www.mmediu.ro/beta/domenii/dezvoltare-durabila/strategia-nationala-a-romaniei-2013-2020-2030/>

¹⁵² http://www.mmediu.ro/beta/wp-content/uploads/2012/06/2012-06-12_dezvoltare_durabila_snddfinalromana2008.pdf

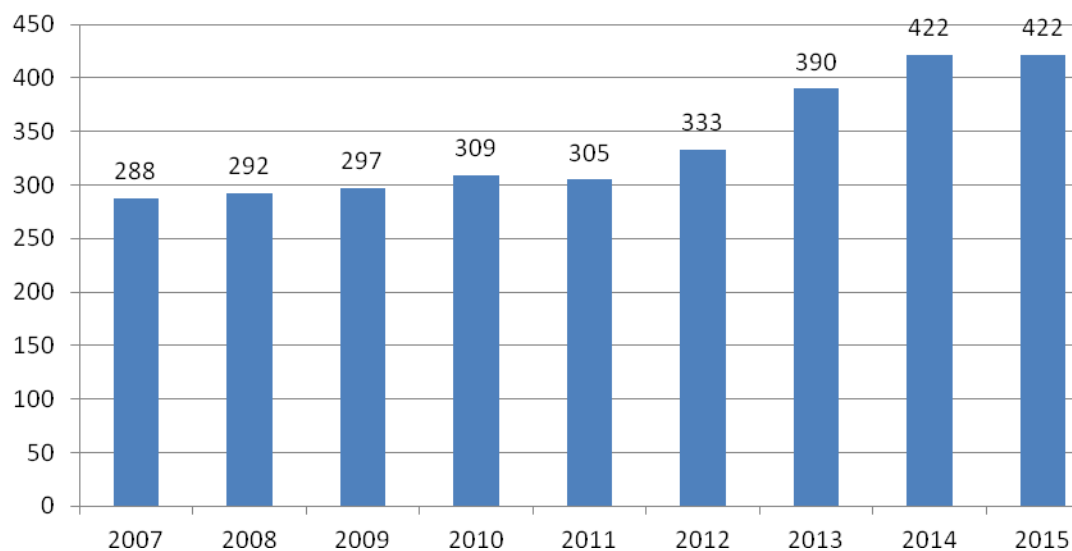
installed capacity has steadily increased as shown in charts 2 and 3.

Moreover, energy policy in this area has drawn the increasing capacity and hydropower development in the direction of much smaller plant.

In the case of Medium Hydropower is seen as installed capacity evolved on an uptrend since 2007 with a peak in 2015 of 422 MW.

Constantly, capacity increases were on average 1.4-1.7% in 2007-2009, by 4% in 2010 compared to 2009 and a peak of 9.1% in 2012 compared to 2011 and 17.1% in 2013 compared to 2012 and 8% in 2014 compared to 2013. the total increase in the analyzed period was 46.52% in 2007 compared to 2015.

Figure 2. Dynamic of Medium Hydropower energy power capacity (MW)

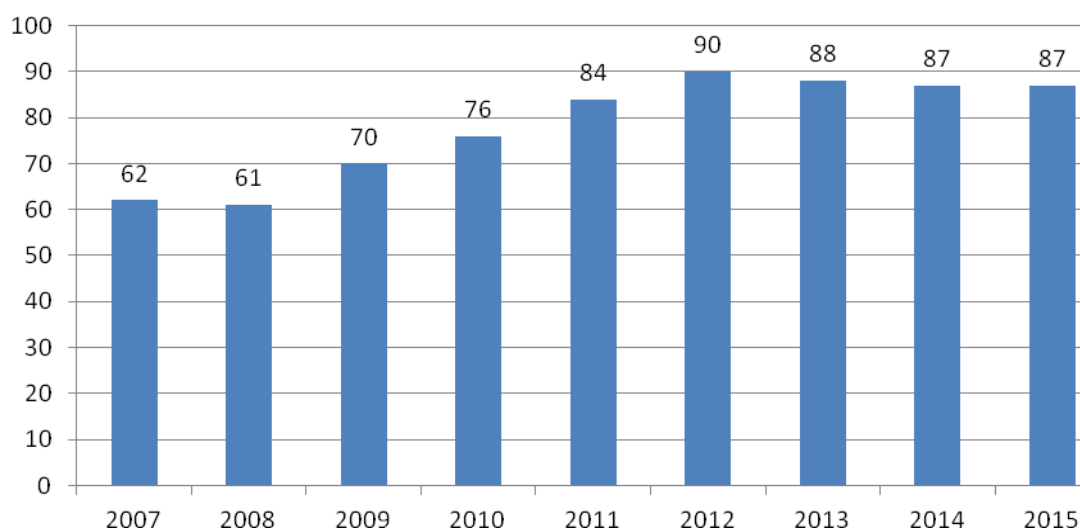


Sour

ce data IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

In the case of Small Hydropower, it was an ascending trend from 2007 to 2012 with average 14.7% increase in 2009 compared to 2008, 8.5% in 2010 compared to 2009, from 10.5% in 2011 compared to 2010 and 7.1% in 2012 compared to 2011 after which capacity decreased by 2% than the average 1.1% from 2013-2012 and 2014 -2013 (Figure 3).

Figure 3. Dynamic of Small Hydropower energy power capacity (MW)



Data source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

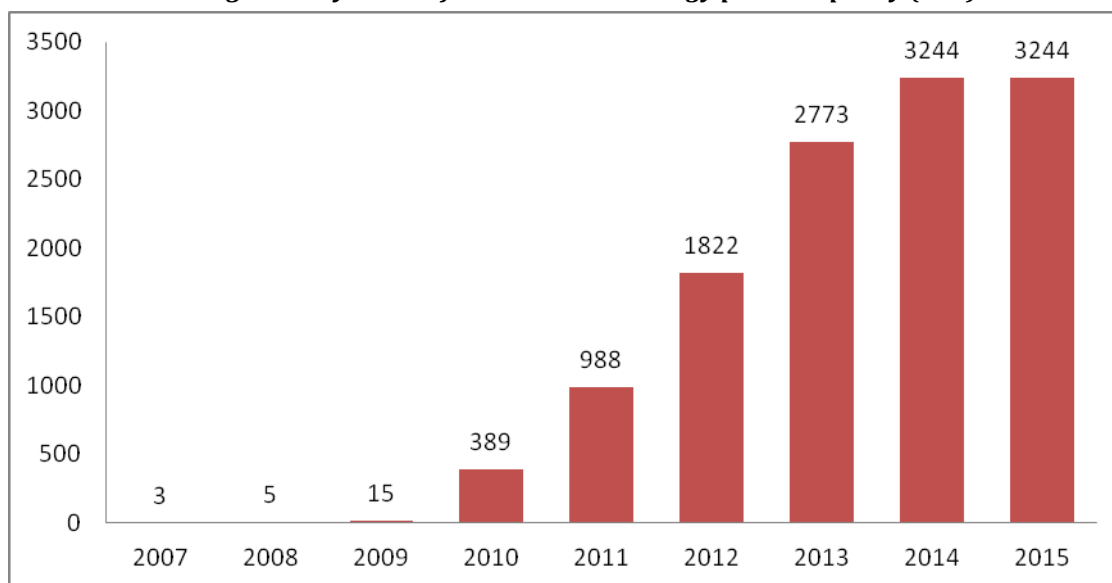
B. Onshore Wind energy power capacity

A very special situation we meet in the case of Onshore Wind Energy Power capacity where practically EU accession and implicitly assuming policies have led to the emergence and development of energy capabilities using wind power.

Thus, if by 2007 we can not speak of the existence of this field nor in 2007, 2008 or 2009, although energy output installed experienced increases of 300% in 2008 compared to 2009 in absolute value, however, is not a significant amount of energy (from 5 MW to 15MW). Absolutely impressive leap occurs after 2009 when increases are approximately 26 times (2009 compared to 2010) of 2.53 times (2010 versus 2011) 1.84 times (2011 versus 2012), 1, 52 times (2012 to 2013) and 1.17 times respectively (2013 versus 2014) (Figure 4).

Great attention paid to energy obtained from wind led to an interesting aspect, namely an exceeding of needs versus demand and especially storage.

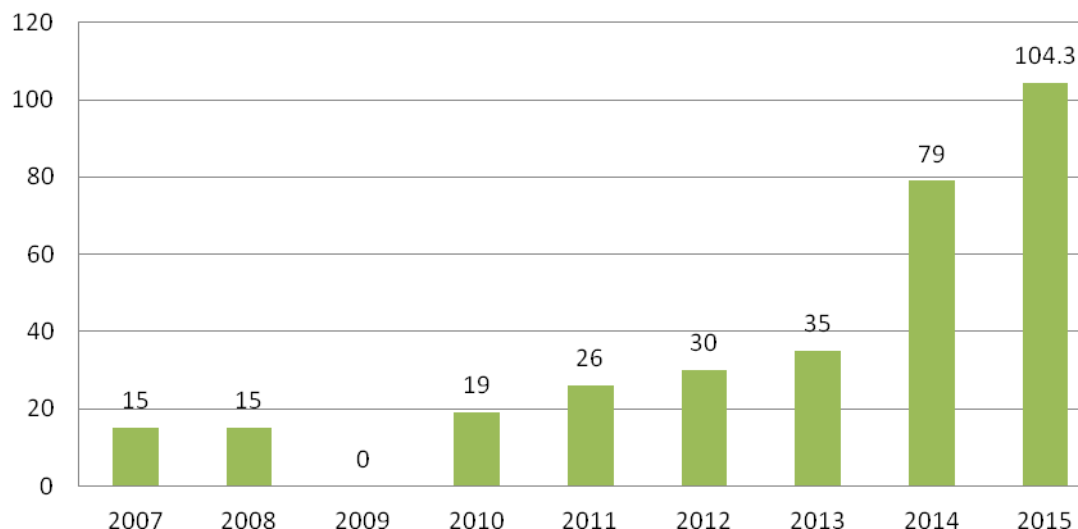
Figure 4. Dynamic of Onshore Wind energy power capacity (MW)



Data source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

C. Solid Biomass energy power capacity

In the case of energy obtained from Solid Biomass, meet the same upward trend, obviously in absolute numbers much lower than in other energy sources recoverable Romania still lacking a culture of waste recovery. Such increases are consistent with percentages of 27% between 2008 and 2010 (no data in 2009), by 36% between 2010 and 2011 by 15% between 2011 and 2012 by 16.7% between 2012 and 2013 followed by a very important leap of 2.14 times between 2013 and 2014 and a growth of 32% between 2014 and 2015 (Figure 5).

Figure 5. Dynamic of Solid Biomass energy power capacity (MW)

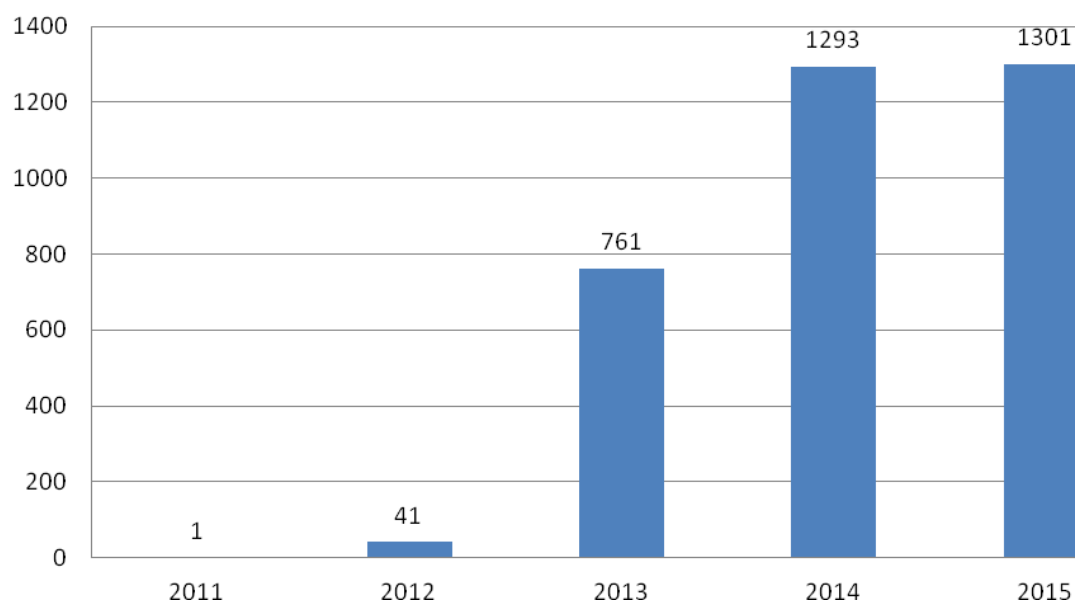
Data source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

D. Solar photovoltaic power energy capacity

A similar situation with the dynamics Onshore Wind power energy capacity, we meet in the case energy capacity installed using Photovoltaic Solar.

Thus, practically until 2011 we can not speak of the existence of this significant branches. After 2012 increases are very high, reaching levels comparable to those obtained from Onshore Wind or more than 300% higher than those of Medium Hydropower.

Increase the installed capacity of solar photovoltaic was done at a fast pace, so if in 2012 the Solar Photovoltaic energy power capacity was only 41 MW in 2013 was 761 MW (an increase of 18 times) and in 2014 1,293 MW so growth by about 1.7 times compared to 2013 (Figure 6).

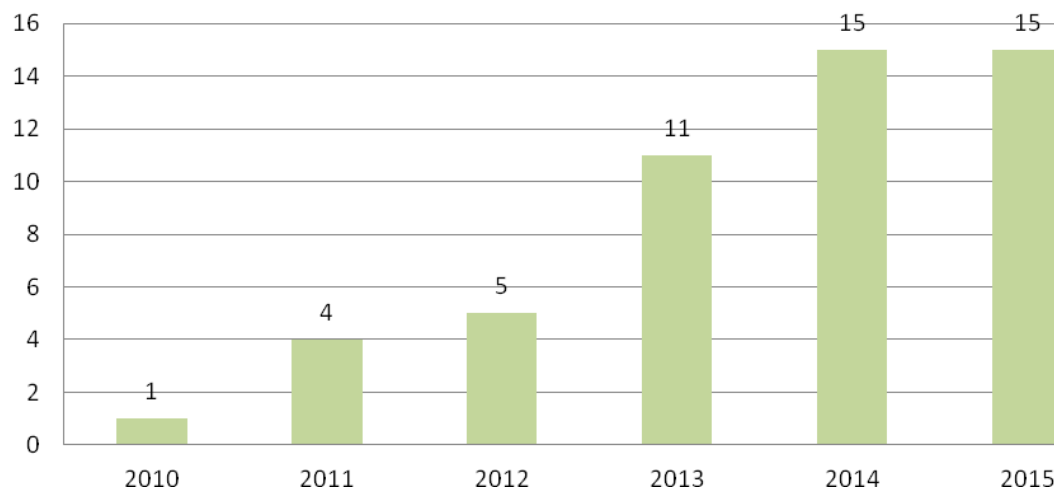
Figure 6. Dynamic of Solar Photovoltaic energy power capacity(MW)

Data source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

E. Biogas energy power capacity

Cinderella of renewable energy is the power capacity energy from biogas, though experienced the same upward trend since the early 2010, but remains at modest values of up to 15 MW in 2015 (Figure7).

Figure 7. Dynamic of Biogas energy power capacity(MW)



ata source: IRENA; <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>

D

3. Conclusion

From the data presented it can be concluded that, overall, Romania to pursue the directives of international and EU on energy recoverable, introducing and developing new areas that were not existing before accession: wind energy, biogas, solar photovoltaic or solid biomass.

These areas have experienced outstanding growth dynamics, getting to compete in traditional areas, such as hydro energy. So we can say that Romania is trying successfully to fulfill the Lisbon agenda issues of energy supply and changes in energy policy, including the application of the National Strategy for Sustainable Development. Obviously more needs to be done, Romania compared to other developed EU countries started much later, but we can say that it is on track.

References

1. Guvernul Romaniei, Ministerul mediului si schimbarilor climatice – concepte si-principii-de-dezvoltare durabila <http://www.mmediu.ro/beta/domenii/dezvoltare-durabila/concepte-si-principii-de-dezvoltare-durabila/>
2. Strategia Națională pentru Dezvoltare Durabilă a României Orizonturi 2013-2020-2030 http://www.mmediu.ro/beta/wp-content/uploads/2012/06/2012-06-12_dezvoltare_durabila_snddfinalromana2008.pdf
3. <http://www.mmediu.ro/beta/domenii/dezvoltare-durabila/strategia-nationala-a-romaniei-2013-2020-2030/>
4. <http://resourceirena.irena.org/gateway/countrySearch/?countryCode=ROU>
5. <http://resourceirena.irena.org/gateway/dashboard/?topic=4&subTopic=15>
6. <http://resourceirena.irena.org/gateway/#>
7. <http://www.iea.org/statistics/topics/renewables/>
8. <http://www.enerdata.net/>

Priorities and Economic Development Projects in the Danube Region from Romania within the Context of Implementing the European Union Strategy

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The main objective of this study is to briefly present the challenges and realities of economic and social potential existing in the region crossed by the Danube in Romania, to introduce the priorities taking into account their specific area and point out the major projects that have had a great impact upon the development of the Danube region and its adjacent area(1). The present paper can be used as basis for strategic decisions related to the Danube region, both at the sectorial level and at the integrated one. Moreover, due to its 1200 km of Romania's external border included in the Danube region, the structure of the territorial cooperation programmes can be easily defined(4). In the context of the **EU Strategy for the Danube Region (SUERD)**, the present paper establishes the objectives and priorities of the Danube region as well as of the potential development opportunities in the Danube region(8).

Keywords: Danube region, economic potential for development, EU Strategy for the Danube Region (SUERD), development priorities, development projects

JEL Code : O2

1. Introduction

The criteria that were taken into consideration when demarcating the territory corresponding to the Danube region in Romania are the following:

- The influence of the river extended to(9):
 - structure and typology of economic activities
 - setting infrastructure and means of transport
 - structure of population
 - land typology
- Territorial boundaries of the Romanian counties in order to have access to statistical data(5).

Due to the lack of space in the present paper that focuses on economic and territorial development, the Danube region is defined as the area strongly influenced by the river, made up of the 12 counties bordering the Danube, i.e. Caraș-Severin, Mehedinți, Dolj, Olt, Teleorman, Giurgiu, Călărași, Constanța, Ialomița, Brăila, Galați, Tulcea, to which Bucharest and Ilfov county are added (see figure no. 1).

In order to avoid any ambiguities related to the territory included in the EU Strategy for the Danube Region (SUERD), the area thus demarcated will now be referred in the present study as the *Danube region*(3).

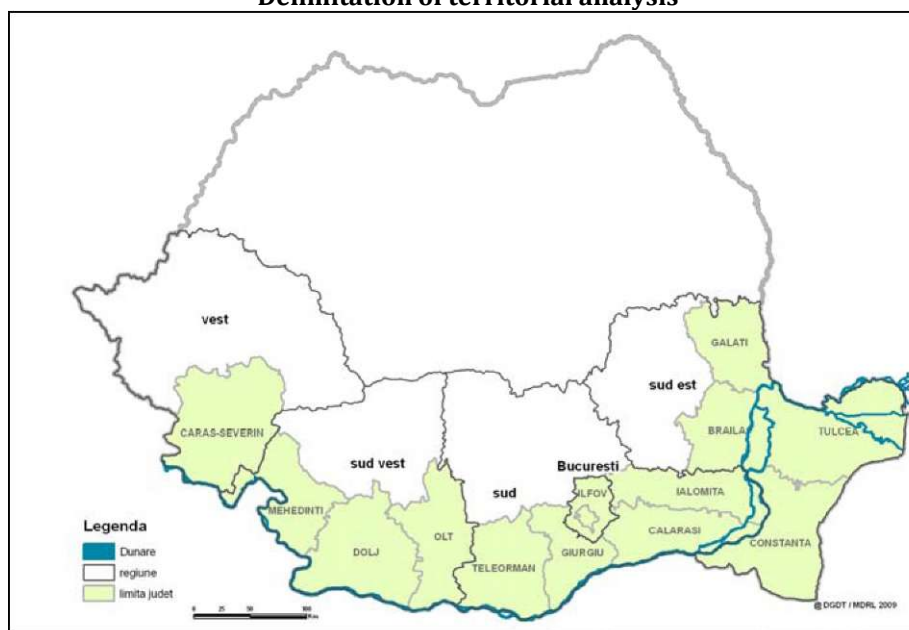
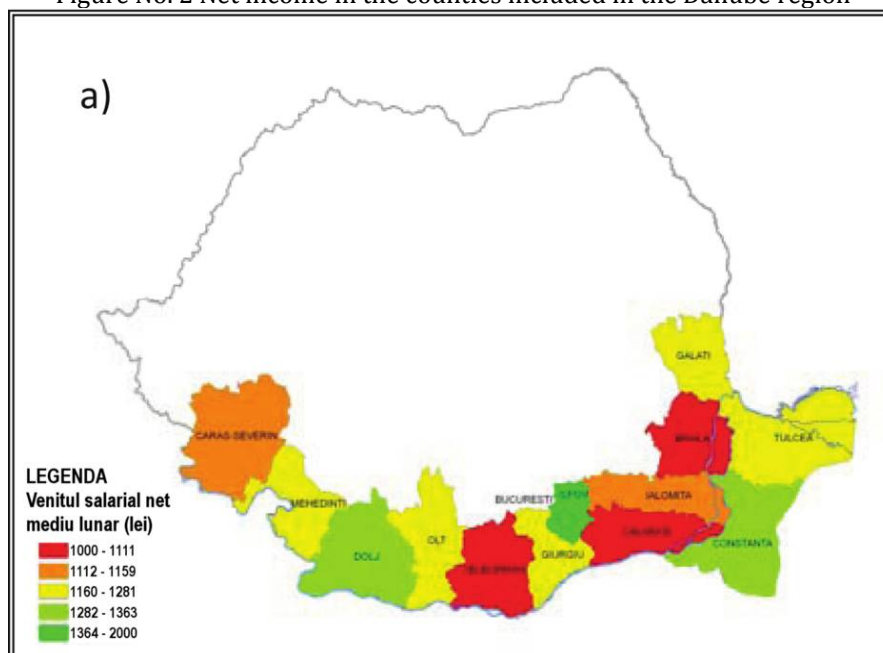
Delimitation of territorial analysis

Figure no. 1 – Areas included in the study (source: MDRT, 2010)

2. Analysis of the macroeconomic indicators of the counties included in the Danube region – Romania shows major discrepancies between the levels of development of these regions (Ilfov county was included due to its proximity to the Danube)(2). The *monthly average net income per person* indicator was analysed and major discrepancies were observed in the counties included in the present study. Thus in Dolj, Ilfov and Constanta counties, this indicator reaches 2000 lei, whereas in Teleorman, Ialomita and Braila it does not exceed 1111 lei, i.e. almost half of the value of the first three counties analyzed. Therefore the implementation of the EU Strategy for the Danube Region (SUERD) is highly required in order to lead to a levelling out of these indicators that assess the development level in the analysed region(7).

Figure No. 2 Net income in the counties included in the Danube region



Source : MDRAP 2014

3. Priorities and Major Development Projects in the Danube Region

In order to identify the projects and development priorities in the Danube region in Romania, we divided the river into six specific areas, namely: **A - the mountain area, B - Oltenia, C - Muntenia, D - Braila-Galati, E - Dobrogea and F – the Danube Delta**. We identified the possible pillars of sustainable development within the above-mentioned areas(7).

We continued our analysis for each sector and we presented several priorities and development projects that must be considered when implementing the local and regional development strategies.

A. The mountain area

Pillars of sustainable development	Priorities	Major Projects
Mountain tourism Protection of natural heritage Accessibility	- Making the best of the natural potential by developing tourism in the following areas: development and diversification of accommodation and services structure, development of rural tourism, creating paths for non-motorized transport, - Trans-border cooperation with Serbia on projects in environmental protection and tourism; - Development of road and rail transport infrastructure which would ensure links both to Craiova and Timișoara - 2 important growth poles of Romania, and would increase traffic fluidity in the area; - Establishing links between villages and railway transport nodes.	Regeneration of historic buildings and public spaces - Băile Herculane Improving infrastructure with winter sports equipment

B. Oltenia

Pillars of sustainable development	Priorities	Major Projects
Trans border cooperation (twin towns) Risk Prevention Agriculture Industry Transport Infrastructure	- Increasing the capacity of urban places to structure the territory and to ensure services accessibility; - Development of the polycentric localities network through: a) transversal cooperation between localities of different ranks; - b) trans-border cooperation between the urban centres that play a regional role Craiova - Plevna (urban-urban); c) trans-border cooperation between twin towns situated on both banks of the Danube: Calafat - Vidin, Bechet - Rahova (urban-urban) d) horizontal cooperation between the Danube port towns (urban-urban); e) increasing cooperation in the urban-rural relationship. - Development of transport infrastructure – shifting from a peripheral area to an area linked to the development flows - Development of water transport by restoring the Danube ports, supplying equipment for transport development on the Danube, development of infrastructure required to cross the Danube, i.e. bridges, ferries, intermodal transport nodes; - Development of road infrastructure: building the highway between Bucharest - Craiova, which together with the A2 highway - Bucharest - Constanța would ensure a development axis along the Danube, improving the quality of roads in the area in order to ensure an efficient transport as well as the connection of localities to the economic corridor development;	Common strategies for twin towns Increasing the metropolitan area of Craiova Bridge over the Danube at Bechet-Rahova Highway Bucharest-Craiova-Calafat (and Craiova- Drobeta Tr. Severin) Increase in speed rail Constanța- Bucharest-Craiova-Drobeta Tr. Severin Irrigation system Ring road for Craiova on the south Cycling route along the Danube Port rehabilitation

Pillars of sustainable development	Priorities	Major Projects
	Development of railway infrastructure: achieving the high-speed rail between Drobeta Turnu Severin - Craiova - Bucharest - Constanța, which would ensure the connectivity between the south part of Romania to the its western part as well as to the coastline, improving the quality and efficiency of railway transport within the sector and ensuring the connectivity between the Danube ports. Unlocking the potential of agriculture: development of the irrigation infrastructure, supplying the equipment required for processing agricultural products in the rural areas; Unlocking the potential of tourism: development of agri-tourism – promoting historical buildings, development of tourist circuits, complementary development town – port. - Reducing natural and industrial risks.	

C. Muntenia

Pillars of sustainable development	Priorities	Major Projects
Trans-border Cooperation (twin towns) Territorial Cooperation (metropolitan area) Agriculture Pisciculture Tourism Transport infrastructure development transport - Inter- modality	- Increasing the capacity of urban places to structure the territory and to ensure services accessibility - Development of the polycentric network of localities through: a) transversal cooperation between localities of different ranks; b) trans-border cooperation between twin towns situated on both banks of the Danube: Turnu Măgurele - Nicopole, Zimnicea - Svishtov, Giurgiu - Ruse, Oltenița - Turtucaia and Călărași - Silistra (urban-urban) d) horizontal cooperation between the Danube port towns (urban-urban); - e) increasing cooperation in the urban-rural relationship. - Development of transport infrastructure – shifting from a peripheral area to an area linked to the development flows. - Development of water transport by restoring the Danube ports, supplying equipment for transport development on the Danube, development of infrastructure required to cross the Danube, i.e. bridges, ferries, intermodal transport nodes; - Development of road infrastructure: building the highway between Bucharest - Craiova, which together with the A2 highway - Bucharest - Constanța would ensure a development axis along the Danube, improving the quality of roads in the area in order to ensure an efficient transport as well as the connection of localities to the economic corridor development; - Development of railway infrastructure: achieving the high-speed rail between Drobeta Turnu Severin - Craiova - Bucharest - Constanța, which would ensure the connectivity between the south part of Romania to the its western part as well as to the coastline, improving the quality and efficiency of railway transport within the sector and ensuring the connectivity between the Danube ports. - Increasing cooperation between Călărași and Slobozia – creating a distribution network to two major consumers - Bucharest and Constanța with the	Finishing the Danube-Bucharest canal; Building a cargo airport in the south of Bucharest; Finishing the ring road of Bucharest; Completing the metropolitan area of Bucharest; Doubling the Giurgiu-Ruse road bridge; Building the bridge between Călărași and Silistra; Irrigation infrastructure; Cycling route along the Danube; Ports Rehabilitation; Developing a touristic route in Oltenița (where luxury cruise lines dock on the Danube) - Bucharest - developing ports for touristic ships in Giurgiu

Pillars of sustainable development	Priorities	Major Projects
	seaside resorts; - Unlocking the potential of agriculture: development of the irrigation infrastructure, supplying the equipment required for processing agricultural products in the rural areas; - developing agri-tourism: developing fishing-tourism especially in Călărași, developing tourism circuits - complementary development town-port; - development of cycling routes.	

D. Brăila- Galați

Pillars of sustainable development	Priorities	Major Projects
Urban System Agri-pol Land banking Industry Transport Infrastructure Inter-modality	- Increasing the capacity of urban localities to structure the territory and to ensure the service access: developing network localities through: a) improving the urban system Brăila - Galați, which would lead to a population of over 700,000 inhabitants and would ensure: - on the macro-level of the Danube region: structuring the river by developing an important urban centre near the place where the Danube meets the Black Sea; - on the national level: limiting urban hypertrophy brought about by Bucharest (Romania ranking second in EU), ensuring a balanced territorial development by creating a growth pole between Iași and Constanța; - on the regional level: a higher area of serving the territory, increasing the number and quality of services, overcoming the dividing factors – cooperation on many territorial levels; c) enhancing the cooperation in the urban- rural relationship. Development of the agricultural potential by supplying the required infrastructure – irrigation systems, storage, processing and distribution of agricultural products together with a sustainable agricultural land management; Development of transport infrastructure: - Development of road infrastructure: a) development of an axis of transport from north to south Galați-Brăila-Slobozia-Călărași, which would be a ring road of the Black Sea and would ensure the links to Ukraine and Bulgaria, b) building the bridge in Brăila over the Danube which would ensure the links between the Danube Delta and Moldova; ensuring the gate conditions of the Danube Delta; - Development of rail infrastructure to efficiently connect localities to the development axes and points; - Unlocking the touristic potential: unlocking the potential provided by the Braila Lake (Balta Mică a Brăilei), development of fishing and hunting tourism, unlocking the natural potential provided by the Danube.	Developing the urban system Brăila-Galați Connexions through means of transport between Brăila and Galați Road and rail bridge over the Danube - Braila- Galați Irrigation infrastructure Urban rehabilitation of the promenade Danube cliffs in the two municipalities; Port rehabilitation

E. Dobrogea

Pillars of sustainable development	Priorities	Major Projects
Summer tourism Inter- modality Urban Development Aeolian Energy Accessibility	- Increasing the capacities of urban localities for a balanced territorial development through developing the polycentric network of the locality: a) transversal cooperation between localities of different ranks to ensure a balanced territorial development, b)	Urban regeneration of touristic resorts from the Black Sea coast; Development of the intermodal platform from

	horizontal cross border cooperation between urban centres that play a regional role: Constanța - Varna (urban- urban), c) developing research and innovation activities to strengthen the capacity of development of Constanța as well as its capacity to polarize the territory, d) sustainable development of the resorts on the Black Sea coast through cooperation, e) strengthening urban- rural cooperation; - Development of transport infrastructure: - Development of water transport; - ensuring an efficient and safe transport between Cernavodă and Constanța; - Development of road infrastructure - a) completion of the Bucharest - Constanța highway, which would form a perpendicular axis of development along the Black Sea coast; b) improving the quality of roads in the area to ensure an efficient transport and to connect localities to the development corridor; c) ensuring alternative routes to the seaside area - Constanța - Hârșova and Constanța - Călărăși; - Development of rail infrastructure - a) achieving a high speed rail between Bucharest - Constanța, which would ensure the links between the rest of the territory and the seaside, b) improving the quality and efficiency of rail transport within the sector. - Achieving an intermodal node in Constanța - Unlocking the potential of agriculture: a) unlocking the potential on vineyards; b) supplying the necessary structures for the primary processing of agricultural products in the rural area; c) supplying food products in the south part of the county, for Constanța and for the summer tourists. - unlocking the touristic potential: a) development of cross-border partnerships with the resorts from the Bulgarian coast line – in order to organize touristic circuits both to visit Bulgaria and the Danube Delta; b) development of partnerships between the Romanian seaside resorts; c) expanding the touristic offer – development of activities to attract tourists in all seasons, d) improving the quality of touristic services, e) sustainable unlocking of the natural potential. - Unlocking the human potential of Constanța, one of the biggest countries of the country: increasing the number of workplaces, ensuring facilities required for professional conversion – specializing in touristic and travel-related services, ensuring social inclusion. - Reducing the natural and industrial risks. Protection of the environment by supplying the facilities for storage and processing of waste in compliance with the requirements of the EU norms.	the Constanța port area; Planning integrated territorial investments in the coast area (Capul Midia-Vama Veche

F. Danube Delta

Pillars of sustainable development	Priorities	Major Projects
Protection of cultural and natural heritage Touristic Activities Better living standards for the population Pisciculture	- Unlocking the touristic potential by protecting the environment: using environmentally-friendly building materials that are specific to the area, compliance with the specific architectural design of the area, improving services and the quality of public spaces for the development of Tulcea, as a central place and as a place for distribution for the Danube Delta;	Completion of PATZ and Danube Delta Strategy and planning an integrated territorial investment/development action, the local community being in charge with it and dedicated to the Danube Delta; Diversification of touristic activities; Development of a harbour for tourist boats and yachts at Sulina;

	- Organizing touristic circuits and promoting them. - Access to education, medical infrastructure and services for the population; - Exploiting and processing the fish stock.	Investing in Murighiol to become the second gate to the Danube Delta.

4. Conclusions

The level of social and economic development in the counties in the Danube region varies significantly. Therefore the implementation of certain development strategies and projects is highly required in order to lead to an increase in the living standards of the population in this region. Several priorities and development projects have been identified, specific to six areas included in the Danube region from Romania. These can be implemented by their integration into the EU Strategy for the Danube Region (SUERD), which can ensure sustainable funding.

References

1. Corban, C., *Some Considerations on the EU Danube Strategy and the Black Sea Region*, *Eastern Journal of European Studies*, Vol. 2, Issue 1, 2011
2. Dobrescu, Emilian M., *Integrarea economica*, Editura All Beck, 2001, editia a II-a
3. *First National Contribution of Romania to the development of the European Union Strategy for the Danube Region*, Ministry for Foreign Affairs, Bucharest 2010
4. Murgeanu, Bogdan, *Strategia UE a Dunarii-o noua prpovocare in contextul coeziunii teritoriale din spatiul est-europen*, Conferinta Internationala Strategia UE a Dunarii, Bucuresti 2010
5. Ioan Tudor, *Communication and mass-media context*, *Intercultural Management (Management Intercultural)*, issue: 29 / 2013, pages: 183-190
6. ***, *Strategia Nationala pentru Dezvoltarea Durabila a Romaniei - orizonturi 2013-2020-2030*, Bucuresti 2012 MDRAP 2014
7. ***, *Anuarul Statistic al Romaniei INS 2010*
8. ***, *Strategia UE pentru Regiunea Dunarii. 2010*
9. ***, *Dezvoltarea teritorială durabilă a teritoriului Dunării din România*, MDRAP, 2012

An Overview of Traceability System for Fish Products in Romania

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The paper aims to provide information about the framework of the traceability of fish and fish products and the implementation of the traceability systems in the Romanian fish industry. The research is based on the results of the empirical studies conducted in Romania regarding the barriers and incentive factors that that influences Romanian fish industry to adopt the traceability system and the Romanian consumers to be aware about its importance.

Keywords: traceability, fish products, barriers, benefits, influencing factors

JEL Code: D18, Q13, E21

1. Introduction

Food industry in Romania faces general problems related to food safety, but it has also specific problems that require solutions accomodated for various types of food products with the purpose of ensuring an adequate level of consumer protection and for coping with the European market especially starting with 1 January 2007, when as a member of the European Union, Romania has to comply with the Community legislation that regulates food safety and security. The acceptance of European standards as national standards in EU countries aims to eliminate the technical barriers to international trade and the European countries to avoid the situation to deal with different requirements for the same products. The implementation of European standards contributes to the achievement of the main principle of the European single market, namely the free movement of goods and services. (Nicolae, et al., 2016).

Traceability is the manner in which can be managed, at national and international level, food safety and security. In order to accomplish a global and integrated approach to the concept of traceability, the Community legislation takes into account all aspects of the production chain: processing, transport and distribution. In all the links of this chain, the legal responsibility for watching the product safety falls on the manufacturer. The responsibility of monitoring and controlling the way in which are observed the rules and requirements in force, that is, food products traceability, comes to the national and European authorities, ANSVSA respectively (The National Sanitary Veterinary and Food Safety) in Romania and EFSA (European Food Safety Authority) in Europe.

2. The framework of the traceability of fish and fish products

The first international definition of traceability was established through ISO 8402 in 1987, as being "the ability to find the history, use or location of an entity by means of the registered identifications." The entity might have the meaning of: an activity, process, product, an organization or a person. The notion of traceability was taken from the series of ISO 9000: 2005 standards concerning the systems for quality assurance, being treated as a key element of the quality management for any product. According to ISO 9000:2005, traceability is the capability to find the history, achievement and placement (location) of what is the subject of an examination. If we consider products, then this definition involves the possibility to find, as appropriate, the origin of materials, components and products incorporated in the finished product, history of product making and/or its location after delivery. The system of traceability records and follows the production process starting with taking from suppliers products, parts and materials, going through their processing and distributing as finished products.

In the European recommendations, it appears a definition established by the General Food Law No. 178/2002, which is taken over also in Law no. 150/2004. This definition can be also relevant for the non-food products manufacturers. SR ISO 9001, Quality Management System. Requirements, 2008. At European level, there are two important normative acts for regulating the traceability: Directive (EC) 2001/95 concerning the General Product Safety and Regulation (EC) No. 178/2002, referring to the General Food Law, applied starting from 15 January 2004, and, respectively, 1 January 2005, in all EU member states. The provisions of the Community Regulation No. 178/2002 are taken completely by Law No.150/14.05.2004 concerning food safety that regulates the Romanian agents obligations. These regulations provide the permanent responsibility and ability of each operator to draw "one step back and one step forward", in other words, to implement a minimal system of traceability.

3. Characteristics of the traceability systems in the Romanian fish industry

Aquaculture is a sector of agriculture that includes fishing, raising, processing and marketing of aquatic animals. Fishery products include the following categories:

1. Fish products - all marine or freshwater animals (except bivalve molluscs, live echinoderms, live tunicates and live marine gastropods, and all marine mammals, reptiles and frogs) whether wild or from farms, including all edible shapes and parts of these animals;
2. Fresh fish product - any unprocessed fish product, whole or prepared, including products packaged through vacuum or in modified atmosphere, which has not been subject to any treatment other than refrigeration for preservation;
3. Prepared fish product - any unprocessed fishery product that has not been subject to an operation which changes its anatomical wholeness, such as evisceration, heading, slicing, filleting, and chopping.

Strengthening the confidence in fish products, in general, and aquaculture products, in particular, depends on the good management of the supply chain within the fishery area and their traceability. In Romania, traceability is necessary in order to meet the following requirements concerning:

1. food safety: occasionally, the food safety problems are generated by contaminants or pathogens either voluntarily or accidentally; in this case it is required a clarification of responsibilities so as to be able to identify and remove the source of contamination;
2. transparency: consumers are more and more concerned about the origin of fish and of fish products they consume. Implementing a traceability system through which consumers and buyers can track the foods they buy along the chain of production/processing is a condition necessary for access on the EC market since starting from January the 1st, 2015, the EU regulations on traceability will be more stringent, following to be used as a barrier to trade;
3. sustainability: currently, an increased attention is given to sustainable aquaculture.

So far, in Romania there is not any integrated concept at national level for the supply chain in the fishery area, that would enable both the complete and continuous monitoring of food safety and quality as well as the traceability of the whole supply chain. One of the reasons is the fact that the traditional supply chain in fishery is conventional and long, characterized by complex combinations of elements from upstream and downstream, which are difficult to manage and follow, making difficult the elaboration of effective and practical methods for monitoring food quality and safety, as well as its monitoring. Monitoring can be accomplished by developing a traceability system based on artificial intelligence and information technology for data acquisition and processing, a system adapted to the supply chain of fishery products from Romania. Storing information in such a system would allow the history transmission towards the authorised control institutions, as well as their access to consumers, by making available certain means of easy access. The system must meet the traceability requirements provided by Law 150/2004 and traceability demands on the rules for animal identification. The products are monitored by numbers of production lot assigned to every movement of the products resulted following the primary processing or fish processing at: fisheries, production farms, processing workshops, warehouses and points of sale. In order to attain its purpose, the system should put in contact all stakeholders from the supply chain of fish and fish products. The operators who have different positions in the supply chain introduce the information. Each operator connects to the Internet and will enter, respectively consult information, according to its own activity.

The main stakeholders in the sales chain of fish products are producers, that is, farms specialized in the production of spawn, hatcheries, manufacturing companies and companies dealing with the sale, as well as the consumers. The processing companies prove to be the core of the supply chain, here being focused most of the capital, technology and human resources in relation to the chain

of supply and sales of the fishery products. The Stakeholders have different requirements and different approaches to traceability, given the different roles they have in the supply chain of fishery products. The implementation and use of traceability system depends on a close cooperation among the parties involved in the supply chain. When the traceability system meets all participants - consumers and producers' requirements, then the anticipated benefits will be obtained.

Therefore, a system of traceability intended for fishery products should harmonize the requirements of each of the categories presented. A study in the Romanian fish farms investigates the barriers like the basic characteristics of the enterprises and whether they export, the costs of adoption, and different traceability standards in the markets and incentive factors grouped in categories like improvement of management level, enhancement of product competitiveness, satisfaction of social demands and other incentives such as encouragement of the government and first adoption of similar enterprises (Moga, et al., 2016). The system of factors is based on a similar study conducted in PR China (Wang et al., 2009). According to Moga, et al. (2016), the main barriers that impede the adoption of traceability system in the Romanian fish farms are related the lack of the preferential policies which has to be promoted by the Romanian Government and followed by the shortage of management and technical personnel and high costs.

The results of the survey conducted on the Romanian fish and fish products consumers show that the consumers are aware about the fish products safety, and they got the risk perception associated with fish products (Moga et al., 2016). The Romanian consumers are aware about the possibilities to access information related to the quality of fisheries products directly from the place of purchase, which is mostly the supermarket/hypermarket.

4. Conclusions

Romania's capacity to implement the traceability system in the fishery industry at the national level is reduced. One reason is the inadequate regulation framework which not force the . Based on the present situation of Romanian fish industry, it is impracticable to force all the enterprises to implement the traceability system, because of the lack of capital, technology and human resources. The government should provide policy guarantee for adoption of traceability system, else, the efforts made for developing customized traceability systems by the software developers will not fill their target regarding implementation in the fish industry.

Acknowledgements

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References

1. Moga, L.M, Dediu, L., Zhang, X., Nenciu, M.I., Ududec Novac, C., *The barriers of adopting traceability systems by Romanian fishery and aquaculture*, *Journal of Environmental Protection and Ecology*, vol. 1, 2016.
2. Moga, L.M., Nicolae, C.G., Nenciu, M.I., Mihaela Neculita, M., Novac C., *Fishery Products Consumers' Perception and Attitude Regarding Quality and Safety in Romania*, 27th IBIMA Conference on nnovation Management and Education Excellence Vision 2020: from Regional Development Sustainability to Global Economic Growth, Milan, May, 2016
3. Wang, F., Fu, Z., Mu, W., Moga, L.M., Zhang, X., *Adoption of traceability system in Chinese fishery process enterprises: Difficulties, incentives and performance* *Journal of Food, Agriculture & Environment*, vol. 2, no. 64, 2009.
4. Nicolae, C.G., Bahaciu, G.V., Ehud, E., Dumitrache, F., Marin, M.P., Elena Pogurschi, Badulescu L. (2016), *A review of the quality standards for frozen beef meat and fish. The International Conference Agriculture for Life, Life for Agriculture of the University of Agronomic Sciences and Veterinary Medicine of Bucharest*, June 9-11, 2016, Bucharest, Animal Science, Series D., Vol. LIX.
5. EU. (2002). *Regulation (EC) No 178/2002 of the European parliament and of the council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety*. EU, ed. (EU).
6. Romanian Parliament. Law no. 150/14.05.20014, LEGE nr. 150 din 14 mai 2004, *Law for food safety and security and animal feed*.
7. *Sanitary veterinary norm that establishes further requirements on sanitary veterinary control of fisheries products, crustaceans, mollusks, gastropods and frogs, intended for direct sale to the final consumer or in food processing for human consumption*, 09.11.2004, available online at <http://lege5.ro/>

Trends in the main Labor Force Indicators in South- East Region of Romania during 1998 -2014 - Effect on Regional Disparities on the Labor Market

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South-East Region has a significant economic potential, being a traditional agricultural area, concentrating industrial units well-known in Romania and abroad and having the most important national tourist resources. The paper tries to reveal and explain the evolution of the main labor force indicators (the activity rate of labor resources, the employment rate, the unemployment rate, the share of human resources on economic sectors, the net average salaries) over three key moments: 1998-the year when development regions in Romania were created, 2007-the year when Romania acceded to EU and 2014-the last year for which we have statistics.

Key Words: labor force, South-East Region, regional disparities, economic potential, labor market

JEL Code: J11, J21

1. Introduction

Regionalisation in Romania has a recent history being closely linked to European Union, which, even if doesn't impose regionalization through specific mechanisms, encourages and supports the process. Thus, in 1997, the European Commission Delegation in Bucharest and the Romanian Government published the "Green Paper - The regional development policy in Romania" and in 1998 was adopted Law no.151/1998 on regional development in Romania, which created the eight Romanian development regions, corresponding to NUTS II regions in the European Union, for a fair and effective absorption of the funds for regional development.

South-East Region comprises six administrative units (Galati County, Braila County, Buzau County, Vrancea County, Tulcea County and Constanta county) and is located in the South-Eastern Romania. It has an area of 35 762 km² (15% of national territory), being the Eastern border of EU and the second largest region in Romania. Also, the last census in 2011, revealed that the region had about 12.6% of the national population and three of the top eleven cities of Romania (Constanta, Galati, Braila).

Despite its remarkable economic potential supported by the high percentage of agricultural land (65% of the total area of the region), by diversified industrial activities (shipbuilding, steel industry and textiles), by the presence of valuable energetic resources (oil in Berca, Sarata -Monteoru, Pâclele, Opișenești, Ianca; natural gas in Buzau and Braila Counties and also in the Black Sea continental shelf) and the travel ones (Danube Delta, Black Sea, Buzau and Vrancea Carpathians), the main indicators of labor work in South-East region reflected, since its creation, an unfavorable image, many of them having now values below the national average.

2. Objectives And Methodology

The main objective of the study was to reveal the evolution of the most important indicators of labor force (the activity rate of labor resources, the employment rate, the unemployment rate, the share of human resources on economic sectors, the net average salaries) over three key moments for Romania and South East Region: 1998-the year when development regions in Romania were created, 2007-the year when Romania acceded to EU and 2014-the last year for which we have statistics. Another major goal of the paper was to identify the causes which created the specific of labor force indicators and socio-economic implications within the region. In the same time, we also tried to identify the intra-regional disparities and propose a series of solutions to reinvigorate the labor force in South-East Region.

The methodology used during the three specific phases of the study (the preparatory stage, the field research stage and final stage) were:

- *the analysis method* used to browse the selected bibliography and learn the issues we present in the study;
- *the observation method* used constantly in the field research stage;
- *the figurative method*, based on which we conducted a series of charts on main labor force indicators, very useful for regional comparisons.

3. Labor Market And Labor Force- Theoretical Approach

The *labor market* can be defined as a meeting place in space and time, as its total and structure, of labor demand with labor supply (Ignat, et.al, 2002).

Labor supply is the amount of work that the active population wants to provide at various levels of salary, expressing itself through the demand for jobs. The size of the labor supply is determined essentially by the size of the population that is able and willing to work and the number of hours that each individual actually works.

The *labor force* is actually "the fountain" which determines the flow of labor supply. They are the largest and most important in the entire population of a country, representing the whole people who, by their biological, physical and intellectual characteristics, can participate directly and permanently to a useful economic activity. (Constantin et. al, 2002).

The labor force is influenced by two types of factors:

- demographic factors, which refer to birth rates, mortality rates, life expectancy, migration flows, etc.;
- social and economic factors- economic development, labor laws in each country, the legislation on retirement age which influences the lower and higher limits of the manpower.

In order to determine the total labor resources (RMT) available on a national or regional economy the following variables are taken into account:

- *legal working age population* (MVP), represented by persons between lower and higher employment age, according to labor law in each country, usually higher for men;
- *active population outside the labor age* (PAVMA) includes young people who work below the lower limit working age and people who work after retirement age;
- *working age population which is unable to work due to occupational diseases, accidents at work, etc.* (PIM). Thus, we can calculate, using the symbols chosen, the total labor resources, using the formula: $RMT = PVM + PAVMA - PIM$ (Constantin et.al, 2002)

Based on these variables we can define the most important factor in labor supply, *active population*, which, in economic terms, provides labor force available for producing goods and services, made up of people of working age who are able to work. Active population also comprises two components:

- *the employed population* who, statistically, is made up of all the legal working age people, able to work and who, during the reference period, exercise an economic or social activity, producing goods or services for at least one hour, being paid under salaries, payment in kind or other benefits. The employed population includes civilian employees, employers, self-employed, family workers, paid apprentices and trainees, military personnel.

- *active population unemployed (jobless).*

The difference between the total population of a country and the active population is called *inactive population*, which includes household population, pupils and students not engaged in income activities, pensioners who no longer work to obtain additional income, other assisted persons.

These categories of people can also be expressed as rates, representing key indicators of labor force:

- *the activity rate* (or the participation rate in the labor force) is the percentage ratio between the civil active population and labor resources. It really expresses the participation rate of the population in this category in order to form the labor force.

- *the employment rate* is the percentage ratio between the employed population and labor resources.

- *the unemployment rate*, according to the methodology of calculation of the National Institute of Statistics, represents the percentage ratio between the number of unemployed registered at the agencies for employment and civil active population (unemployed plus civil employed population). *The employed population*, according to the methodology of labor force balance includes all persons who, during the reference year, held an economic and social activity that generated an

income, except military staff (MAPN staff, MAI, SRI), political and public organizations employees and inmates.

Additionally, to reveal the regional disparities of economic development in the South-East Region, we compared the evolution of *net average salaries* and calculated *the civil employment rate by economic sectors* (Erdeli et al., 1999).

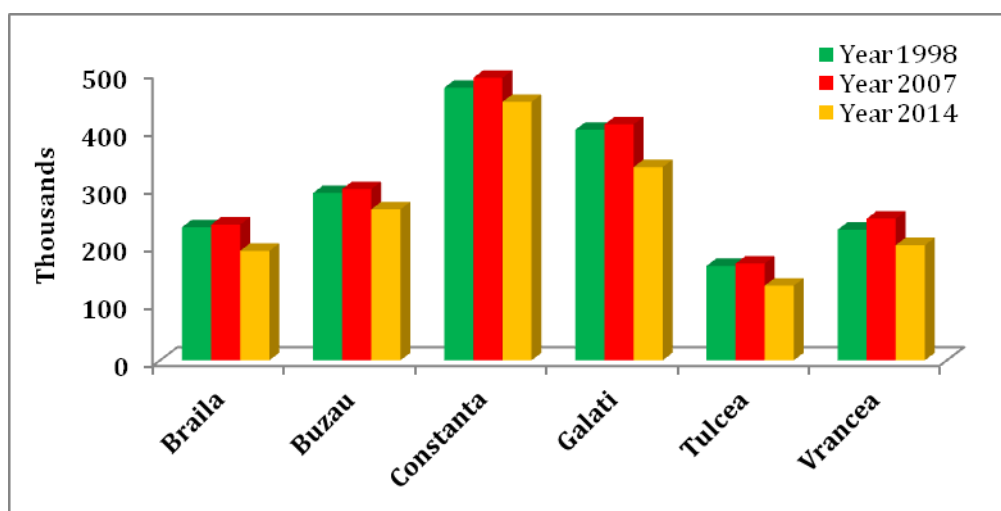
4. Labor Force In South-East Region

The number and evolution of *labor resources* show the level of economic development of a region, strongly influenced by demographic realities (total population, the rate of natural balance, the migration rate, the demographic aging, etc.) and economic realities (number of jobs, the value of foreign direct investment, salaries).

The analysis of labor resources in South-East Region during 1998-2014 reflects two types of evolution:

-1998-2007 period characterized by a slight positive trend of labor resources of the region, which increased from 1785,7 thousands people in 1998 to 1847,3 thousands in 2007 (+ 3.4%). Inside the region, the growth was between + 1.95%- Braila County to 8.51% Vrancea County (Figure 1). This evolution was determined by the positive values of the migration rate and natural balance rate in 2007 recorded by some of the counties, who succeed, despite the poor evolution of the national economy, to attract laborers, offering a higher number of jobs and higher salaries. (Constanta County with a migration rate of 2.1‰ and 0.6‰ for natural balance rate and Vrancea County with a migratory rate of 0.21‰).

Figure 1. Labor Resources In South-East Region, By Counties During 1998-2014
(source: INS, Tempo-Online Database)



- 2007-2014 period marks the accelerated decline of labor resources in Romania and also in the South-East Region, the latter having 1566,2 thousands people in 2014 (-12.2% during 1998-2014 and -15.2% during 2007-2014). Inside the region, the largest decreases were recorded by the counties of Tulcea (-22.8%) and Braila (-19.3%), while Constanta County registered the smallest decrease (-8.5%). This decrease occurs in conjunction with the unfavorable evolution of migratory and natural balance rates which increased with the entry of Romania in the EU. Unfortunately, for many people in South-East Region, left without jobs after the privatization of industrial units in urban settlements, the first solution, with the opening of EU borders, was emigration abroad to find jobs which could assure them a decent living (Figure 3).

This demographic process begun in 1990 has contributed to diminishing Region's population (Figure 2), the immediate consequences being the decline in birth rates and the growth of mortality as a result of aging (Figure 4).

The activity rate and *the employment rate of labor resources*, although reflected an increase in the region, after Romania entered the European Union (2007-2014 period), this one was artificial, caused by the decrease in a higher proportion of labor resources in the same period.

In reality, the civil active population and the civil employment recorded a downward trend in all counties, except Constanta County, which, during 1998-2007, recorded a growth of + 0.71% for active civil population and 6.21% for civil employment.

Figure 2. Population Of South-East Region, By Counties During 1998-2014
(source: INS, Tempo-Online Database)

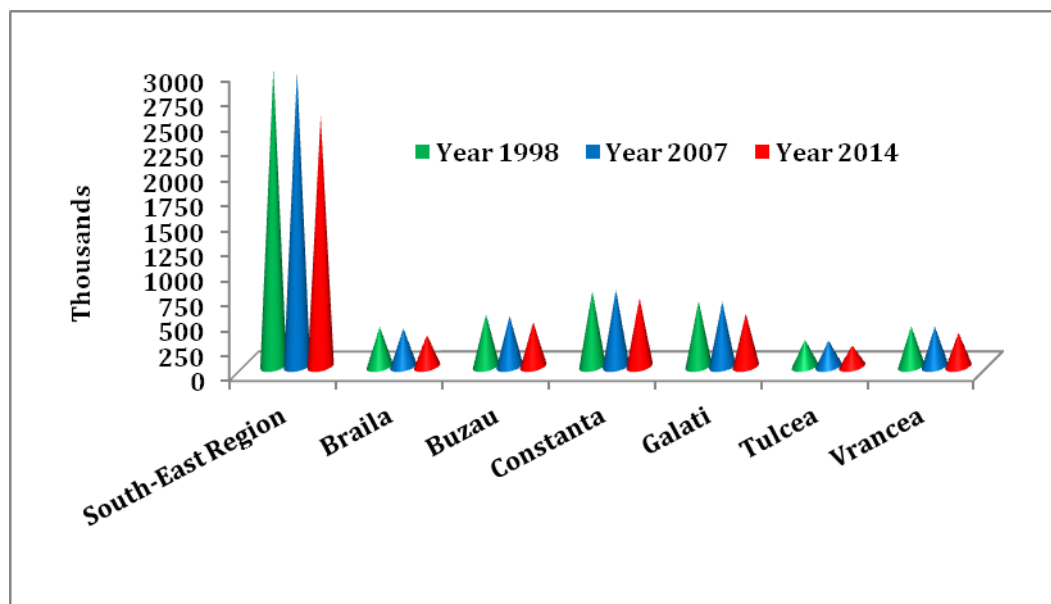
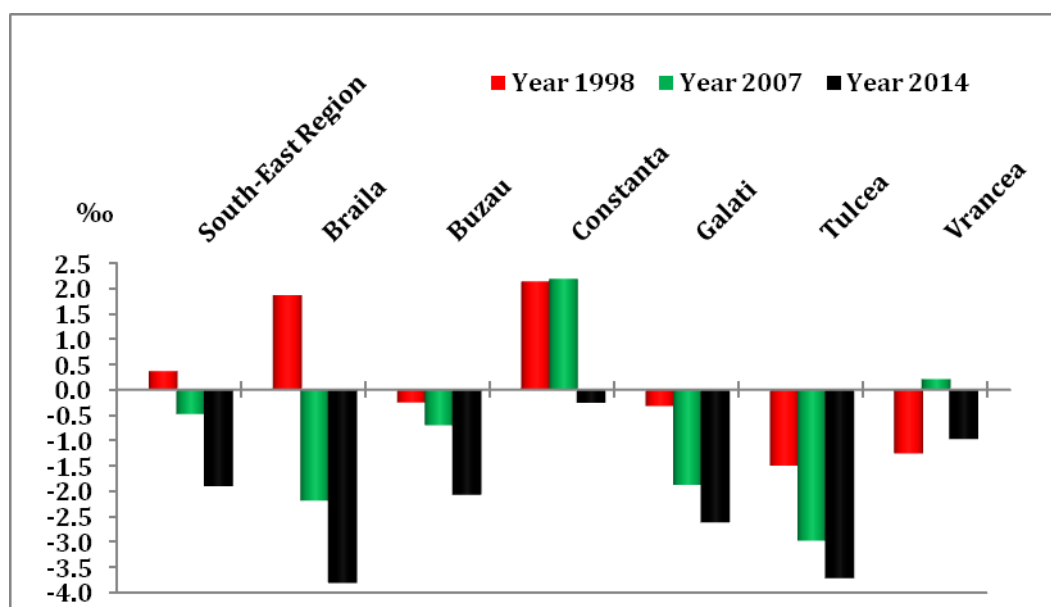


Figure 3. Migration Rate In South-East Region, By Counties During 1998-2014
(source: calculated data using INS, TEMPO-Online Database)



We also note, in the South-East Region, that the activity rate of the population, remained throughout the entire period below the national average, being 67.7% in 2014, while the employment rate overcame the national value being 68.8%.

Unfortunately, Galati County recorded the most unfavorable evolution, the low number of jobs in Galati City, as a result of the contraction of industrial activities of the steel plant and the lack of

investments to create new jobs, being the main factors that placed Galati County during 2007-2014 on the last place among the counties in South-East Region. (Figures 5&6).

Regarding the **structure of employment by economic sectors**, the economic development of South-East Region did not allow us a more detailed structure of the active population. Therefore, we resort to the traditional division into three main economic sectors: **primary (agriculture, forestry, mining industry)**, **secondary (manufacturing, construction)** and **tertiary (services)**.

Figure 4. Natural Balance Rate In South-East Region, By Counties During 1998-2014
(source: INS, Tempo-Online Database)

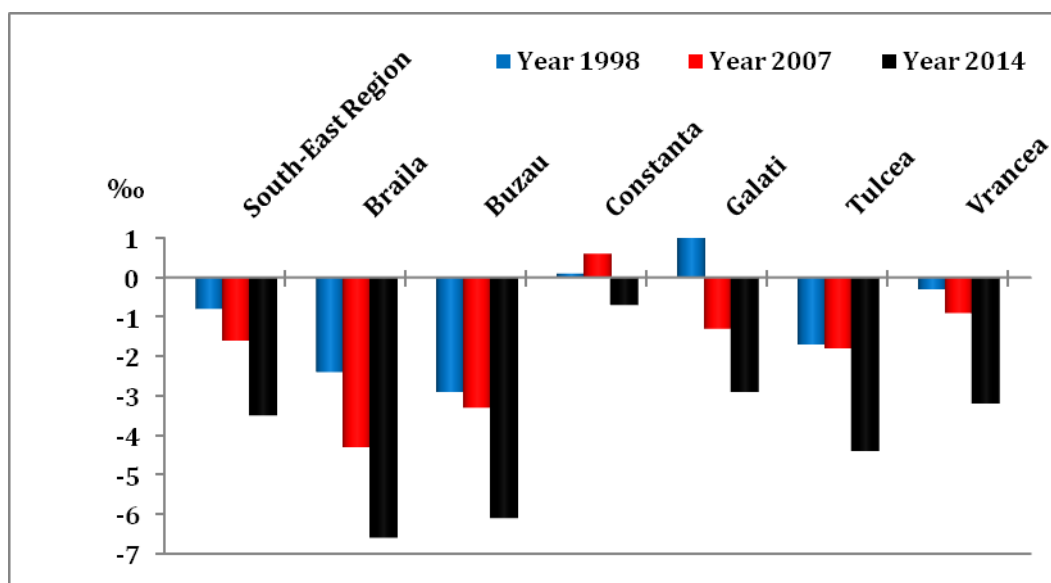
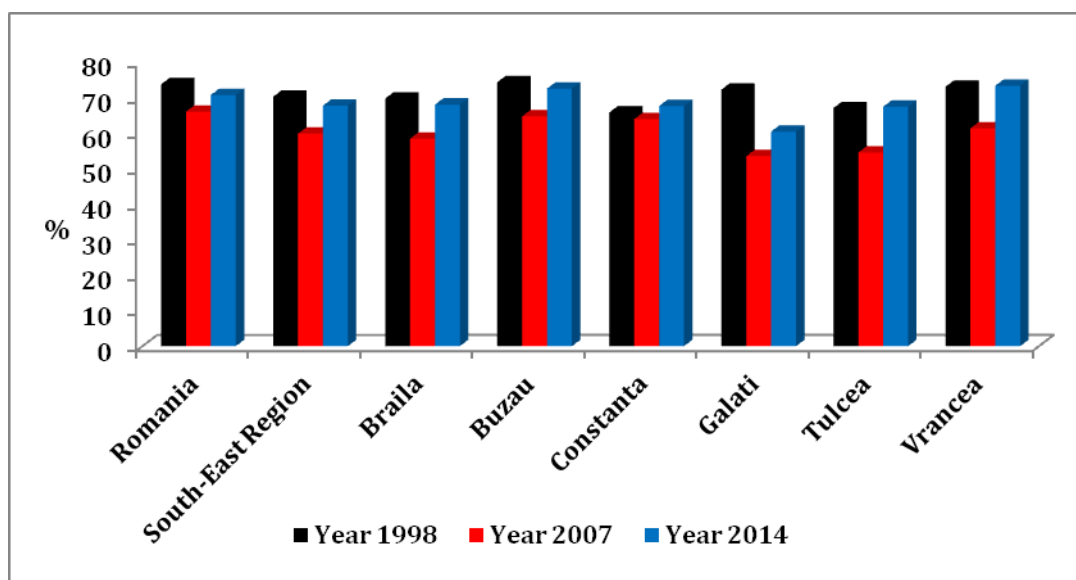


Figure 5. The Activity Rate Of Labor Resources In Romania And South-East Region, By Counties During 1998-2014
(source: INS, Tempo-Online Database)

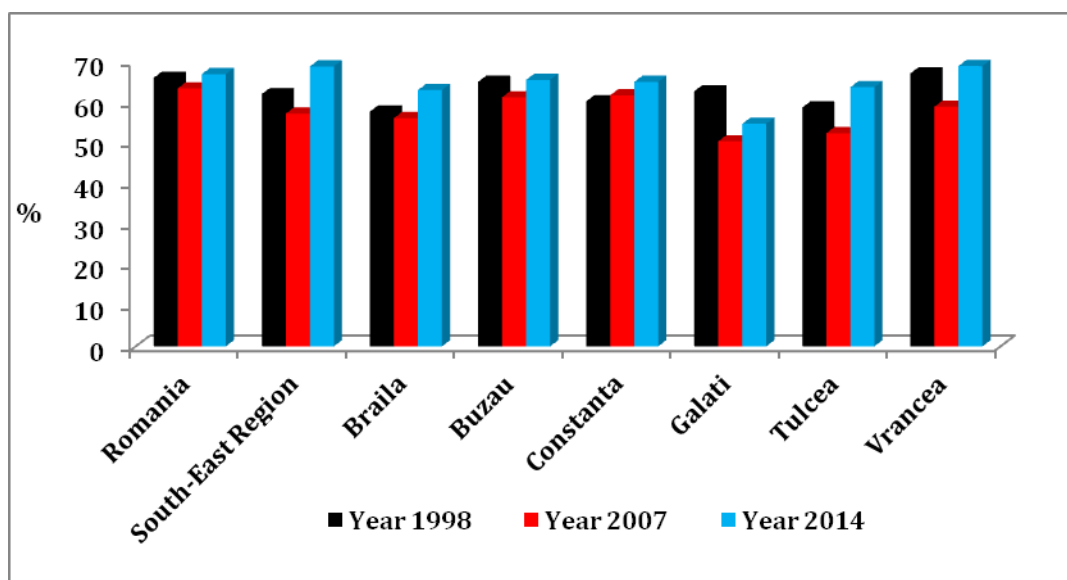


Of course, when tertiary sector is sufficiently representative, exceeding the other two sectors, we might analyze a primary and a secondary sector of services, or even a quaternary sector, as in developed national economies, but for our region we considered the classic division more representative.

The analysis of *the employment rates by the three major economic sectors* and *net average salaries* in South-East Region during 2008-2014 has justified us to draw the following conclusions:

- although about 2/3 of the South-East Region total area is agricultural land, the primary sector ranks second in both years (2008 and 2014), increasing by 1% (Figure 7). First place is occupied by the tertiary sector exceeding 40% in 2014, while the secondary sector ranks last with only 27%;

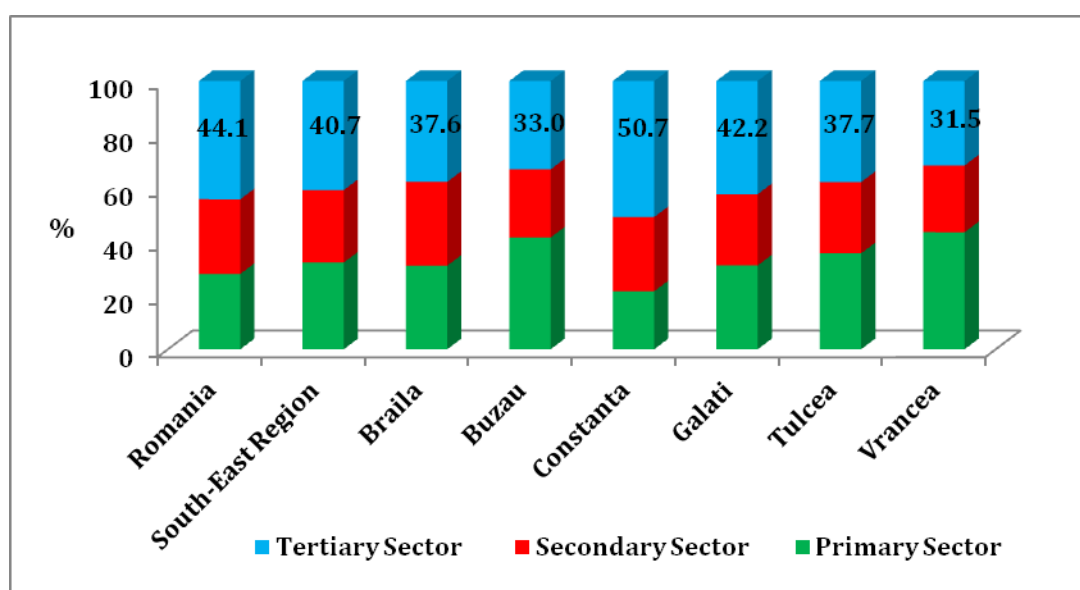
Figure 6. Employment Rate Of Labor Resources In Romania And South-East Region, By Counties During 1998-2014 (source: INS, Tempo-Online Database)



- although the tertiary sector has the highest share, its rate is below the national average in both years, the same situation being recorded by secondary sector;

- only primary sector is positioned above the national average, reflecting in the same time, the considerable agricultural potential of the region;

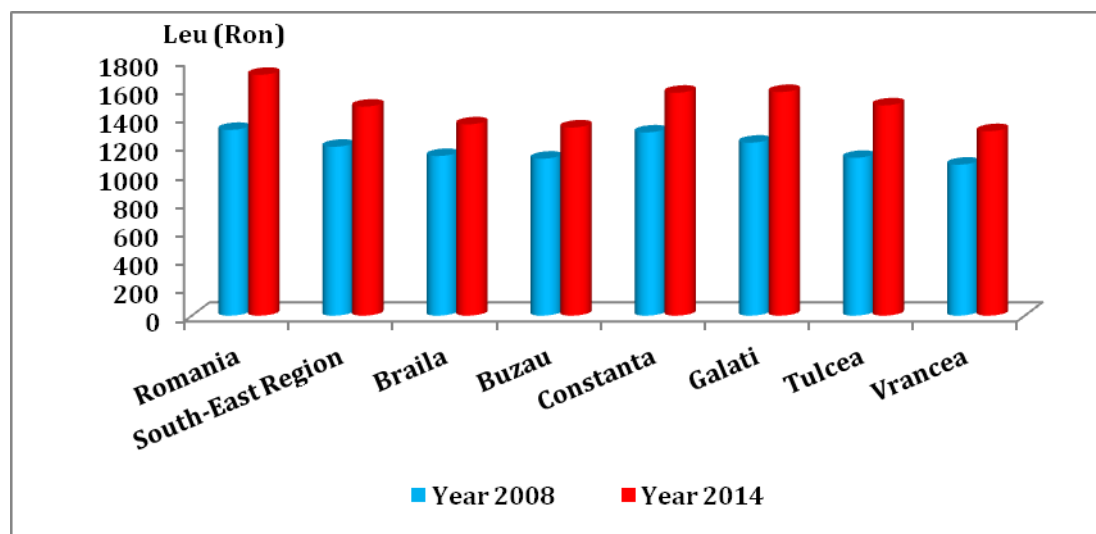
Figure 7. Employment Rate By Economic Sectors In 2014 In Romania And South-East Region, By Counties (source: calculated data using INS, Tempo-Online Database)



- Vrancea and Buzau Counties recorded in both years the highest rate of population employed in the primary sector, being the counties with the lowest net average salaries. Constanta County occupies the first place in the tertiary sector with a rate of employment of 50.7% in 2014), followed by Galați County (42.2% in 2014). Moreover, Galati and Constanta Counties recorded the highest average net salaries (Figure 8);

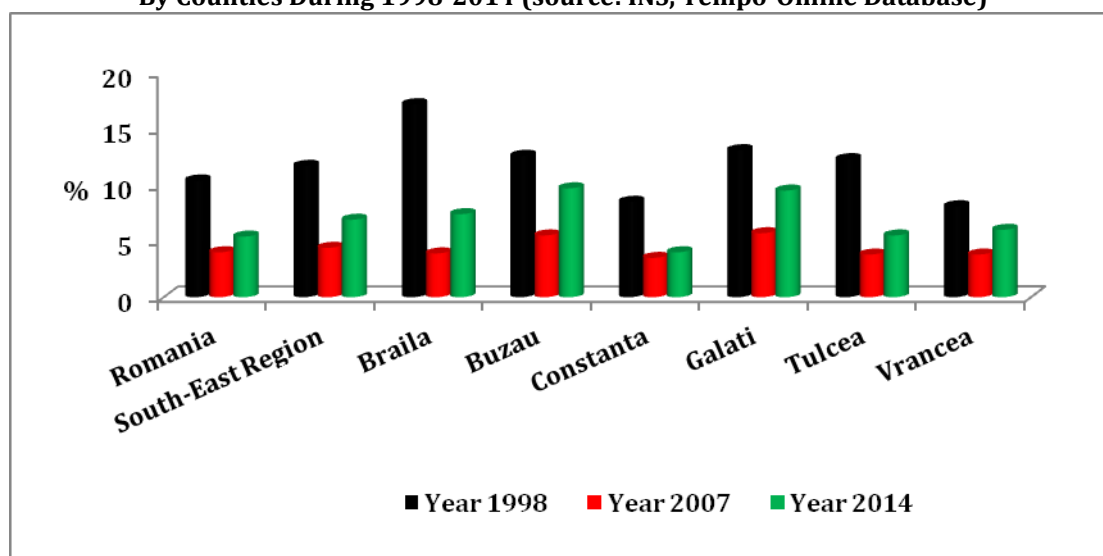
- Braila County occupies the first place in the secondary sector, with 33.9% of the employed population in 2008 and 31.2% in 2014, the majority of the employees working in the textile industry (Braiconf, Solo Textil, Blazer, Rojin Textile).

Figure 8. Net Average Salaries In Romania And South-East Region, By Counties During 2008-2014 (source: INS, Tempo-Online Database)



- we notice that net average salaries are during the whole period, far below the national average, economic diversification and raising the employment rate in the tertiary sector being the most important priorities on the medium and long term period for raising the living standard of the population in South-East Region.

Figure 9. The Unemployment Rate In Romania And South-East Region, By Counties During 1998-2014 (source: INS, Tempo-Online Database)



The unemployment rate during 1998-2014 shows best that the South-East Region has a standard of living below the national average, unemployment rate being above the national average

over the entire period (Figure 9). In 2014, Buzau and Galati Counties recorded the highest unemployment rates (9.7% and 9.5%), while the Constanta and Vrancea Counties had the lowest values (4% and 6%). We also notice, a positive evolution for Braila and Tulcea Counties, which in 2014 recorded unemployment rates of 7.4% and 5.5%

In reality, the real values of the unemployment rate are usually higher than those offered by official statistics, because many jobless people are not registered at the local agencies for employment. These high levels of unemployment were caused by the restructuring of large companies in the region and failure to replace them with other profitable ones. Also, the lack of promotion to attract new investors is a major issue in a region where urban settlements provided for many years qualified labor force. We must not forget, the geographical position, still unattractive to foreign investors, who focus on western and central regions of the country, better connected in terms of transport infrastructure with the national capital city and other states of E.U.

5. Conclusions

The peripheral geographical position in Eastern Romania, the low quality of transport infrastructure and economic changes recorded by the industrial companies in the South-East Region are the main factors which led to this unfavorable evolution of the main indicators of the labor force after Romania acceded to EU. Moreover, year 2007 was an important opportunity for many residents of the region to leave the national borders looking for a job, reducing, during 2007-2014, more and more the labor resources in the region.

Inside the region, the most unfavorable evolution was recorded by Galati County, currently affected by high unemployment rates, with the lowest activity and employment rates of labor resources. Constanta County retains throughout the entire period, the economic advance over the rest of the counties in the South-East Region, conferred by the sea port, considered the gate for agricultural exports of all production basins in the region.

The solutions to improve the key indicators of the labor force in the South-East Region are essentially the same, which should be taken at national level. Attracting manpower from neighboring regions, the rebound of the people who have gone abroad, the growth of average net salaries and reducing unemployment can only be achieved by increasing the absorption of EU funds and investments to revive the region's economy.

Therefore, connecting the region to the center and west of the country through fast transport infrastructure (highway, regional airport), streamlining the primary economic sector (association of producers; decreasing the fragmentation of agricultural land) and secondary sector (supporting private initiatives, especially in rural settlements) should be the main objectives for future local and regional authorities to support growth and labor resources in South-East Region.

References

1. Constantin D. – L., Pârlog C., Lilea E. (2002), *Resursele umane în România. Mobilitatea teritorială*, Editura ASE, București;
2. Ignat I., Pohoată I., Luțac Gh., Pascariu G., (2002), *Economie Politică*, Ediția a II-a, Editura Economică, București;
3. Erdeli G., Căndea Melinda, Braghină C., Costache S., Zamfir D., (1999), *Dicționar de geografie umană*, Editura Corint, București;
4. Șorcaru, I.A., (2012), *Structura socio-economică a populației din Câmpia Tecuciului*, Conferința Anuală a Societății de Geografie din România, "Spațiu geografic, suport al comunității umane", Editura Mirton, Timișoara;
5. Ungureanu A., Muntele I., Groza, O., (2002), *Moldova-populația, forța de muncă și așezările umane în tranziție*, Editura Corson, Iași;
6. *** INS, Baza de Date Tempo-Online
7. *** <http://www.adrse.ro/Regiunea/Regiunea.aspx>

A New Trend of Foreign Direct Investment and Sustainable Growth of Emerging Economies

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With the rise of globalisation concept, the opportunity of going global for companies has become so influential that many of the companies that are doing well in the home country are starting up their businesses in other countries to maximise the profit. The trend of investing in other economies has become very popular that's why the trend of foreign direct investment between developed and developing economies has not only been increased but significantly a new trend has emerged for foreign direct investment among developing to developing economies. It has been seen that foreign direct investment (FDI) as foreign capital is playing very wider and important role in the socio-economic development of a nation. Evidently, it played an important role to the development of the developed nations, and playing a significant role in the development of the number of developing nations. Today, FDI is considered to be the core incentive for economic and social development as far as the developing nations are concerned.

Keywords- Globalisation, FDI, emerging economies, new trend, BRICS, India.

Introduction

The term 'Globalisation' in today's rapidly changing business and technological environment has a broader concept and defines a process of economic and social connection between not only people but also the organisations and businesses. It would not be wrong to say that today this world gives a picture of global village as everything from people to businesses are interconnected across the world regardless of physical borders.

As the concept of globalisation spread rapidly, the need of going global and integrate the business in international markets aroused. Globalisation affected the flow of FDI from developed countries to the developing countries. The developed countries such as UK, US and other EU countries, had reached to the high level of education, economy and liberalisation. They started transferring the capital in international market through investing in developing countries like China, Poland, Romania, India, Russia, UAE, Malaysia, Brazil, Africa and many more. Every nation would like to liberalise their policies as much as possible in order to get highest numbers of foreign investors and be benefited of globalised economy. The globalisation strategy assisted the companies to expand their businesses in free economies of the world to maximise the profits and shareholder's equity¹⁵³. Globalisation, free market economy and foreign direct investments initiated at the same century and now have changed the markets through transnational business strategies. And such strategies creates a new trend of capital flows with drastic changes- among emerging economies for inflows as well as out flows.

What is Emerging Economies?

Emerging economies refer to those low-income countries, whose business or social activities are in the process of rapid growth through economic liberalisation. Growth of such economies are also depending on the role of government for social engineering towards restructuring the national economic system and promotional activities for long-term economic/ industrial development in that country.

The emerging economies can be identified based on their territory, population, economic scale, per capita income, science & technology, education, development of infrastructure construction, and their impact on world economy. These countries can be identified as-

- ✚ Maintaining high economic growth rate;

¹⁵³P. Kumar, "A New Trend in FDI- India, EU and Poland Perspective" ASM Business Review, "Business Strategies Practices and Innovations" the Bi-annual Referred Journal, ISSN No.: 09749136, Volume-5 Number-1, Pune, India, 2016, Pp51-60

- ✚ With significant growth in economic scale and rapid growth of population;
- ✚ Coming from low-income countries and having middle-level or below per capita;
- ✚ Adopted new economic policies and openness according to their demands;
- ✚ High representation around the globe and influence to the world economy, etc.

All basic indicators show that the future prospects for these emerging economies are very high and will be able to maintain such rapid growth in their economies as well as industrial growth in coming years.

Meaning of FDI and sustainable Growth

Foreign direct investment is a method of direct investment into a business of a country by the company or individual of another country¹⁵⁴. This direct investment can be either in shape of merger and acquisition of a company in targeted country or by expanding business operations of a company in a targeted country. Foreign direct investment does not mean to invest in securities like bonds and stocks, of another country. It is in contrast to portfolio investment¹⁵⁵. If a company buys 10% shares of any foreign company then it will be categorised as Portfolio investment. Portfolio investment is a capital provision to a firm in exchange for the earning profit or return possibility. The one who does portfolio investment does not eligible to acquire any management interest in the firm. Foreign direct investment is generally regarded as mergers and acquisitions of company in host country by any foreign investor or company.

Foreign direct investment (FDI) means that any company or organisation can do direct investment into the production of another country. It can be through various ways; buying company in another country or by expanding business into another country. Expanding business means opening a new business unit of existing business or by opening a completely new business. There are many reasons behind doing foreign investment; it may be because of taking advantage of low wages of a country, privileges like tax exemption which are given by some countries as an incentive to take advantage of tariff-free access of the region or of a specific market. Foreign direct investment is the opposite of portfolio investment. In portfolio investment a company buys stocks and bonds of different companies located in different countries. Foreign direct investment is the part of national accounts of the country. It does not include investments which are done by purchasing shares of another country. It is also called as an example of international factor movements.

The role of foreign direct investments was considerably got importance after the development of United Nations in 1960s. The flow of FDI at the global level varies by time, it was observed that the global flow of FDI during the economic crisis period was directed towards the developing countries and transition economies. The fact was that the transition economies with the more open policies and growing economies were providing more opportunities to the host countries than the developed countries. It is projected that the world half FDI will be directed towards the developing nations by the end of the year 2020. The developed nations has reached to their maturity and have less opportunities for business that are already exist there, that is why the companies in developed countries are looking forward towards the developing countries for further expansion of their business. And by providing such opportunities developing countries are able to attract investors constantly which is helping them to develop their economy sustainably.

At the global level, BRICS countries that are Brazil, Russia, China and South Africa are the most attractive destinations for the foreign direct investments.

Hypothesis

Foreign Direct Investment (FDI) play a very crucial role in the development of developing economies, also when the source of FDI is another developing economy. Therefore research paper has identified the channels of this positive development and quantified them.

Research is also focused on BRICS development and potential market as India.

Research Methodology

The research paper has adopted methods of investigation- Literature and data reviews.

¹⁵⁴ De Mello L. R. (1999), Foreign direct investment-led growth : evidence from time series and panel data, Oxford Economic Papers, No. 51, pp. 133-151.

¹⁵⁵ Bergstrand, Jeffrey H., and Peter Egger. (2007) "A Knowledge-and-Physical-Capital Model of International Trade Flows, Foreign Direct Investment, and Multinational Enterprises," *Journal of International Economics*, 73(2): 278-308.

Trends of FDI in Emerging Economies since 1990

Foreign Direct Investment was considered as negative, unhelpful, and it was thought of as it brings technology that is inappropriate for the country. For almost after 40 years, a different view regarding the Foreign Direct Investment has emerged. Foreign Direct Investment is now considered as beneficial and almost all the countries have tried to provide welcome investments from other countries. Countries have started to recognise that they can attract FDI by using both the economic and FDI policies. Technological advancements in communication and information industries have combined to create a new form of industrialisation, a form of industrialisation based increasingly upon the application of enhanced services for improvements in productivity. One consequence of this "thought ware" economy is the increased interdependence and specialisation of production among trading nations. Increasingly, we witness the transnational sharing of production in which various segments of the production process are being parcelled out to countries with perceived competitive advantages¹⁵⁶.

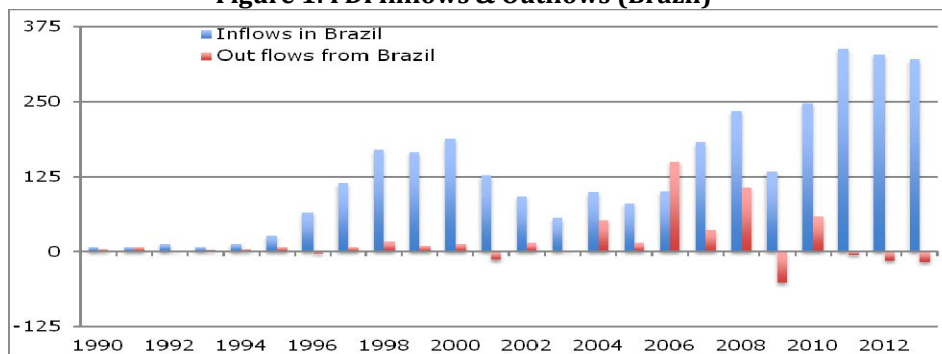
The emerging economies are considered as attractive destination for foreign direct investment, globally. The BRICS countries that are Brazil, Russia, India, China and South Africa are world fastest growing economies. The factor of economy growth is an attractive factor for foreign investors to invest in the growing economies to get an adequate return on investments. Foreign direct investment into emerging economies surpassed that into developed markets despite any precedent to the contrary a year ago even thusly inflows abated all-inclusive, "UNCTAD" said in its World Investment Report 2015. Inward FDI flows to developing economies reached their highest level at \$681 billion with a 2 per cent rise. Developing economies thus extended their lead in global inflows. China became the world's largest recipient of FDI. Among the top 10 FDI recipients in the world, 5 are developing economies.

The low level of flows to developed countries persisted in 2014. Despite a revival in cross-border mergers and acquisitions (M&As), overall FDI flows to this group of economies declined by 28 per cent to \$499 billion. They were significantly affected by a single large-scale divestment from the United States. Investments by developing-country multinational enterprises (MNEs) also reached a record level: developing Asia now invests abroad more than any other region. Nine of the 20 largest investor countries were from developing or transition economies. These MNEs continued to acquire developed-country foreign affiliates in the developing world¹⁵⁷.

Global FDI inflows are projected to grow by 11 per cent to \$1.4 trillion in 2015. Expectations are for further rises to \$1.5 trillion in 2016 and to \$1.7 trillion in 2017. Both UNCTAD's FDI forecast model and its business survey of large MNEs signal a rise of FDI flows in the coming years. The share of MNEs intending to increase FDI expenditures over the next three years (2015–2017) rose from 24 to 32 per cent.

Analysing few global economies by inflows and outflows of their FDIs measures in US\$ at current prices and current exchange rates per capita.

Figure 1: FDI Inflows & Outflows (Brazil) ¹⁵⁸



Brazil is one of the most attractive destinations for FDI. As shown in figure 1, trend for Brazil inflow has always higher. Year 2011 recorded as highest received inflows and bit slow down in 2012

¹⁵⁶ Kumar, N. 2012. *Globalization and Quality of Foreign Direct Investment*. New Delhi, Oxford University Press, 2012. P39.

¹⁵⁷ http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf

¹⁵⁸ UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=88>

and 2013. Comparing out flows from Brazil is in negative (-). Thus, trend to receive inflows in Brazil is predicted to be increased in 2016, 2017 and continue till 2020.

Figure 2: FDI Inflows & Outflows (China)¹⁵⁹

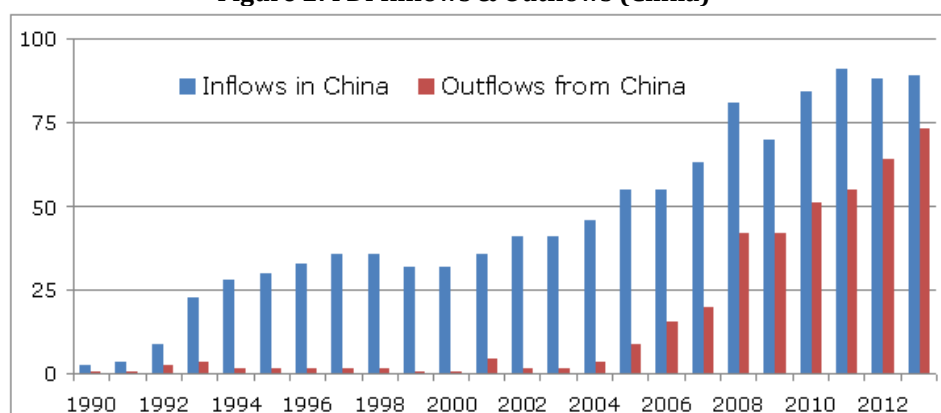
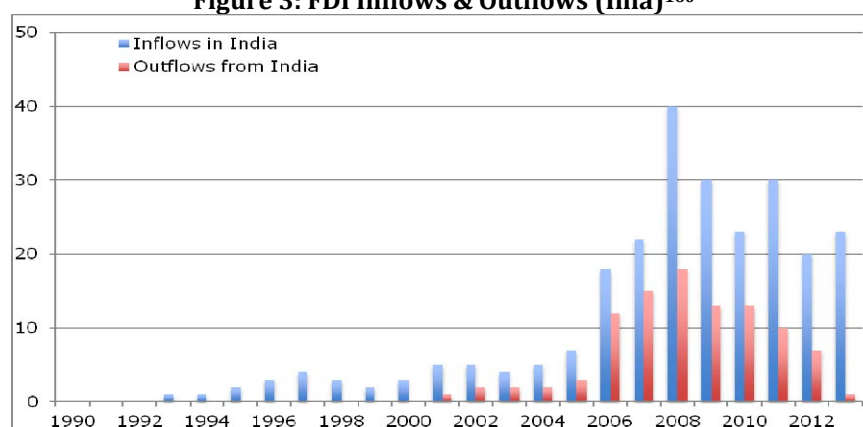


Figure 2, explains about the trend in China. China is receiving FDI inflows without any affects of economic crisis since 2008, and receiving FDI inflows without any interruptions. Also out flows from china is growing which is showing that China being one of the emerging economy is also investing to other economies. Such trends are expected by 2020 to be much larger than it is now.

Figure 3: FDI Inflows & Outflows (India)¹⁶⁰

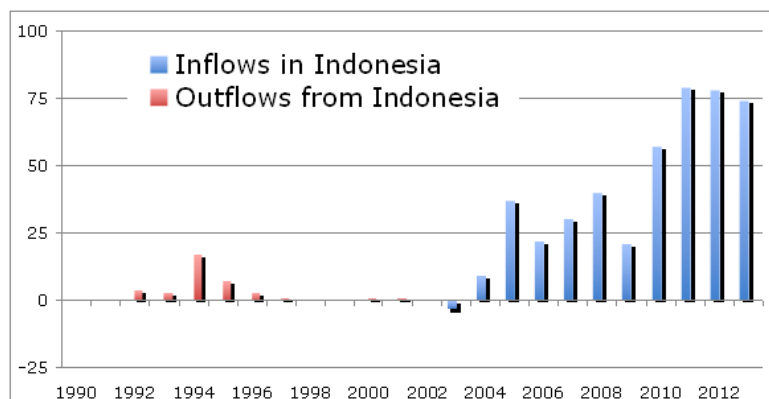


India being one of the fastest growing emerging markets received highest FDI inflows in 2008. According to figure 3, after 2008, inflows to India slightly fell down and again recovering in a better way, but outflows from India is still very slow. Since 2001, Indian companies started to go abroad after adaptation of liberal policies by Indian government, which started to decline after 2008. Year 2013, was the lowest recorded year for last ten years for out flows of FDI. Expected data shows that India remain one of the favourite destination for FDI but Indian investment going abroad is also on the track to recover themselves and take more interest to global market. Newly launched “Make in India” project 2016, busting inflows and attracting FDI in many sectors.

Figure 4: FDI Inflows & Outflows (Indonesia)¹⁶¹

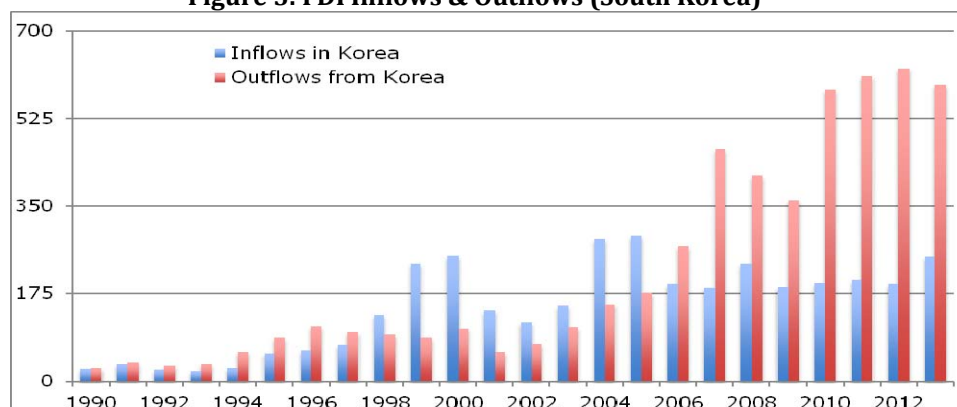
¹⁵⁹ UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableView/tableView.aspx?ReportId=88>

¹⁶⁰ UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableView/tableView.aspx?ReportId=88>



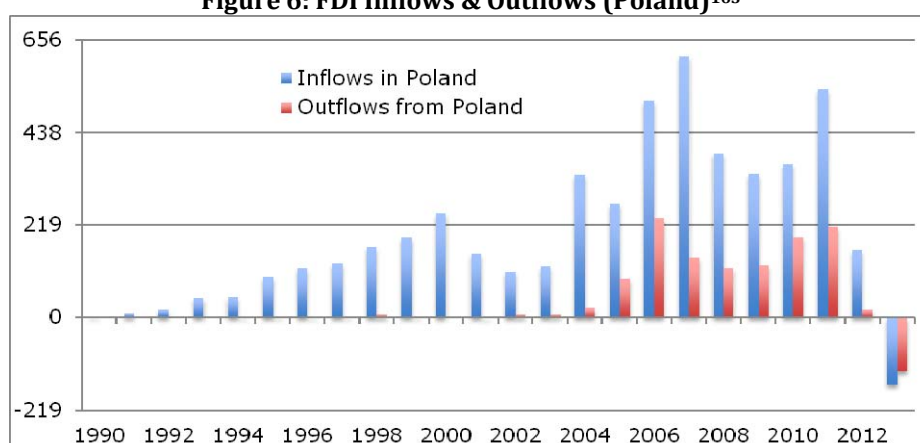
According to figure 4, Indonesia favourably receiving FDI inflows. From Indonesia out flows are almost neglected.

Figure 5: FDI Inflows & Outflows (South Korea)¹⁶²



South Korea is known for outflows FDI, figure 5. In 2013 outflows from South Korea was slightly lower than 2012 and respectively 2011 but still out flows are much higher than foreign capital inflows.

Figure 6: FDI Inflows & Outflows (Poland)¹⁶³



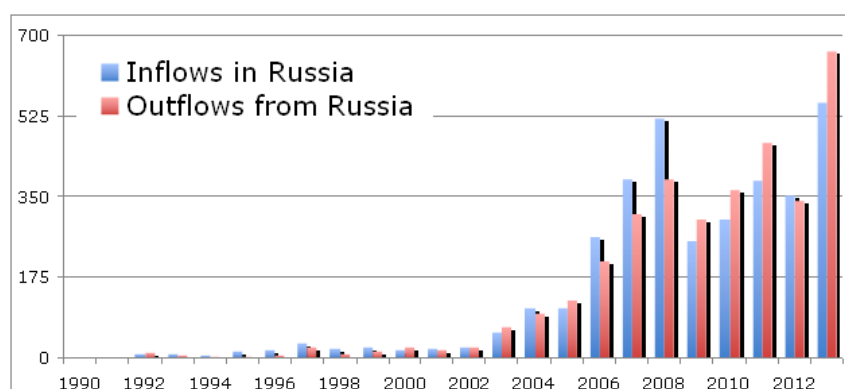
¹⁶¹ UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableView/tableView.aspx?ReportId=88>

¹⁶² UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableView/tableView.aspx?ReportId=88>

¹⁶³ UNCTAD Statistics, Foreign Direct Investment Statistics. Online available at <http://unctadstat.unctad.org/TableView/tableView.aspx?ReportId=88>

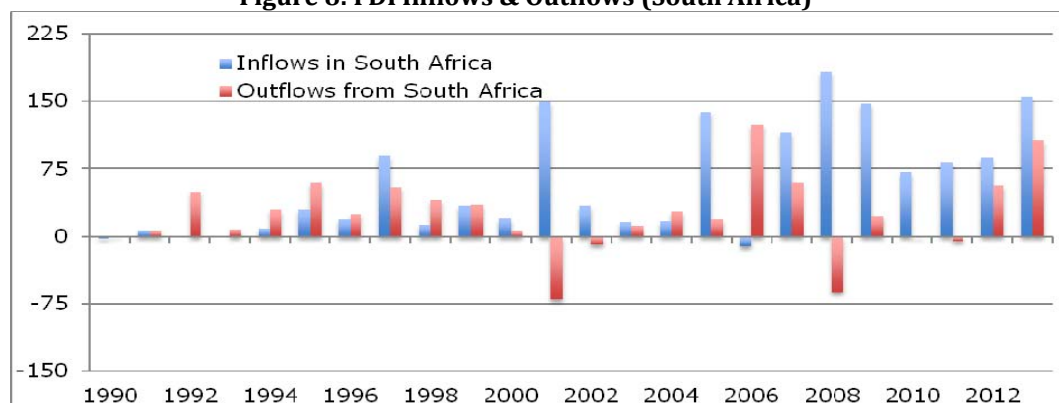
As shown in figure 6, Poland is not very favourable destination for FDI inflows as well as for outflows. It has been noticed that 2007 was the pick time when Poland received highest inflows. 2013 were very bad due to investors started to take their capital out of the country. It was the signal when International firms started to loose confidence for Polish Market. But again since 2014 market is recovering and foreign capital flow has been increased. It is also predicted that in coming years, Poland is going to be one of the top destination in the European Union 28. And by 2020, Poland is going to be one of the top 10 destinations for inflows FDI in world ranking.

Figure 7: FDI Inflows & Outflows (Russia)¹⁶⁴



Russia is playing very important role towards inflows and outflows of FDI. According to figure 7, Russian investment is going out of Russia is much higher than foreign capital coming inside the country. The similar trend is expected in 2016. Due to economic sanctions on Russia inflow graph is lower but out flow from Russia will continue at least up to 2020.

Figure 8: FDI Inflows & Outflows (South Africa)¹⁶⁵



Foreign direct investment (FDI) going into and out of the emerging economies- India, Brazil, South Africa, China, and Russia – all in all regarded as BRICS – is mounting in worldwide impact, consistent with a United Nations report discharged earlier. The most recent Global Investment Trends Monitor (GITM) indicates that over the previous decade, foreign direct investment going into BRICS countries has more than doubled than pre-crisis level and holds current share of global FDI flows at 22 percent.¹⁶⁶ Totalling \$322 billion in 2013, which is 21 percent higher than in 2012. In the mean time, investment from BRICS into different nations has moved from \$7 billion in 2000 to \$126 billion in 2012.¹⁶⁷ Author’s predictions are by 2020 global FDI flow to BRICS will increase up to 40-45 percent.

¹⁶⁴ <http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx>

¹⁶⁵ <http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx>

¹⁶⁶ http://unctad.org/en/PublicationsLibrary/webdiaeia2014d1_en.pdf

¹⁶⁷ Winters, L. A., M. Gasiorek, J. L. Gonzalez, P. Holmes, M. M. Parra and A. Shingal, *Innocent Bystanders: Implications of an EU-India Free Trade Agreement for Excluded Countries*, Commonwealth Secretariat, London, 2009.

Specifically, the report highlights that FDI from BRICS countries into Africa spoke to 25 percent of Africa's inflows a year ago, with most stores heading off to the assembling and administrations segments. While labor sets back the all 'finances in Africa may not contrast fundamentally from those in the firms' home economies, the job free, amount free right of entry of African nations and China's zero-levy measures for African Least Developed Countries (LDCs) have produced assembling investment.¹⁶⁸ For example, Brazil has developed its business in the new African ethanol industry in nations like Ghana, Angola, and Mozambique; Among all China is the top most putting nations in LDCs, for example Zambia and Sudan; an Indian organisation as of late obtained an African cell telephone system; and Russian banks are growing to nations, for example Nigeria and Côte d'Ivoire. The report notes that this developing relationship between BRICS and Africa is liable to be strengthened sometime later because of the quick investment development and streamlined updating right now occurring in BRICS nations. "The ascent of FDI in assembling, which has positive outcomes for work creation and mechanical development, is turning into a vital feature of South-south investment participation," it says.

Notwithstanding, the primary impart of BRICS' outward investment is still in developed economies, with 34 percent of their stocks setting off to the European Union. The report notes that these investments are in substantial part determined by 'business sector looking for thought processes' and additionally mergers. The EU is around the fundamental gurus in each of the BRICS and the prevailing speculator in Brazil and Russia. In China and India, the EU has less weight. In any case in the wake of adjusting for particularities in FDI information, for example the conspicuous part of Hong Kong and seaward Centres in Chinese FDI and of Mauritius in Indian FDI, the EU ranks higher additionally in these nations. In a direct correlation with the Japan and US, the EU emerges as the heading mogul around the Triad nations in each of the BRICS.¹⁶⁹ This proposes that EU firms are overall positioned to rival other multinational companies in the BRICS. The examination of the amount of undertakings affirms this uncovering; the part of the EU in China is much more stupendous than recommended by FDI information. China emerges as the principle BRICS focus for EU ventures, however regarding FDI inflows China involves rank three after Russia and Brazil. The different effects might be clarified by the minor number of extremely substantial ventures in the characteristic asset division of Russia and the extraordinary number of fund and exchange identified little investments in China.¹⁷⁰ In a few cases, FDI has turned into the major entrance technique of EU firms into the BRICS markets.

Global and EU-15 investments in the BRICS, as measured by the amount of investment activities, were strong to the worldwide emergency until 2008. As to the present financial downturn and the normal drop in worldwide FDI, the BRICS might end up in an advantaged position in a few regards.¹⁷¹ As a matter of first importance they are huge economies where FDI is fundamentally pulled in by the neighbourhood advertises with development desires above world normal, despite the fact that not in Russia. Neighbourhood investment development particularly in China and India will take into consideration FDI to develop if organisations from emergency hit nations are in the position to contribute. Bigger multinationals might progressively focus on the precise not many nations in the world where they can grow bargains, for example China, India and Brazil, and shift investments there.¹⁷² Likewise for European organisations the extension to the BRICS remains a major fascination. Because of the span of the BRICS and their separation to Europe, just bigger or more particular moguls might profit from this chance.

India as Fastest growing economy in the World

The GDP growth rate of India is 7.5 per cent in current year that makes India the fastest growing economy in the world, over taking China's 6.9 per cent growth rate. India is the only among BRICS, where growth will accelerate to 8% in financial year 2016 and 8.3% in financial year 2017. The top sectors attracting highest FDI inflows into India are- electrical equipment's, services sector (financial and non financial), telecommunications, transportation industry, fuels, chemicals,

¹⁶⁸ Kumar, N., *Globalization and Quality of Foreign Direct Investment*. New Delhi, Oxford University Press, 2012.

¹⁶⁹ Alfaro L., Chanda A., Kalemli-Ozcan S. & Sayek S., *FDI and Economic Growth: the Role of Local Financial Markets*, Journal of International Economics, No. 64, 2004. Pp. 89-112.

¹⁷⁰ Winters, L. A., M. Gasior, J. L. Gonzalez, P. Holmes, M. M. Parra and A. Shingal, *Innocent Bystanders: Implications of an EU-India Free Trade Agreement for Excluded Countries*, Commonwealth Secretariat, London, 2009.

¹⁷¹ Menon & Chongvilaivan, "Southeast Asia beyond the Global Financial Crisis Managing Capital Flows", ASEAN Economic Bulletin, Vol. 28(2), 2011. Pp. 107-114

¹⁷² Alfaro L., Chanda A., Kalemli-Ozcan S. & Sayek S., *FDI and Economic Growth: the Role of Local Financial Markets*, Journal of International Economics, No. 64, 2004. Pp. 89-112.

construction activities, drugs and pharmaceuticals, food processing, cement and gypsum products. Huge investment potential exists in the upcoming Knowledge Process Outsourcing sector and the real estate industry.

Thus, India is one of the few markets in the world which offers high forecasts for growth and earning potential in practically all fields of business, particularly in tourism, Information technology and agricultural sector with good returns.

India as market- facts & figures

With a median age of 25 years, India has over 550 million people below the age of 25 years;

• Over 32 per cent of the 1.1 billion population is between the age group 0- 14;

• Thus, it illustrates the sheer size of the Indian education market;

• 11 million students are in the Higher Education system;

• Representing just 11% of the of the 17-23 year old population;

This means that the number of people in India needing primary and secondary education alone exceeds the entire population of the USA;

ATTRACTS

- Large young population
- Cheap skilled Labor
- Availability of raw materials
- Largest English speakers
- Stable and active govt.
- Friendly Economic Reforms
- Rule of Law
- Federal Structure
- Special Economic Zones

BARRIERS

- Cultural differences: working style in India is totally different than Europe and USA.
- Inefficient, arbitrary and opaque procedure of civil services- followed procedures concerning investment, taxation and import laws are neither quick nor constant.
- Direct contact

Conclusion

Research paper tried to show a risk for developed economies which has been emerged with new trend in foreign direct investment with sustainable growth of emerging economies such as China and India as well as an organisation such as BRICS. The forecast of UNCTAD says that emerging economies will maintain such growth and attract more than 45-50 per cent of the global trade. And continuously, developed economies will decline receiving inflows from developed economies. Thus, the new trend of FDI inflows as well as as flows between emerging economies are the potential fetters for these economies to maintain their sustainable growth.

Also it can be observed that the foreign direct investment in India is showing an increasing trend, irrespective of global economic crisis. The giant market size and other factors are responsible for making India an attractive destination for global investment.

References

1. Alfaro L., Chanda A., Kalemli-Ozcan S. & Sayek S., *FDI and Economic Growth: the Role of Local Financial Markets*, *Journal of International Economics*, No. 64, 2004. Pp. 89-112.
2. De Mello L. R., *Foreign direct investment-led growth : evidence from time series and panel data*, *Oxford Economic Papers*, No. 51, (1999). Pp. 133-151.
3. Bergstrand, Jeffrey H., and Peter Egger, "A Knowledge-and-Physical-Capital Model of International Trade Flows, Foreign Direct Investment, and Multinational Enterprises," *Journal of International Economics*, 73(2): 278-308, 2007.
4. Menon & Chongvilaivan, "Southeast Asia beyond the Global Financial Crisis Managing Capital Flows", *ASEAN Economic Bulletin*, Vol. 28(2), 2011. Pp.107-114.
5. P. Kumar, "A New Trend in FDI- India, EU and Poland Perspective" *ASM Business Review*, "Business Strategies Practices and Innovations" the Bi-annual Referred Journal, ISSN No.: 09749136, Volume-5 Number-1, Pune, India, 2016, Pp.51-60.
6. Kumar, N., *Globalization and Quality of Foreign Direct Investment*. New Delhi, Oxford University Press, 2012. P39.
7. Winters, L. A., M. Gasiorek, J. L. Gonzalez, P. Holmes, M. M. Parra and A. Shingal, *Innocent Bystanders: Implications of an EU-India Free Trade Agreement for Excluded Countries*, *Commonwealth Secretariat*, London, 2009.
8. <http://www.asmgroupp.edu.in/incon/Incon-2016-Journal/Business-Review-Volume-5.-No.-1-January-2016.pdf>
9. http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf
10. UNCTAD Statistics, *Foreign Direct Investment Statistics*. Online available at <http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=88>

The Perception of Aquaponics Products in Romania

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The paper follows two main objectives: to understand consumers' perception and image of aquaponics products and to identify levers communication in order to improve the perceived image of aquaponics products. Orientations in terms of communication aims product-focused and aim at enhancing the reputation of products, consequently with impact on product consumption. The present research is focused on the aquaponics products, regardless of their presentation - fresh, frozen or processed. This paper conducted a questionnaire survey of Romanian consumers' perception of aquaponics products. The empirical study for aquaponics products indicated box that consumers shown different awareness to domestic and foreign aquaponics products. Aquaponics national products got more attention from the consumers. Foreign aquaponics products had insightful higher price, but Romanian aquaponics products acquired insightful higher value, and got a better rank in the preference list and in the purchase intention of the consumers.

Keywords: aquaponics products perception, insightful price, image of aquaponics product

Introduction

The adaptation of the sector of fisheries and aquaculture to the challenges sec. XXI through the development and diversification of systems and innovative technologies in the field, which can ensure an increase in production and production of animal products with a value high biological and reduce to a minimum the negative impact on the environment.

Aquaponics represents a major innovation in the field of production of fish. Aquaculture products has been sector of production supply the fastest growing, reaching a rate of increase of the average world of 8 % per year. In 1950 the world aquaculture products have a global production of 638577 tones. The overall production of almost 84 million tons in 2011, reflect an increase in the production of more than 50 % from the beginning of the millennium and an average annual growth of 5 % in the past ten years.

Aquaculture provides the already taken half of the world offer more than intended for human consumption and has a potentially important to further increase. Therefore, aquaculture will contribute essentially to the satisfaction of the future application of fish. However, the development of aquaculture must not undermine the need to minimize and disposal at a given moment of excessive fisheries of stocks in nature, in order to reach a sustainable exploitation of the oceans. Therefore, aquaculture offers significant and generate significant challenges, in particular as regards environmental sustainability of production, as well as the quality and safety of the products. Aquaculture is an economic activity of importance in certain areas of the coast of the Continental and of the EU. It includes the increase in fish, mollusks and crustaceans of salted water or sweet, based on various types of production systems: open or closed extensive, or intensive applications on land, in the lakes or in pond - powered by courses of water or even the groundwater - near the shoreline or on the high seas. More Community policies influence this activity and structural policy which supports the scope of the common fisheries policy has significantly contributed to the evolution of the Europe of this sector. In the past the craft activity at small scale, aquaculture has become an industry of high

technology with commercial activities fully integrated. In 2006, the aquaculture sector in the EU-27 has produced about 1.3 million tons of fish, mollusks and crustaceans, which represents a turnover of about 3 billion and EUR generates approximately 65 000 jobs. The application of the current consumption of the EU amounts to about 12 million tones.

The environmentally friendly fish market is concentrated material in five countries, representing 71 % of the total European market: Spain (18%), France (17%) and Italy (14%), the United Kingdom (12%) and Germany (10%). These are the most populated countries in Europe, representing a naturally more of Community consumption. Apparent consumption in the EU 25, for products amounted in 2009 to 21.8 kg per capita in equivalent live weight, 16.1 kg of which 5.7 kg of fish and shell-fish). This date includes all presentations (fresh, chilled, frozen or sprinkling) and all places of consumption (home, restaurant or while usually). The average consumption of the i is slightly different from the average world consumption (20.0 kg) (Xiong et al, 2010).

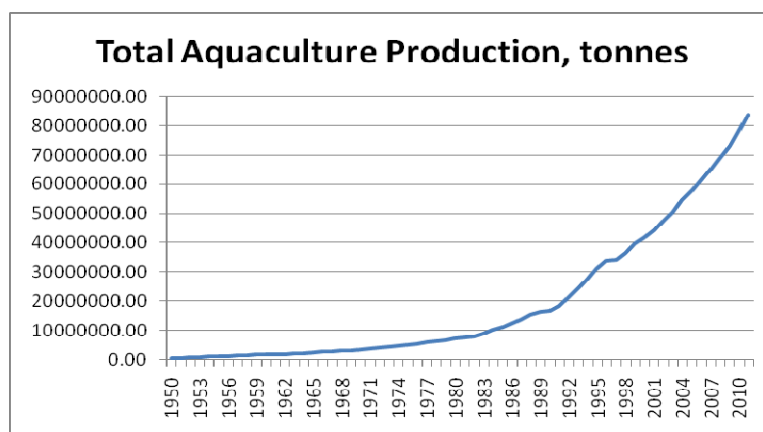


Figure 1: Total Aquaculture Production, tones

The general trend, however, masks the heterogeneous midrange levels of consumption by country and type of product. Thus, by way of example, per capita consumption is 20 times higher in Portugal than in Romania. Three categories of consumer countries in Europe stand out:

- countries with high consumers (40 kg and over): Portugal and Spain
- consumer countries moderately (16 to 30 kg): Finland, France, Malta, Sweden, Estonia, Greece, 9, Cyprus, Italy, Latvia, United Kingdom, the Netherlands, Ireland, Belgium and Malta.
- low-consumption countries (2.5 to 13 kg): Germany, Austria, Poland, Czech Republic, Slovakia, Slovenia, Hungary, Bulgaria and Romania.

The financial advantages of multifunction platform aquaponics production result from the sale of vegetables, aquaculture products and services. Additional benefits derived are represented by reduce the fuel consumption and reduction of the cost of energy or sale of the product, higher productivity and the real available income. Environmental benefits include: mitigated global warming, avoided emissions in comparison, and has improved the water quality.

The aquaponics products represent a kind of important producer goods as it plays a as 'significant part in Greenhouse film production market. With the development of aquaculture, there is rapidly growing demands for aquaponics products from consumer, of aquaponics products farms will be increasing fierce competition in the market. (Armstrong et al, 2000) in the modern market economy consumers are the main body of aquaponics products market, their attitude survey, perception and preference.

There is plenty of research on brand management based on consumers' perspectives, such as consumers' brand experience (Bernd, 2009), brand image and consumers' injunction purchase (East et al. 2008), brand competition (Ding, 2009), and brand satisfaction (Zeng, 2009). Moreover, there has not many researchers pay close attention to the consumer-based ecological products research in Romania. Some papers involve brand development research of aquaponics products, but mostly has qualitative research and macro-economy approach (Ernst et al, 2000).

This paper purpose is to investigated and analyzes consumers' aquaponics products awareness, purchasing behaviour, based on empirical year survey.

Materials and methods

The conceptual framework

Common run' perception to the aquaponics product included product opinions, high price and value, which were influenced by consumers' demographic window characters and their economy condition, toilette by their purchase experience and information from others.

Questionnaire

The questionnaire about aquaponics products consumers' perception was designed based on the conceptual framework. The questionnaire consists in these sections:

1. Consumer demographic window gender, age, education level, labour number and annual income of household);
2. Farmers' purchase behaviour of aquaponics products (purchase experience, money source, information source);
3. Product perception (opinions, insightful price, value).

Survey

The questionnaire survey was conducted with consumers from Braila, Galati, Tulcea, Constanta, Vrancea and Buzau, all being counties of South East Romania's development region, were chosen as the respondents.

200 questionnaires were distributed in the above 6 counties and returned 134. After eliminating the validity of the returned questionnaire, 26 questionnaires that incomplete and with logical mistakes were deleted, 106 valid questionnaires were obtained; the effective response rate was 53 %. From 106 respondents 82 expressed the intention to buy the fish organic products.

Statistical methods

All the data obtained from the responses at the questionnaires were transformed into statistics variables and then processed. Descriptive Statistics method material was adopted to calculate the mean with standard deviation of each variable, and to examine the different levels of consumers' awareness.

The index values of product opinions were the ratio between each product's opinions value and the average value. The same calculation method was adopted in the high price and high value.

Results and discussion

Consumer characters

The questionnaire survey gained a total of 106 valid samples and 82 with intention to buy the fish organic products. Table 1 shows the demographic window characters of respondents.

Samples has mostly female (62.20%). They are more inclined to interest in aquaponics organic products. Women show a higher sensitivity in health and of greater propensity than men to follow the recommendations for nutrition. This however does not always reflected by a high consumption of fish higher in women than in men in Western Europe.

Age is often presented as an important determinant of demand for food in general and more specifically the consumption of fish. However, the demographic window determinants such as age toilette will be correlated with other determinants such as interest and knowledge of nutrition topics including aspects so the benefit to health) or health status of person shooters. The interest in the Gold members Member related to health and nutrition, for example increases with age. The most common age group was 31-40; educational level college (46.34%). Less than 3 person accounts for 50 % in the labour number of household.

Table no. 1 Demographic window description of aquaponics organic products consumers

Demographic window Variables	Categories	Subjects N o.	Percent %
The gender	Male	31	37.80
	Female	51	62.20
Age	Aged 18-30	24	29.27
	31-40	29	35.37
	41-50	19	23.17
	Numbers 51-60	6	7.32
	Above	4	4.88%
Educate Sears catalog thing going level	<primary school	1	1.22

Demographic window Variables	Categories	Subjects N o.	Percent %
	Primary school	5	6.10
	Junior school	18	21.95
	Senior school	20	24.39
	≥ college	38	46.34
Labor number of household	<3	41	50.00
	3	19	23.17
	4	21	24.39
	5	2	2.44
	>5	0	0.00

The education level is positively correlated to the image of the fish food i easy to prepare. The higher the education level increases, the consumer sees the fish as a food easy to prepare.

Place of residence (and more specifically its coastal or continental character) is an important factor in explaining the consumption of different seafood and is linked to historical and current availability of fresh fish.

Purchase behaviour

Information plays an important rolls in the process o f consumer purchase. The survey research displayed consumers' main sources of organic fish products information coming from friends and relatives, 34.74% consumers chosen this item. It implied consumers were convinced of people that having close relationship with them or surrounding them. Notifications Notify me of updates to it implied that word of mouth communication of the public would have a strong impact on consumers' brand awareness, which was in accord with the existing research Wang et al., 2009). Aquaponics products producers must attach much importance to their brand reputation so as to retain their old specials resides and new specials, and then keep specials loyal on their brand, which is a successful marketing.

Purchase intention is t directly interrelated with purchase behaviour, it is the main index to forecast whether the consumer will purchase (Zheng appealed et all, 2010), so the fish organic products intention could imply the opinions of whether the consumer will choose the fish organic product in the future. Among the respondents, 82 described that considering they purchase organic to fish.

Price, the risks of contamination (microbiological and chemical), sustainability aspects such as environmental risks (damage of the ecosystem, animal cruelty, etc.) and risks of depleting fish stocks. Has the main barriers to Cum Eating fish in general for the consumers. Barriers vary a lot depending on the levels of processing (for example, price is no longer the main barrier for Cum Eating frozen fish products).

In general, consumers would insert a new more aquaponics and aquaculture products: if there was a quality label, prices were more affordable and they had a better knowledge of the quality of these products.

Guarantee of the European origin of fish encourages consumers to insert a new fish in general, all the more so in Southern European countries. Consumers have a positive overall image of aquaponics and aquaculture products. In general, they think they are good for health, and that they are fresh products.

Fresh fish received the most positive overall image scores and the most positive image with certain to health (Table 2).

Table no. 2. Image scores for fish production method in the South East development region of Romania

	Health	Quality /Price	Fresh	Environment
Wild	1.26	2.52	1.68	1,86
Farmed	1.63	2.34	1,59	1,85

Thus, the image of fresh fish is very similar to the image of fish in general. However, this kind of product obtains a poorer image in terms of quality/price ratio (mostly due to its price, since its quality terminological is as good). With certain to health benefits, frozen fish has a less positive image than fresh fish, but its quality/price ratio is to be good and its availability to be higher. Preserved fish has a poorer image in terms of quality, but its quality/price ratio is more positive. This product is by all respondents to be the most available. Fish-based ready meals receive the poorest image with certain to health and to quality/price ratio (Fig. 2).

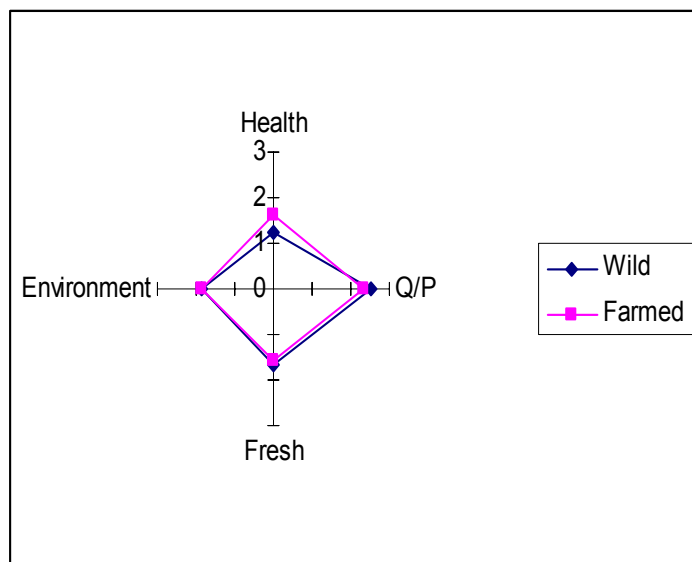


Fig. 2: results on the perception of the fish product

When buying fish, of quality and/or food safety label is the most important expectation of consumers in terms of information on aquaponics products. The nutritional information as well as information on the geographic origin of production is among the most important pieces advert of information has consumers looking for. However, fishing zones as defined by the FAO is ranked last by consumers. Consumers has toilette interested in information relating to the production method and its environmental characteristics.

The most popular sources of information used by Europeans has labels and sellers in retail. These two types of information is gathered directly by consumers at the time of purchase. The media (Internet, television, advertising followed by written media) 98,85 plays an important rolls in the information of consumers. Non-commercial sources of information like scientific reports, consumer associations, institutional campaigns and information has less popular. However, this remark should be qualified by the fact that the question asked within the survey implied an active a rather pretentious and dramatic manner by consumers.

For the retail sector, farmed fish offers major advantages. On a general level, retailers perceive farmed fish as a product much easier to market than wild fish. Regularity in terms of supply, keys, quality and freshness is the main arguments put forward. One disadvantage of farmed fish for the retailers has to do with the somewhat negative image that can be associated with the aquaculture sector. Still, in most cases, the aquaculture product does not possess any specific image in the mind of the consumer. There is henceforth distinct no link in the mind of the consumer between the aquaculture sector and its image on the one hand and the aquaculture product on the other hand. This is reflected in the behaviour of the consumer, who does not differentiate between farmed and wild products when purchasing fish.

The absence of the image of the aquaculture sector is still seen as a risk by some managers of the retail sector. Indeed, the image then can still be developed and hence be hijacked. To fill the gap this in terms of image should therefore be terminological as a strategic priority for the aquaculture sector. The consumer places a high level of trust in the retailer. He/she has the tendency to transfer the responsibility of some of his/her consumption decisions to the retailers already integrated, leaves these later i unmistakable partners in any communication action.

Fish is generally terminological as a healthy product by consumers. Any type of communication on aquaponics and aquaculture products should capitalize on this image of "Healthy" product, and well "health" at the centred of the message conveyed. Communication on aquaponics and aquaculture

products should mention the efforts made to guarantee their healthiness to the consumers (quality and food safety labels, standards of production used). The other side of the coin is that fish products in general have to be expensive. Proposing particular offers may thus be a relevant manner to appeal to new consumers.

Consumers have a confused and slightly negative image of the aquaculture sector. The image of aquaculture products derives from the image of the sector, although generally consumers do not distinguish wild fish products from farmed fish products. They generally believe that the products they buy have wild fish products. Thus, the issue at stake is to understand whether to promote farmed products as such or to promote them as "fish products".

If title of the specific promotion of farmed products were to be preferred, it should base itself on the positive but often unknown attributes of these types of products: a year affordable price, freshness and guaranteed fields the nutritional characteristics, traceability optimum print width wise across the production process. Beyond the product in itself, filling in this information gap will benefit the image of the sector as a whole. Indeed, improving the image of aquaculture products should be a priority of the aquaculture sector, as it will contribute to improving market acceptance of this type of product, on the long term.

Consumers like environment amongst their first preoccupations and declare to be ready to pay the price requested for a guarantee of quality.

Conclusion

The research results show the fish organic consumers have different perception of aquaponics organic products. The information channels of the brand have material from friends and relatives and neighbours, word of mouth spreading is very important for a brand. The insightful higher price of foreign aquaponics organic brands may reduce the consumers' high value and purchase intention to them.

In conclusion barking, although this paper is an empirical study based on valid 106 samples, it provides a chance to understand consumers' awareness to different aquaponics organic products brands in Romania. A further quantitative research with wider samples will be switch-on in the future.

Sustainability of aquaculture not only requires that it has a neutral (if not benign) effect on the environment but also that it be economically feasible. A further condition is that of social acceptability; that attitudes towards the sector are at least neutral. Enough evidence around the world demonstrates the detrimental effect on the industry if social perceptions are hostile.

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References

1. Armstrong J.S., Morwitz V. G. (2000). Sales forecasts for existing consumer products and services: Do purchase intentions contribute to accuracy? *International Journal of forecasting*. 16:383-39
2. Bernd S. (2009). The concept of brand experience. *Journal of brand management*. 16 : 417-419
3. Y Ding (2009). Brand competitiveness and analytical models. *Commercial research*. 9:179-181
4. R East, Hammond K., Mary Ann W. (2008). Measuring the impact of positive and negative word of mouth on brand purchase probability. *International Journal of Research In Marketing*. 25(3):215-224
5. Xiong G. Pledge, D., Yang W. (2010). Study on effects of brand image to consumers' intention purchase. *Modern Economy*. 9:34-37
6. Zeng Y. (2009). ZEPRO brand management study based on customer satisfaction [D]. Lanzhou: Lanzhou University.
7. Ernst D.H., et al. (2000) AquaFarm: present on the injunction and support for aquaculture facility design and management planning, *Aquacultural Engineering* 23, Elsevier;
8. Wang F., was Z., Mu W., Moga L., Zhang X. (2009) Adoption of traceability system in the Chinese aquaponics process enterprises: Difficulties, incentives and performance, *International Journal of Food Agriculture & Environment (JFAE)*, Vol. VII No. 2, WFL Publisher, Helsinki;
9. Zheng appealed, X., Neculita, M., Moga, L.M., Zhang, X. (2010) [employees' intention it and usage behavior at agribusiness in China](#), *International Journal of Food Agriculture & Environment (JFAE)*, Vol. VIII, no.2, WFL Publisher, Helsinki;

The Economic Effect of a Daily Supplementation of carob pods (*Ceratonia siliqua* L.) on Rumen Fermentation and Lactating Goats Performance

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The present study was performed to investigate the effect of a daily supplementation of carob pods (*Ceratonia siliqua* L.) on rumen fermentation and milk production of goats. Thirty two lactating does (weight ranged from 33–35 kg), aged 2-4 years old and from 2nd to 3th lactation season were randomly allocated into four similar groups (8 animals each). The animals were fed with isocaloric and isonitrogenous diets. Carob pods was daily supplemented at the rate of 0, 25, 50 or 100g /h/d. The lactating trial was extended for 75 days where goats were fed individually and fresh water was available at all time. Rumen fermentation parameters were monitored on three fistulated adult does. Results indicated that volatile fatty acids concentration, rumen volume, microbial protein synthesis and total bacteria counts were highest ($P<0.05$) with C50 group compared with other groups. While, ammonia-N concentration and protozoa count were lower ($P<0.05$) with C100 group compared with other groups. Milk production, protein and fat percentage were better ($P<0.05$) for C50 and C25 groups than those of C100 group. Supplementation of Carob pods at 50 g caused a marked ($P<0.05$) increase in the enzymatic antioxidant activity (SOD, CAT, GPx, and GSH) but had a significant decrease ($P<0.05$) in TBARS compared to control group. Thus, it could be concluded that daily supplement of 50 g carob pods could be reasonable amount for goats performance without any adverse effect.

Keywords: carob pods; milk production; rumen fermentation; goats.

Introduction

The carob tree (*Ceratonia siliqua* L.), is a leguminous evergreen tree native to the Mediterranean region, it's considered to be an important component of vegetation, economic and environmental reasons (Custodio et al., 2011). It cultivated for its edible seeds and pods, and it is used traditionally in livestock nutrition. Carob pod mainly consists of pulp (90 %), which is rich in sugars (48–56%), and in gross energy, making them a high-energy food in animal nutrition, but it also contains a large amount of condensed tannins (16–30 %) (Karababa and Coşkuner, 2013), although higher tannin values have been reported and low protein content ($<50 \text{ g kg}^{-1} \text{ DM}$) (

Gasmi-Boubaker et al., 2008). However, the major negative effect results of tannins are resulted from either direct inhibition of digestive enzymes, or from formation of indigestible complexes with endogenous proteins. The presence of tannins in the rumen (pH 5.5-7.0) most plant proteins are bound and protected from microbial degradation, but are released in the abomasum (pH 2.5-3.51), enabling protein digestion and absorption of amino acids in the small intestine (Barry and Manley, 1984). Nevertheless, the presence of tannins in carob pods may have beneficial effects on human and animal health, due to their other properties, such as antidiarrheal, antibacterial, antioxidant and free- radical scavenging and antiproliferative activity in liver cells (Custodio et al.,

2011). So, the aim of this study was to investigate the economic effect of supplementing dietary goats with carob pods on their milk production and rumen fermentation activity was also studied.

Materials and methods

This experiment was conducted at Noubaria Experimental Station, Animal Production Research Institute, Agriculture Research Center, Egypt. Carob used in this experiment was obtained from local market, Alexandria, Egypt.

Animals, diets and laboratory analyses

Thirty two lactating Zaraibi does (2-4 years old, weighing 33-35 kg and from 2nd to 3th lactation seasons) were used in this experiment. They were divided into four equal groups (8 animals each) according to their age, initial live weight and number of kids. Before the start of the experiment, all does were kept 7 days for adaption, during which all animals were treated with Ivomec® injections against external and internal parasites. They were randomly assigned to four isocaloric and isonitrogenous experimental rations using a randomized complete block design (Steele and Torrie, 1980). Concentrate feed mixture (CFM) used consists of 33% yellow corn, 14% soybean meal, 20 % wheat bran, 20% barley grain, 7% olive cake, 5% molasses, 2% limestone, 1.5% salt, 0.5% mineral-vitamin premix. Corn silages were fed *ad libitum* to goats.

Carob pods were daily supplemented at the rate of 0, 25, 50 or 100g /h/d, C0, C25, C50 and C100, respectively. Chemical composition of concentrate feed mixture (CFM) and carob pods are presented in Table (1).

Table 1: Chemical composition of concentrate feed mixture (CFM) and carob pods (g/kg as DM).

Items	CFM	Carob pods
Dry matter	891.5	942.6
Organic matter	941.6	963.7
Crude protein	138.5	61.6
Crude fiber	67.9	75.8
Ether extract	31.1	47.6
NFE	704.1	778.7
Ash	58.4	36.3
NDF	341.5	315.5
ADF	166.3	261.3
ADL	41.4	36.8
Hemicellulose	175.2	54.2
Cellulose	124.9	224.5
Neutral detergent soluble	658.5	68.4
Total phenolic	9.5	87.9
Condensed tannins	0.9	29.7

The lactating trial was extended for 75 days where goats were individually fed and fresh water was available at all the time. Milk yield was individually recorded for two successive days. Milk samples were collected 4 times in the 75 days twice daily according to Galatov (1994). Milk samples were chemically analyzed for total solid (TS), protein, fat and ash according to AOAC (2005), while lactose was calculated by difference.

Rumen fermentation trials:

Samples of rumen liquor were taken at 0, 1, 3 and 6 h post feeding from three fistulated adult goats with approximately 30.5±0.5kg BW for each treatment, to be immediately analyzed for pH using Orion 680 digital pH meter. Rumen fluid samples were preserved for ammonia nitrogen (NH₃-N) determination according to Preston (1995), while concentration of total volatile fatty acid (TVFA's) was estimated by using steam methods (Warner, 1964). Microbial counts (bacteria and protozoa) in the ruminal fluid were determined using a counting cell (Hawksley, UK) as described by Demeyer (1981). Rumen volume was determined by the colorimetric method using Cr-EDTA according to El-Shazly *et al.* (1976). Microbial protein synthesized (MP g /day) in the rumen of goats fed the experimental diets was calculated using the model equation developed by Borhami *et al.* (1992):

$$g \text{ MP / day} = \text{mole VFA produced / day} \times 2 \times 13.48 \times 10.5 \times 6.25 / 100$$

where: one mole VFA yield about 2 mole ATP (Walker, 1965), one mole ATP produce 13.48 Y_{ATP} (g DM microbial cell) (Borhami *et al.*, 1979), N % of dry microbial cell = 10.5 (Hungate, 1965).

Antioxidant enzyme activities:

Blood samples were collected at the end of the experimental period from the jugular vein of goats in the morning before access to feed and water. Plasma was obtained by centrifugation of blood and then stored at -20°C until analysis. The concentration of SOD was determined by Sun and Sigma as described by Ogbunugafor *et al.*, (2010). The catalase activity (CAT) was determined by the method of Beers and Sizer as described by Usuh *et al.*, (2005). The activity of glutathione peroxidase (GPx) and reduced glutathione were determined by the method of Beutler *et al.* (1963). Lipid peroxide concentration measured as thiobarbituric acidreactive substances (TBARS) was performed according to the method of Trotta *et al.* (1982).

Statistical Analysis:

One-way analysis of variance was used to test the differences among the experimental groups. Means were separated by Duncan's Multiple Range test (Steele and Torrie, 1980). All statistical analyses were done using Proc ANOVA of statistical analysis system (SAS, 2004).

Results and discussion**Ruminal fermentation:**

Ruminal pH values were not significantly affected by the dietary of different levels of carob pods supplementation (Table 2). We could notice effects of carob pods supplementation on its potential to prevent ruminal acidosis by reducing rapid starch hydrolysis, because feeding the carob pods diet did not create a severely acidotic fermentative environment in the rumen. While, concentrations of ruminal metabolites ($\text{NH}_3\text{-N}$ and VFA's) were significantly ($P < 0.05$) varied among the experimental rations. *C100* had the lower $\text{NH}_3\text{-N}$ and TVFA's concentrations, while *C50* was recorded the highest value of TVFA's concentrations compared with other groups. Molar proportion % of propionic acid was insignificantly lower with *C50* experimental rations. Acetic acid, acetic: propionic ratio and rumen volume (L) were higher ($P < 0.05$) with *C50* rations. The effect of tannins on protein degradation is basically a reduction in the immediately degradable fraction, and a reduction of the fractional rate of degradation (Frutos *et al.*, 2000). Condensed tannins are reported to reduce fibre, CP and OM digestibility because of their binding properties and inhibition of rumen microbes and also because CT itself are ruminally indigestible (Waghorn, 2008). Effects of carob pods on total VFA concentration and VFA pattern have been variable among studies depending on the dosage rate, the source of carob pods and its consists of condensed tannin. In contrast, Benchaar *et al.* (2008) and Aguerre *et al.* (2010) reported that total concentrations of VFA and molar proportions of individual VFA were not affected by feeding quebracho CT. The overall mean revealed that high ($P < 0.05$) rate of out flow from the rumen was obtained with goats fed *C100* compared to other rations. Average values of microbial nitrogen synthesis (MN) ranged from 15.01 to 17.57 (g/d) for *C100* and *C50*, respectively. The rate of out flow observed in this study with *C50* could be considered as suitable rate of out flow for efficient MN synthesis. Supplementation with carob pods at 50 g/d increased numbers of ruminal cellulolytic bacteria, which could increase silage degradability and increase the flow rate of microbial nitrogen as well and may alter the patterns of VFA's formations. Supplementation of carob pods significantly ($P < 0.05$) decreased population of total Protozoa as compared with control. These results showed that the effects of carob pods could change population of rumen microorganism. The effect of carob pod on the cellulolytic activity of rumen microorganisms was shown to be correlated with its sugar rather than its tannin content. This is in accordance with experiments in which high sugar content was found to reduce cellulose digestion in the rumen (Bhat *et al.*, 2013). The effect of tannins on ruminal protozoa count is variable in assays carried out in vivo (Makkar, 2003).

Table 2: Effect of different levels of carob pods on rumen parameters of lactating Zaraibi does.

Items	<i>C0</i>	Carob pods				P value
		<i>C25</i>	<i>C50</i>	<i>C100</i>	SEM	
pH	6.27	6.33	6.39	6.44	0.26	0.561
$\text{NH}_3\text{-N}$ concentration (mg/100mLR.L)	14.88 ^a	14.56 ^{ab}	13.96 ^b	12.83 ^c	0.44	0.003
TVFA concentration (meq/100 mL.R.L)	10.89 ^b	11.16 ^b	11.93 ^a	9.94 ^c	0.29	0.001
Acetic acid, %	54.93 ^b	55.21 ^b	56.69 ^a	52.73 ^c	0.61	0.001
propionic acid, %	23.98 ^a	23.15 ^b	22.51 ^c	24.15 ^a	0.36	0.008
Acetic : propionic ratio	2.29 ^b	2.38 ^b	2.52 ^a	2.18 ^c	0.09	0.006

Items	C0	Carob pods				P value
		C25	C50	C100	SEM	
Rumen volume (L)	3.14 ^c	3.29 ^b	3.48 ^a	3.02 ^d	0.07	<0.0001
Rate of out flow (%h)	6.06 ^b	5.98 ^c	5.61 ^d	6.27 ^a	0.04	0.0001
Microbial N yield (g/d).	16.22 ^c	16.69 ^b	17.57 ^a	15.01 ^d	0.21	0.0001
Total bacteria counts, ×10 ⁸ cfu/ml	1.15 ^b	1.19 ^b	1.28 ^a	1.01 ^c	0.04	<0.0001
Total protozoa counts, × 10 ⁶ cfu /ml	4.61 ^a	3.88 ^b	3.71 ^b	3.43 ^c	0.21	0.001

a, b, c and d: means in the same row with different superscripts are significantly (P<0.05) different.

Feed Intake, milk yield and milk composition:

Averages of daily dry matter intake by Zaraibi goats during the experimental periods are summarized in Table 3. Less (P<0.05) feed intake was recorded for C100 group than other groups they had more (P<0.05) feed intake without insignificant (P>0.05) effect between each other. However, no significant effect (P<0.05) among rations for C/R ratios. The reduction in feed intake for C100 group could be explained by its more tannins content which can act as antinutritional factor, whereas it had the capacity of reducing the digestibility of proteins in the ration (Mariscal-Landin *et al.*, 2004). According to Kotrotsios *et al.* (2010) carob pods inclusion in pig diets significantly reduced the digestibility of proteins, fats, fibers and minerals, especially in the weaning and growing periods. The action of tannins on animals probably depends on their solubility, in the gastrointestinal tract (Serrano *et al.*, 2009). This depress effect would be attributed to degraded palatability or to a short-term effect of astringency (Landau *et al.*, 2000). Higher (P<0.05) milk yield, milk fat and milk protein were found for C50 group followed by C25 and control groups, while the lowest one was for C100 group. This could be due to the less feed intake, digestibility and the capability of CD on reducing the efficiency of protein in the ration compared to other groups. This resulted in less (P<0.05) milk fat and milk protein than other groups. These data was confirmed by Grainger *et al.* (2009) who reported that milk yield, fat and protein proportion of milk could be reduced if dairy cows fed condensed tannins daily. This contrasts with Wang *et al.* (1996) who illustrated that tannins from *Lotus corniculatus* fed to lactating ewes increased milk yield, lactose and protein contents. The explanation of these effects could be related to the increase in metabolizable protein supply which binded to condensed tannins, where it protected from microbial degradation, and then released in the abomasums, enabling protein digestion and absorption of amino acids in the small intestine (Barry and Manley, 1984). However, the effects of tannins on ruminant productivity depend on the quality and quantity of dietary protein (Patra and Saxena, 2011).

Table 3: Dry matter intake, milk yield and milk composition of lactating Zaraibi does fed the experimental rations.

Items	C0	Carob pods				SEM	P value
		C25	C50	C100			
Dry matter Intake, g/d:							
CFM intake	752.41 ^a	756.36 ^a	779.63 ^a	675.15 ^b	0.25	0.004	
Corn silage intake	397.38 ^a	388.22 ^a	402.16 ^a	360.44 ^b	0.16	0.007	
TDMI	1149.79 ^a	1144.58 ^a	1181.79 ^a	1035.59 ^b	40.18	0.002	
Concentrate : roughage ratio (C:R)	65.44: 34.65	66.08: 33.92	65.98: 34.02	65.19: 34.81			
Milk Production							
Milk yields, kg/day	0.856 ^c	1.002 ^b	1.075 ^a	0.721 ^d	0.42		0.002
Milk fat, g/day	34.84 ^b	43.59 ^a	48.16 ^a	27.76 ^c	4.65		0.0004
Milk protein, g/day	25.68 ^b	31.56 ^a	34.72 ^a	19.68 ^c	3.99		0.0002
Milk composition (%) :							
Total solids	11.88 ^b	12.13 ^a	12.19 ^a	11.84 ^b	0.12		0.003
Solids not fat	7.81 ^b	7.78 ^b	7.71 ^b	7.99 ^a	0.11		0.003
Fat	4.07 ^c	4.35 ^b	4.48 ^a	3.85 ^d	0.09		<0.0001
Protein	3.00 ^b	3.15 ^a	3.23 ^a	2.73 ^c	0.08		0.004
Lactose	4.10 ^b	3.90 ^c	3.74 ^c	4.52 ^a	0.17		0.001
Ash	0.71	0.73	0.74	0.74	0.08		0.257

a, b, c and d: means in the same row with different superscripts are significantly (P<0.05) different.

Efficiency of milk production and economic evaluation:

When milk efficiency was expressed as DMI per kg 4% FCM produced, C50 group was more efficient, followed by C25 (Table 4), while the least efficiency one was found with C100 group. The control group showed less feed cost to produce one kg milk followed by C25 and C50 groups. The economic return (L.E. / h/ d) or the profit above feeding cost was higher with carob pods daily supplemented (C50 and C25) than other rations.

Table 4: Nutrients intake, feed conversion and economic evaluation of daily milk production of goats fed the experimental rations

Items	C0	Carob pods				
		C25	C50	C100	SEM	P value
Nutrients intake(kg/h/d):						
DMI, g	1149.79 ^a	1144.58 ^a	1181.79 ^a	1035.59 ^b	40.18	0.002
4% FCM*, kg	0.87 ^b	1.06 ^a	1.14 ^a	0.71 ^c	0.07	0.0001
Feed conversion (kg / kg):						
DMI / FCM	1.32 ^b	1.07 ^c	1.04 ^c	1.46 ^a	0.08	0.0008
Economic evaluation**:						
Daily feed cost, L.E	2.29	2.55	2.87	3.07		
Price of daily milk yield, L.E	4.28	5.01	5.38	3.61		
Economic return, L.E	1.99	2.46	2.51	0.54		
Economic return.(h/d)%	100	123.62	126.13	27.14		

abc means in the same row with different superscripts are differ significantly (P< 0.05).

*Fat correct milk (4%) was calculated according to Gaines (1923) using the following equation: FCM = 0.4 M + 15.0 F, Where M = milk yield and F = fat yield

**Calculation based on the following price in Egyptian pound (L.E.) per ton at 2009, concentrate feed mixture (CFM) =2500 L.E/ton, corn silage =300 L.E/ton, carob pods =5 L.E/kg, and One kg of raw milk 5 L.E/kg.

Antioxidant enzymes activity:

Data in Table (5) indicated that supplementation with different levels of carob significantly ($p<0.05$) increased SOD, CAT, GPx and GST activities and decreased TBARS in plasma compared to the control group. This revealed that supplementation with carob pods prevented the lipid peroxidation by enhancing the SOD, CAT and GPx activities. It is well known that many phenolic compounds, which are found in carob, exert powerful antioxidant effects. They, also, inhibit lipid peroxidation by scavenging reactive oxygen species (ROS), such as OH (Shahidi and Wanasundara, 1992). Polyphenols in carob pods have antioxidant activity (Kumazawa *et al.*, 2002). In addition the crude polyphenol extracts of carob pods showed strong antioxidant activity (Harbore, and Baxter, 1999). The prevention of lipid peroxidation might, at least in part, be derived from the capability of carob to scavenge ROS, which was supported by the observation that carob reduced the level of TBARS production (Hsouna *et al.*, 2011). When rats were treated with carob the reduction of SOD, CAT and GPx activities was inhibited, which protected against factors of oxidative stress, in particular H_2O_2 . The reduced activity of SOD, CAT and GPx could be due to enhanced lipid peroxidation or inactivation of the antioxidative enzymes (Klenow *et al.*, 2009). The antioxidant activity caused by the presence of these compounds could have additional effects, sparing other antioxidants and protecting molecules from oxidative damage during digestion and preserving the intestinal epithelium from potential oxidative damage caused by dietary factors or bacterial metabolism (Goni and Serrano, 2005).

Table 5: Plasma antioxidant enzymes activity in lactating Zaraibi does fed different levels of carob pods

Items	C0	Carob pods			SEM	P value
		C25	C50	C100		
	7.01 ^c	8.49 ^b	8.81 ^b	9.59 ^a	0.32	0.007
CAT	9.06 ^b	9.76 ^a	10.08 ^a	10.24 ^a	0.42	0.016
GPx	6.22 ^b	7.24 ^a	7.56 ^a	7.74 ^a	0.55	0.022
GST	7.59 ^c	8.33 ^b	8.48 ^b	9.14 ^a	0.29	0.001
TBARS	1.96 ^a	1.42 ^b	1.36 ^b	1.28 ^b	0.17	0.025

a, b and c: means in the same row with different superscripts are significantly (P<0.05) different.

Superoxide dismutase (SOD U/ml); catalase (CAT; $\mu\text{mol H}_2\text{O}_2$ consumed/min./ml), glutathione peroxidase (GPx; U/ml), glutathione S-transferase (GST; $\mu\text{mol/hr/ml}$) and thiobarbituric acid-reactive substances (TBARS; nmol/ml),

Conclusion

In conclusion, supplementing goats with 50 g/d of carob pods can be promising in preventing them from any undesirable of antioxidants status, not only that but enhanced the utilization of the ration to get more milk yield and better an economic results without any adverse effect.

Reference

1. Aguerre, M. J., M. A. Wattiaux, M. C. Capozzolo, P. Lencioni, and C. Cabral. 2010. Effect of quebracho-chestnut tannin extracts at two dietary crude protein levels on performance and rumen fermentation of dairy cows. *J. Dairy Sci.* 93(Suppl. 1):445.
2. AOAC. 2005. *Official methods of analysis*. 18th edition. Association of Analytical Chemists, AOAC International, Arlington Virginia, USA.
3. Benchaar, C., T. A. McAllister, and P. Y. Chouinard. 2008. Digestion, ruminal fermentation, ciliate protozoal populations, and milk production from dairy cows fed cinnamaldehyde, quebracho condensed tannin, or *Yucca schidigera* saponin extract. *J. Dairy Sci.* 91:4765–4777.
4. Beutler, E., Duron, O. and Mikus Kelly, B. (1963). Improved method for the determination of blood glutathione. *J. Lab. Clin. Med.* 61, 882-886.
5. Bhat, T. K. A. Kannan, Birbal Singh, O. P. Sharma. 2013. Value Addition of Feed and Fodder by Alleviating the Antinutritional Effects of Tannins. *Agric Res*, 2(3):189–206.
6. Borhami, B.E., K., El-Shazly, A.R., Abou Akkada, M.A., Naga, and M., Abaza, (1979). Nitrogen (N15) utilization and microbial protein synthesis in rumen of cattle. *J. Amin. Sci.*, 49: 1396-1408.
7. Borhami, B.E., W.G. Fahmay and K. El-Shazly, (1992). Rumen environment, microbial protein synthesis and nitrogen balance in sheep. A proceeding of "Manipulation of rumen microorganisms". "International conference on Manipulation of rumen microorganisms to improve efficiency of fermentation and ruminant production" Egypt from 20-23 September. 1992. Pp:138-144.
8. Demeyer, D.I., (1981). Rumen microbes and digestion of plant cell walls. *Agric. Environ.* 6, 295-337.
9. El-Shazly, K., Ahmed, E.I.A., Naga, M.N. and Borhami, B.E.A. (1976). A Colometric technique using chromium-ethylen diamines tetracetate for measuring rumen volume. *J. Agric. Sci. Camb.*, 87: 369.
10. Frutos P., G. Hervás, F.J. Giráldez, M. Fernández and A.R. Mantecón. 2000. Digestive utilization of quebracho-treated soya bean meal in sheep. *J. Agr. Sci.* 134: 101-108.
11. Galatov, A. N. (1994). The effect of crossbreeding on milk production of fine wool ewes. *Animal Breed Abst.* 62: 211.
12. Goni, I., and J. Serrano. 2005. The intake of dietary fiber from grape seeds modifies the antioxidant status in rat cecum. *J. Sci. Food Agric.* 85:1877–1881.
13. Grainger, C., T. Clarke, M.J. Auldist, K.A. Beauchemin, S.M. McGinn, G.C. Waghorn, 2009. Potential use of *Acacia mearnsii* condensed tannins to reduce methane emissions and nitrogen excretion from grazing dairy cows. *Can. J. Anim. Sci.* 89, 241–251.
14. Harbore, J.B. and Baxter, H. *The handbook of natural flavonoids*, John Wiley and Sons, New York, USA, 1999.
15. Harbore, J.B. and Baxter, H. *The handbook of natural flavonoids*, John Wiley and Sons, New York, USA, 1999.
16. Hsouna Anis Ben , Saoudi Mongi , Trigui Mohamed , Jamoussi Kamel , Boudawara ahia, Jaoua Samir , El Feki Abdelfattah (2011) Characterization of bioactive compounds and ameliorative effects of *Ceratonia siliqua* leaf extract against CCl₄ induced hepatic oxidative damage and renal failure in rats. *Food and Chemical Toxicology*, 49: 3183–3191.
17. Hungate, R.E. (1965). *The rumen and its microbes*. Academic press. New York.
18. Klenow S., Jahns F., Pool-Zobel L., Gleis M. (2009). Does an extract of carob (*Ceratonia siliqua* L.) have chemopreventive potential related to oxidative stress and drug metabolism in human colon cells *J. Agriculture and Food Chemistry* 57; 2999–3004.
19. Kotrotsios, N., E. V. Christaki, E. M. Bonos and P. C. Florou-Paneri. 2010. The effect of dietary carob pods on nutrient digestibility in weaning, growing and fattening periods of pigs. *J. Food Agric. Environ.* 8:779-782.
20. Kumazawa S, Taniguchi M, Suzuki Y, Shimura M, Kwon M and Nakayama T. *Agric. Food Chem.* 2002; 50: 373-377.
21. Kumazawa S, Taniguchi M, Suzuki Y, Shimura M, Kwon M and Nakayama T. *Agric. Food Chem.* 2002; 50: 373-377.
22. Landau, S., A. Perevolotsky, D. Bonfil, D. Barkai, and N. Silanikove. 2000. Utilization of low quality resources by small ruminants in Mediterranean agro-pastoral systems: The case of browse and aftermath cereal stubble. *Livest. Prod. Sci.* 64:39–49.
23. Makkar, H. P. S. 2003. Effects and fate of tannins in ruminant animals, adaptation to tannins, and strategies to overcome detrimental effects of feeding tannin-rich feeds. *Small Rum. Res.*, 49, 241-256.
24. Mariscal-Landin, G., J. H. Avellaneda, T. C. Reis de Souza, A. Aguilera, G. A. Borbolla and B. Mar. 2004. Effect of tannins in sorghum on amino acid ileal digestibility and on trypsin (E.C.2.4.21.4) and chymotrypsin (E.C.2.4.21.1) activity of growing pigs. *Anim. Feed Sci. Technol.* 117:245-264.

25. Ogbunugafor, H., Sofidiya, O and Okpuzor J. (2010). .Effect of Extracts of *Hymenocardia acida* Tul (*Hymenocardiaceae*) on Rats. *J Am Sci.* 6:143-146.
26. Patra, A.K. and J.Saxena (2009). A review of the effect and mode of action of saponins on microbial population and fermentation in the rumen and ruminant production. *Nutr. Res. Rev.* 22, 204–219.
27. Preston, T.R. (1995). *Biological and for research workers*. Rome: FAO, 1995. Chap. 9, p.191- Animal Feeding: A manual for research workers.
28. SAS. (2004). *User guide, version 9.1.2*. Statistical Analysis System Institute Inc. USA.
29. Serrano, J., R. Puupponen-Pimia, A. Dauer, A. Aura and F. Saura-Calixto. 2009. Tannins: Current knowledge of food, sources, intake, bioavailability and biological effects. *Mol. Nutr. Food Res.* 53:S310-S329.
30. Shahidi F and Wanasundara PK. Phenolic antioxidants. 1992. *Crit. Rev. Food Sci. Nutr.*; 32: 67-69.
31. Shahidi F and Wanasundara PK. Phenolic antioxidants. *Crit. Rev. Food Sci. Nutr.* 1992; 32: 67-69.
32. Steel, R. D. and J. H. Torrie (1980). *Principals and Procedures of statistics: A biometrical approach* 2nd Ed., McGraw Hill Book Company, New York, USA. PP 137.
33. Trotta , R.J., Sullivan, S.G. and Stern, A. (1982): Lipid peroxidation and hemoglobin degeneration in red blood cells exposed to T-butyl hydroperoxide. *Biochem. J.* 204, 405-415.
34. Usoh, I.F., Akpan, E.J., Etim, E.O. and Farombi, E.O. (2005). Antioxidant actions of dried flower extracts of *Hibiscus sabdariffa*. *Pakistan J Nutr.* 4:135-141.
35. Waghorn G. 2008. Beneficial and detrimental effects of dietary condensed tannins for sustainable sheep and goat production – progress and challenges. *Animal Feed Science and Technology*, 147, 116–139.
36. Walker, D.J. (1965). Energy metabolism and rumen microorganisms. In *physiology of digestion in the ruminant*. Ed. By Daughery, R.W. Butterworth Inc., Washington, Dc.
37. Wang, Y., G.B. Douglas, G.C. Waghorn, T.N. Barry, A.G. Foote and R.W. Purchas (1996). Effect of condensed tannins upon the performance of lambs grazing *Lotus corniculatus* and lucerne (*Medicago sativa*). *J. Agric. Sci. (Camb.)* 126, 87–98.
38. Warner, C.I. (1964). Production of volatile fatty acids in the rumen, methods of measurements. *Nutr. Abstr. Rev.*, 34: 339.

The Influence of the Rural Sustainable Development on the Life Quality

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Joining the European Union has led in rural areas, major changes, knowing that a special dynamic. The many challenges imposed by certain European standards have created new development opportunities but also brought with it new problems that residents and authorities were able to manage them more or less effective depending on managerial competence, resistance to change residents and their other external factors such as bureaucracy in state institutions, lack of continuity in decisions with the change of party in power or the lack of adequate financial support from the state for starting rural development projects. Over these overlap and rural specific problems: lack of jobs, migration of active population, low income, lack of modern means of production in agriculture, and of course we must not forget the training level lower than in urban areas. The issue of sustainable development rural areas is one of the most complex contemporary issues because it requires a balance between the requirement of preservation of rural economic, environmental, social and cultural of the country, on the one hand, and the trend of modernization of rural life on the other side.

Keywords:

Sustainable development, rural quality of life, community citizen, education, quality of life indicators

1. Introduction

The life quality is an evaluative concept, being the result of reporting living conditions and activities that compose the human life, to the human needs, values and aspirations. It refers both to the global evaluation of life (how good, satisfactory is the life that different people, social groups, collectivities have) and to evaluation of various conditions or spheres of life: environment, labour (working life), interpersonal relationships and family life.

In this context we appreciated that is needed a defining of the concept of rural space and rural development. Thus, Robert Badouin, during its course of «Rural Economy», defines the rural space as opposed to urban space, designating by this concept "...areas characterized by a population of a relatively low density and by predominance of agricultural activities. The rural space, contrary to urban space, does not involve strong concentration of people. Agglomerations are limited to the village size or *burg* ..." (Badouin, 1971).

The objective of the present study is to describe aspects of the rural development in the Iron Gates area. Following the post-revolutionary changes and regulations imposed by the European Union, the rural world experiences a series of changes. In this demarche I intend to identify the socio-economic changes that have occurred in this space and that influenced the life quality of those living in this interesting and scenic area.

2. The life quality and rural development in the iron gates area

The Danube region has an economic growth potential insufficiently exploited. Being declared as part of Pan-European Transport Corridor VII of EU, Danube is an important waterway, which connects, through the Rhine-Main-Danube canal, between Constanta seaport, the industrial centres of Western Europe and the seaport of Rotterdam. Danube basin includes countries and regions that could benefit in the future of the direct access to Black Sea and the importance of connecting the EU with Transcaucasia and Central Asia area has been accepted by the European Commission through the new regional cooperation initiative of the EU entitled „Black Sea Synergy”.

The Danube region is a diverse area in terms of cultural and social, in the Western area of region, namely Germany and Austria, increases in population are recorded (due to the phenomenon of immigration), and in the east part (regions of Romania, Bulgaria, Hungary) population is in decline, registering migration trends to other regions of the same country or emigration.

Regarding Romania, in the analysed area decreases in the population are recorded, especially in rural areas and small towns mainly due to the phenomenon of migration to the cities, especially to Bucharest or to other states. Excepting Bucharest (with 8088 inhabitants/square km) the **regional density** ranges from 179 inhabitants/square km in Ilfov county to 139 inhabitants/square km in Galati county, 39 inhabitants/square km in Caras-Severin county and 30 inhabitants/square km in Tulcea county.

The structure by age groups is characterized by demographic aging of population, due mainly to the birth rate decrease, determining the absolute and relative decreasing of the number of young population (0-14 years) and increasing the number of older people (60 and over). The Danube region is characterized by its linguistic and cultural diversity, due to historical influence and confluence, by the variety of the cultural patrimony objectives given that the Danube is the largest river that runs through the EU and the second largest river in Europe after Volga, with a length of 2857 km.

Regarding the economic development, the Danube region is characterized by major disparities, both between states and between regions inside states. Less developed regions predominate in the new member states, where there are more pronounced and regional disparities, much of the underdeveloped areas being concentrated along the Danube. This underdevelopment is correlated with unemployment and, also, with the prevalence of the rural activities and with the inability to attract direct foreign investments.

3. Materials and Methods

3.1. Qualitative analysis of the rural development in *Iron Gates* area

STUDY 1 General aspects: social, cultural and economic

Thus, our objectives in this research refers to:

1. *Outlining an image of the village world from the Iron Gates area in the post-accession period;*
2. *Identifying the main evolutions and difficulties in the rural development in that area*
3. *The development prospects of the village from the Iron Gates area*

For the achievement of the proposed objectives, I have chosen a sample composed of 4 communes: Eselnita, Dubova, Svinita and Gogosu, all from Mehedinti county, known being the fact that Iron Gates area belongs to it.

The method that I used was a qualitative - semi-structured interview and participatory observation.

The interview, one for each commune, has 4 distinct parts: general aspects of the commune, rural development, community and prospects of development. These were attended by authorities of the 4 communes selected, namely the mayor or vice mayor, duration of the interviews being approximately 45 minutes, the period of September 2012.

From the answers of the interviewees the followings can be drawn:

In the last 4 years the authorities have launched a series of large-scale projects aimed at changing people's lives, trying to bring them more comfort and to create new development opportunities such as the process of evacuation waste water through the sewage system, power drinking water, modernizing the drinking water treatment plant, situation in which they faced:

- ✚ resistance to changing of those from rural space - resistance often justified in terms of costs associated (branching involving initial and ongoing permanent costs);
- ✚ bureaucracy faced by authorities in developing investment projects;

- other specific problems of the autochthonous space: the habit to receive and pay attention, Romanian mentality, benefiting municipalities by the stakeholders who have representatives of the same „political colour” with those of the government;

Figure 2.1. Map of Mehedinți county



Another series of problems remarked were the lack of employment, insufficient funds for social support and especially the problem of the Roma communities, a category largely social assisted, not infrequently with inappropriate behaviour.

Despite these impediments due to implementation of the strategy for the Danube Region, in conjunction with other actions at riparian member states level, benefiting from the grant programs, the region will become dynamic, competitive, in which the transnational, cross-border and interregional cooperation will lead to the limitation of social and economic disparities.

In this way the Danube will become from a natural barrier, an element that favours the sustainable development and cohesion. Also, conditions will be created for the environment rehabilitation, protection and conservation, leading ultimately to ensure the sustainable use of the natural resources.

In conclusion, we can affirm that, although there are still many problems of economic and social, the perspective is one optimistic, affirming that the rural development is in full process, and by the contribution of the social actors (town hall, school, local businesses, church etc.), Romanian village will provide the adequate framework of qualitative human development in the context of the sustainable rural development.

STUDY 2 Life quality in the Iron Gates area

For more accurate conclusions on the quality of people's life in the area analysed, we will resort to important economic and social indicators and will analyse how they have had modifying as a result of implementation of European funded projects. The central objective of the study is to outline a more complete image of the quality of life perceived in this area.

The hypotheses which we started were:

1. *The quality of life varies depending on the social category that the individual belongs to;*
2. *Implementation of European funded projects influences the life quality of the people in rural areas studied.*

The research approach aimed at the quality of life in these areas, the influence that the European structural funds have had on the people's lives. The methods were - survey by questionnaire and secondary analysis of quantitative data. The sample was of 150 persons to whom was applied a questionnaire with 40 questions aiming indicators of quality of life and the way they have changed as a result of implementation of European funded projects. Of these, 6 questions aimed at socio-demographic data of respondents (gender, age, occupation, education, monthly household income and the number of its members). For sampling, the method of the step was used (step 3), targeting people over 18, residing in one of four selected communes.

2.2. The quantitative analysis of the rural development in the area of Iron Gates

We consider necessary the corroboration of the qualitative data obtained by interview and observation with quantitative data which will bring more clarity and objectivity to this approach. The central objective of this study is to identify the level of rural development in the rural space of the **Iron Gates**.

For the present research we will focus on the analysis of the factors influencing the quality of life in the rural space of Mehedinti county. We will use mostly quantitative methods - document analysis and secondary analysis of quantitative data and SWOT analysis. We have chosen these methods in order to create a more complete image of this area and to outline with elements as more as illustrative of how we can intervene in improving factors conditions in the Danube area.

Mehedinti is a county from Oltenia and Banat regions, in the South West of Romania. The county residence is Drobeta-Turnu Severin. It has an area of 493,289 ha (2.1% of the country area). Mehedinti county **soil** is characterized by a great diversity, from the brown acid soils and litho soils in the northern and northwest of the county, to typical and cambic chernozems in the south and south-west part of the county.

The brown and reddish-brown soils occupy the largest part of the county constituting an enabling environment for cultivating vines of noble varieties to produce superior wines. The agricultural area and its structure: 59.47% of the total area of 493,289 ha of the county, respectively 293,338 ha are destined to the agricultural sector. Of the total agricultural area, the private sector had 272,635 hectares, meaning 92.94%.

Following the analysis of the factors influencing the quality of life in the countryside in Mehedinti county, namely:

- **the number of inhabitants** on July 01 reveals that, in 2013 Mehedinti county had a population of 260,388 and compared to the same period of 2009 is a decrease of 32,529 persons;
- **the structure of population by gender** indicates that out of a total of **260,388 persons** on July 01, 2013, the women in Mehedinti are 50.73% (132 098 persons). Of these, 53.29% live in rural areas;
- **the life expectancy** indicator through which it analyses the development degree reached by a society, shows us that the birth rate in Mehedinti county was maintained at a relatively low level for the period 2009-2013, the birth rate being maintained in the level of 8-10 births per 1,000 inhabitants, slightly higher in the **rural areas than the urban**;
- **the county's total school population** experienced a negative trend, a phenomenon that manifested while the decreasing in the total population of the county. During the school years 2009/2010-2013/2014, a decreasing by 12.7% was registered in the total population covered by a form of education;
- **the health infrastructure**: the county health system, similarly to the other counties in Romania, has a number of common problems related mainly to: system underfunding and staff shortages caused by the migration of highly skilled health professionals in other countries. Therefore it decreased the number of beds in the health units in the county during the period analysed, from 1655 in 2009, to 1445 in 2013.
- **drinking water supply**: statistics show that the population served by public water supply system was in 2013 of 138,538 people, representing only 53% of the total number of inhabitants of the county;

- **the sewage networks:** the waste water collecting in 2013 was achieved in the 5 cities and municipalities and in 15 communes in the county through 280.8 km of pipelines. The evolution of figures show the increasing of the communes city halls interest to this domain, in 2009-2013, the number of localities with public sewage networks being increasing;
- **the land quality,** the pressure factors affecting in highest percentages the soil quality, were: frequent drought, wind erosion and landslides, compaction due to inadequate works, small and very small reserve of humus in the soil, ensuring low phosphorus, potassium and nitrogen. In the year 2013 there were not registered accidental pollution of soil or major environmental accidents.

The SWOT analysis revealed the followings:

Table 2.2. SWOT analysis

Strengths	Weaknesses
☐ Varied relief composed of mountains, plateaus and plains ☐ Temperate continental climate with Mediterranean influences, characterized by warm summers and mild winters, favourable for the development of agriculture, tourism ☐ The presence of the Danube river in the county territory ☐ Soil characterized by a great diversity, propitious for the development of viticulture, fruit growing ☐ Varied natural resources ☐ Balanced gender structure of the population ☐ Slight increase of the young population share (0-14 years) in total population, ☐ Life expectancy increasing, both on average and gender ☐ Mortality rate in rural areas in decline ☐ Low total infant mortality rate in 2013, compared to 2009-2012 ☐ Positive balance of the internal migration determined by the change of domicile, in rural areas ☐ Relatively developed social infrastructure at county level ☐ Human resources qualified in the social domain ☐ Increasing the percentage of preschool population in 2013-2014 ☐ Degree of over 70% enrolment in education, especially for the students aged 3 to 14 years ☐ Growing interest in the development of the sewerage networks in the localities of the county ☐ Increased concerns for association at community level for providing services to population ☐ Environmental legislation harmonized with EU legislation ☐ Permanent monitoring of the air quality through the monitoring station which provides online data	☐ Number of people decreasing, both in urban and in rural areas ☐ Density of population in declining ☐ The occurrence of a slow but constant process of demographic aging with negative implications for economy and society ☐ Low birth rate ☐ Increased mortality rate, especially in rural areas ☐ Negative balance of the internal migration determined by changing the domicile, in urban area ☐ High degree of poverty at the county level ☐ Large number of beneficiaries of social support (the largest in the region) ☐ Total school population with negative dynamics, manifested while decreasing of the total population of the county ☐ Insufficient health infrastructure ☐ High abandonment rate, especially for vocational and post-secondary school education ☐ The number of hospitals in the county is the lowest in the region ☐ Increasing the share of social assisted persons and thus of the budget effort for their support ☐ The quality of life level in Mehedinți county is modest ☐ Population served by the public water supply system in 2013 represented only 53% of the total number of inhabitants of the county ☐ Low quality of housing in the county, compared to the national level
Opportunities	Threats
☐ The large number of inhabitants in rural areas increases the possibilities of developing business, of implementing local development programs, that to increase the attractiveness of the rural areas,	☐ Increasing the degree of dependency (the ratio between older people and active people), caused by the process of population aging ☐ Maintaining a low birth rate will increase the

preventing thus from the increasing of the urban-rural demographic imbalance ☐ Promoting the measures of advising and support for the young families ☐ The existence of financial support measures for the future mothers, that can positively influence the birth rate ☐ Developing the public-private partnerships for the development of social and health sectors ☐ Existence of the community development associations (CDA) for joint accessing of the community development projects ☐ Increasing the interest of local authorities for the promotion of partnerships for environmental protection ☐ Existence of large number of protected areas and natural parks	process of county population aging ☐ Severe negative effects generated by the temporary international migration ☐ Social insecurity; ☐ Changing of demographic behaviour of the married couples ☐ Difficulties in the financial support for the environmental infrastructure projects, especially by the small and medium communities ☐ Low concerns for the selective waste collection in rural communities ☐ Low degree of population concern for the biodiversity conservation ☐ Failure to properly inform the public about practicing the ecological tourism can lead to the loss of natural resources

III. Results and Discussions

Results obtained

It can observe some improvement of the living conditions, even the salary level remains low so that the motivation on the work results is minor. We can see that the European funds contributed to raising the quality standards in education and health, facilitated the headrace of drinking water, generated new sources of revenue and developed the infrastructure in the rural areas. Regarding the impact on those who have direct accessed these funds, we can affirm that their income increased, generating new opportunities, whose results will be visible in the future.

Recommendations on measures for the sustainable development in the area of Iron Gates:

Mehedinti county aims to become a county whose sustainable development will permanent take account of the European principles: intelligent, sustainable and inclusion favourable growth, by the valorisation of the existing economic potential, aiming at:

- ☐ ensuring the balance between socio-economic systems and the natural potential with particular emphasis on tourism potential valorisation, based on unpolluted and traditional resources; development of the eco-tourism based on local resources;
- ☐ the existence of a highly qualified workforce, for that is ensured a sufficient number of jobs;
- ☐ increasing the county competitiveness, by valorisation of the existing economic sectors, respecting the sustainable development principles;
- ☐ the enhancement of the natural, cultural and historical patrimony, so complex and particular in this region;
- ☐ permanent improvement of the people life quality and ensuring their equal access to higher quality public utilities and services;
- ☐ social policies to reduce the number of persons in risk of poverty and social exclusion;
- ☐ expansion and development of the health services in communes and localities of the county;
- ☐ development of a competitive and performance agriculture;
- ☐ active involvement of the institutions for the economic and social balanced development of the county, with permanent consultation of the communities, social partners and business environment in the decision-making process.

From the analysis made it appears that the vision of development for the future period responds to the changes taking place in present in the territorial, economic and social dynamics of the county.

The development vision generates priority domains, activities and responsibilities differentiated for the urban and rural areas.

In case that the urban areas will be more concerned with their own social and economic patrimony valorisation and with enhancing of the competitive advantages gained in 2007-2013, the rural areas will continue the process of increasing the quality of life, aimed at combating the demographic decline, attracting new investors and achieving a competitive and performance agriculture.

Conclusions

☐ Now it is vital to put the scientific knowledge achievements in the service of human and social life and not in the service of death by pollution, wars, global poverty etc. The transition in the XXI century means the passing to the practical responsibility era for using the scientific knowledge from the perspective and in the support of the increasing and development of the life quality (Popescu *et al*, 2009);

☐ The real economy must serve by its results, as well as through the mechanisms it uses, to the human and environment health, as generations of living that coexist and succeed inevitable in the evolution of our microcosm.

☐ Since the evolution of the whole common living takes place in conditions of uncertainty, it arises the question to protect the human health, the other components that this is interrelated, meaning the families health, the environmental health, the health of the organizations and the health of the institutions.

☐ We are aware that the aggregation of different indicators, linked directly or indirectly to the rural quality of life is a complex, difficult and sometimes contradictory process, but so aware we are that, in terms of the health of the all common living, we must find those relationships and those indicators with which to build a functional whole that to give the possibility of a proper evaluation, but also to help in remedying some factors of influence, determinants for the quality of life;

☐ The quality of life could be defined as the ensemble of the states that support the interior harmony based on homeostasis, which provides the individual with the energy necessary to enjoy life;

☐ The quality of human life must be interpreted from the perspective of the imperatives of life that Adler spoke about, as lived life, work and love (Adler, 1996);

☐ The quality of life from the perspective of the life lived in community is defined by the ensemble of the conditions of the human being perceived as being in accordance with its biology exigencies;

☐ For the people's health, the development of the human medicine and of an entire sector of health services, is for the period that we are, a vital requirement. In the economy of the human society, people produce those things that the nature cannot provide them for free and that they need to be satisfied. Inside these things, the health services are integrated, those that prevent the people illness and/or take of people out of the crisis, when the disharmony occurs between the body homeostasis and the environment.

☐ From the perspective of the labour imperative, the quality of life expresses those exigencies of the employment of the human being as a vocation and not as career or job.

References

- [1]Badouin R., (1971) *Economie Rurale*, Librairie Armand Colin;
- [2]Constantinescu, N.N., (2000) *The economy of the natural environment protection*, Politică Publishing house, Bucharest, 1976, în *Selected writings*, vol. II, Economică Publishing house, Bucharest;
- [3]Enăchescu, D., (2000) *Health systems in changing*, in *Public Health and Management - Part II*, Risoprint Publishing house, Cluj-Napoca;
- [4]Mocuța ,D. N., Popovici L.R., Dumitriu A.S., Burlibașa L., Ionescu C.A., Sfeatcu R., (2009) *Life Quality-Condition of Social Welfare*, *Metalurgia International*, vol. XIV (2009), Special Issue No. 5, Științifică F.M.R. Publishing house, Bucharest;
- [5]Olteanu, M., (2005) *The rebirth of the Health System through a reform based on evidences*, S.C.I.D.Internațional Technoprint S.R.L., Bucharest;
- [6]Romanian Government, *The Ministry of Environment and Sustainable Development*, *National Strategy for Romanian Sustainable Development Horizon 2013-2020-2030*, Published in O.M., Part I no. 82 bis from 08.12.2008;
- [7] Eurostat database, www.europa.eu.int;
- [8] European Union database, www.europa.eu.int;
- [9] ProQuest database, www.proquest.com;
- [10]World Health Organization website, www.who.int;
- [11]Human development reports, www.undp.org.

Higher Education and its Financing in the Context of Sustainable Development

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Higher education is an important parameter of quality of life, society, the basic factor of its sustainable development, the essence promoter of national and universal human values. It would be a few conditions: higher education must be dimensioned, rationally organized, adapted and adaptable to current and future needs of society managed with professionalism and competence. Development and modernization of higher education involves increasing resources allocated to it in all the countries - both developed and developing. In the context of sustainable development, Republic of Moldova realizes the importance of investment in higher education quality assurance.

Keywords: Human development, investment in higher education, demographic investment, financial autonomy, university sustainability, expenditures for education.

JEL Code: I20, H5

1. Introduction

Sustainable development represents the fundamental objective of any modern society, aiming at the improvement of the quality of life and welfare of current and future generations, by means of a mainstreamed approach of elements: economy, society, ecology. However, the importance of ensuring sustainable development creates a double hypostasis for people: in the same time, they are executors and beneficiaries. To contribute to quality sustainability it is necessary to obtain education and for quality education are needed sufficient public and private investments.

Higher education has often been primarily valued as a benefit for the individual, but an educated citizenry significantly benefits the state. That is the fundamental principle behind the higher education - economic development linkage. An investment in a strong, accessible, and high quality higher education system is an investment in the economic development of the state, with significant payoffs down the road. Indeed, a state can benefit from wise investment in its human capital.¹⁷³

2. Reflections on sustainable development

The Summit, held in Rio de Janeiro in 1992, initiated the establishment of strategic directions oriented to global issues, being the basis for the Millennium Development Goals, drawn in 2000. At the Sustainable Development Summit held on 25th of September 2015, UN member states enacted the Agenda for Sustainable Development – 2030, which included a set, that is much more extended than the previous one, of 17 Sustainable Development Goals (SDGs): no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clear energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace and justice strong institutions, partnerships for the goals.

An intrinsic component of sustainable development, which defines its objective and final result, is human development. Human development implies investments in human capital, especially in its quality growth, which means, as well, the increase of human capacity to participate efficiently and creatively in the process of economic development, to adjust their model of consumption to the requirement of environment protection. Therefore, human development is a component of sustainable development with an instrumental character, the essential factor of the knowledge-based economy's development while ensuring sustainability.

Although the art of human development extension is much broader, the Human Development Index (HDI) estimates and prioritizes countries' achievements within three domains: life expectancy, level of education, and standard of living. HDI values allow the appreciation of the human development

¹⁷³ Bell, J. D., Higher education and economic development, <http://www.wiche.edu/>

evolution and comparison various countries' or regions' experience with regard to economic or social progress. Starting with these premises, table 1 comprises a selective ranking of countries, according to the Human Development Index.

Table 1. A selective ranking of countries, according to the Human Development Index, 2014

HDI rank	Country	Human Development Index (HDI)	Life expectancy at birth (years)	Expected years of schooling (years)	Mean years of schooling (years)	Gross national income per capita, \$
VERY HIGH HUMAN DEVELOPMENT						
1	Norway	0.944	81.6	17.5	12.6	64,992
2	Australia	0.935	82.4	20.2	13.0	42,261
3	Switzerland	0.930	83.0	15.8	12.8	56,431
4	Denmark	0.923	80.2	18.7	12.7	44,025
5	Netherlands	0.922	81.6	17.9	11.9	45,435
...						
HIGH HUMAN DEVELOPMENT						
50	Belarus	0.798	71.3	15.7	12.0	16,676
50	Russian Federation	0.798	70.1	14.7	12.0	22,352
52	Oman	0.793	76.8	13.6	8.0	34,858
52	Romania	0.793	74.7	14.2	10.8	18,108
52	Uruguay	0.793	77.2	15.5	8.5	19,283
55	Bahamas	0.790	75.4	12.6	10.9	21,336
56	Kazakhstan	0.788	69.4	15.0	11.4	20,867
...						
MEDIUM HUMAN DEVELOPMENT						
106	Botswana	0.698	64.5	12.5	8.9	16,646
107	Moldova (Republic of)	0.693	71.6	11.9	11.2	5,223
108	Egypt	0.690	71.1	13.5	6.6	10,512
109	Turkmenistan	0.688	65.6	10.8	9.9	13,066
110	Gabon	0.684	64.4	12.5	7.8	16,367
...						
LOW HUMAN DEVELOPMENT (145-188)						

Source: <http://hdr.undp.org/en/composite/HDI>

Data comprised in table 1 shows that the Republic of Moldova is ranked 107th out of 188 countries and territories, with a medium human development. Although, in the 1990 – 2014 period, the value of HDI grew with 6,3%¹⁷⁴, according to this index, the Republic of Moldova is ranked far from Romania (ranked 52nd) or other European countries.

3. The role of education for sustainability

Nowadays, sustainable development challenges universities to review their mission and restructure their syllabus, teaching and research activities, widening and promoting *education for sustainability*¹⁷⁵.

Education, as the main mechanism of human capital quality reproduction, is based on the following doctrinal imperatives:

- a) education is a national priority;

¹⁷⁴ Human Development Report, 2015, <http://hdr.undp.org/>

According to the Report, within the 1980 – 2014 period, the life expectancy at birth in the Republic of Moldova grew with 6,6 years, the average tuition duration grew with 4,8 years, and anticipated tuition length grew with 0,1 years. The gross national product per capital decreased with 20,8% within the 1990 – 2014 period.

¹⁷⁵ *Education for sustainability* is aimed at the transfer of information regarding sustainable development and formation of competencies for its promotion.

- b) anticipated development of the education system and of the human being, as the basis of the country's national security: economic, ecological, social etc.;
- c) substantiation of education on all stages;
- d) formation of new education technologies, targeted at competencies' development;
- e) expansion of education accessibility for all social classes;
- f) enhancing the responsibility of education institutions, government and society for the qualitative evolution of education.

In the context of sustainable development, a special role is assigned to higher education, which regards:

- Education of students, according to economic, social and environmental challenges;
- Identification of technical and social solutions designed to face the challenges of sustainable development;
- Assumption of the catalyzer position of studying about sustainable development, beyond the higher education barriers, by means of knowledge and ideas' exchanges with other social entities (local communities, business environment, government etc.).

Yet, graduating a higher education institution, although cannot guarantee, but still fosters a decent standard of living of an individual, and ensure the welfare of a society, as a whole. The demonstration can be observed in figure 1, which shows the poverty rate as a function of the level of education of the head of household.

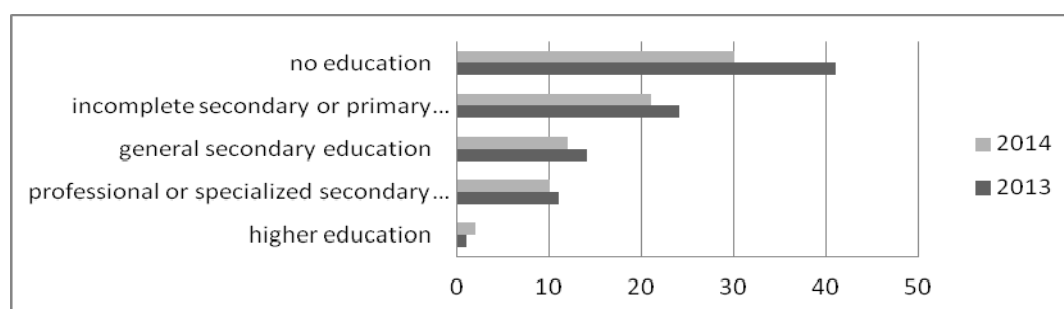


Figure1. Poverty rate as a function of the level of education of the head of household, %

Source: Report on poverty in the Republic of Moldova, <http://www.mec.gov.md/>

Data shown in figure 1 pictures that the highest poverty risk is met at households led by people with no education, while the lowest level of risk – at households held by people with higher education. In 2014, the poverty rate at the households held by people with no education was equal to 29,6%, a value that exceeds by 17,4 times the level of poverty of the households held by people with higher education. Thus, it can be stated that promoting higher education at the country level is absolutely necessary for the improvement of the population's quality of life and assurance of the society's welfare.

4. The higher education in the Republic of Moldova

Should be mentioned, that the domestic higher education is divided into three cycles: first cycle – Bachelor's Degrees (level 6 ISCED); second cycle – Master's Degrees (level 7 ISCED); third cycle – Doctoral Degrees (level 8 ISCED).

The Republic of Moldova has a sufficient amount of higher education institutions in order to supply qualitative educational services. Thus, in the academic year 2014-15 there were 31 higher education institutions (of which 19 – state institutions) and 50 institutions with doctoral activity (31 institution of scientific research and 19 institutions of higher education).¹⁷⁶ These institutions take the responsibility for the qualification of an imposing contingent of future experts (table 2).

¹⁷⁶ The presented does not include data on the regions on the left side of the Dniester and Bender municipality, and comprises information on the situation at the beginning of the academic year.

Table 2. Amount of students according to study cycles, a. y.2014/15

	Study cycle	Amount of institutions	Amount of students	Amount of students per 10000 inhabitants
I.	Bachelor's Degrees (First Cycle)	31	71150	200
	Master's Degrees (Second Cycle)		14439	41
	Integrated studies ¹⁷⁷ (medical and pharmaceutical higher education)		3940	11
	Total	31	89529	252
II.	Doctoral Degrees (Ciclul III)	50	1628	4,5

Source: adapted by the author based on NBS

Data comprised in table 2 reveals the fact that domestic universities imply a numerous contingent of students, who can be formed and educated in a way to be able to face society's challenges and to ensure efficacious results within the context of sustainable development. Should be mentioned, that a negative tendency of the evolution of the amount of students can be noted, as a result of demographic processes (a phenomena registered in most developing countries).

In author's opinion, within the condition of optimization of the educational expenses, and resulting from the small amount of people engaged in the Third Cycle, can be reduced the amount of institutions with Doctoral activities, for the improvement of the quality of rendered services (engaging notorious experts, ensuring research laboratories, speeding the access to information etc.).

The system of doctoral education from the Republic of Moldova, as well, needs a restructuring of doctoral studies towards knowledge and innovation. The course of doctoral education should face towards sustainable principles of research development, in order to ensure the quality and efficiency on the basis of new structures of studies' organization that would allow sustainable intensification of the training process, amplifying the responsibility of logging and scientific cooperating between doctoral students. The application of the Doctoral sustainable studies cycle within the universities of the Republic of Moldova requires an essential preparation both on the national plan, and on institutional one, which will permit the fulfillment of all the criteria of the European Education.¹⁷⁸

5. Expenditures for education

Still, educational institutions, of all degrees, can direct efficiently their efforts towards a sustainable society, worth an appropriate education budget, having the latitude to direct existing resources, to obtain new resources, and to develop a favorable environment for interdisciplinary research and teaching.

Expenditures regarding education and formation of labor force can not only be characterized by redeeming, but also by giving birth to the possibility to obtain results with a multiplier effect. Given the feature of long term placements which recoup in time and out of the newly created value, expenditures of this kind take the features of investments, for this reason being called **demographic investments**. As components of the demographic investments' structure, the ones directed towards the education stock's growth take a separate role, being considered the spiritual resource of the country, its non-material wealth. Education stock is the most used indicator on the national plan and in international comparisons; it quantifies the intellectual heritage accumulated by a country's population through preschool, school and higher education. Education stock growth is given by the workforce enhancement of the ones who graduated post-secondary or higher education, thus accumulating new knowledge, raising the level of scientific, professional and cultural training to a superior degree.¹⁷⁹

Budgetary financing of education in the Republic of Moldova is accomplished through four different ways:

- 1) Standard financing: standard cost per child/pupil/student and adjustment coefficient;

¹⁷⁷ Integrated studies comprise First and Second Cycles.

¹⁷⁸ Bugaian L., Ciclul III. Studii superioare de doctorat: practici europene, <http://www.erasmusplus.md/>

¹⁷⁹ Doga-Mîrzac M., Rolul cheltuielilor pentru învățământ în dezvoltarea economico-socială a Republicii Moldova, Revista Științifică a Universității de Stat din Moldova, 2012, nr.2(52), p. 137-140

- 2) Compensatory financing: for children with special educational requirements, children with special skills – through experimental or alternative programs and programs of performance support;
- 3) Complementary financing: to modernize the material and teaching basis, to subsidize nourishment, to scholar transportation and housing;
- 4) Competitive project-based funding.

In the Republic of Moldova, education is mostly public. Expenditures on education represent one of the branches priorities in government financing. In 2014, expenditures on education ranked second, numbering a weight of 17,6% in the national public budget expenditures, while the highest weight of 31,9% referred to financing social assistance and support. These two branches obtain the biggest budgetary financing, and this relation can be observed during the last 15 years. Should be mentioned, that during the last years, expenditures on higher education vary within the limits of 8-9% of all expenditures on education.

Figure 2 presents the evolution of expenditures on education as a share of total public expenditures and of GDP during the 2005-2014 period.

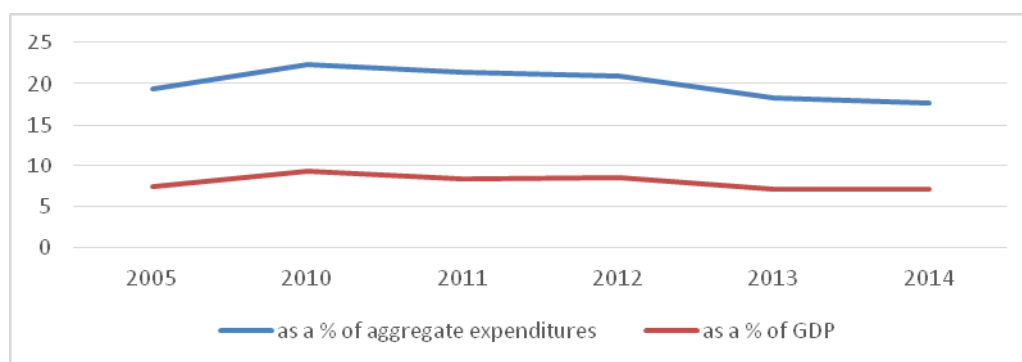


Figure 2. Evolution of expenditures on education from the National Public Budget

Source: NBS, www.statistica.md

Data in figure 2 show that the weight of expenditures on education in the aggregate government expenditures and GDP passed an evolution, which can be divided into two phases. Thus, the weight of expenditures increased until 2009, the year when a maximum level of 9,4% in GDP was registered, while starting from 2010 this indicator was diminishing, reaching the level of 7% in 2014. Although the Republic of Moldova has an advanced level of the weight of public expenditures in GDP, being compared with other states in the region, the efficiency of the educational budget is low (see table 3).

Table 3. The efficiency of expenditures on education, 2014

Country	Quality of education sector ¹⁸⁰ , score	Efficiency score	Rank
Romania	3,8	1	1
Slovenia	4,1	1	2
Bulgaria	3,4	0,74	3
Lithuania	3,9	0,72	4
Hungary	3,3	0,60	5
Slovakia	2,8	0,56	6
Czech Republic	3,6	0,54	7
Poland	3,6	0,53	8
Latvia	3,8	0,49	9
Republic of Moldova	3,2	0,40	10

Source: Analysis of public expenditures on education sector, <http://expert-grup.org/>

¹⁸⁰ http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf

With regard to the quality of the education sector, the maximum score is registered by Switzerland (6 p), being followed by Finland (5,9), Qatar (5,8), Singapore (5,8), Ireland (5,4) etc.

Data in table 3 shows that the Republic of Moldova gets worse positions as other states from the region, according to the following indicators: quality of the education system and efficiency of public expenditures on education. According to the assessment of the independent analytical center Expert-Group, the low efficiency denotes the fact that the current level of education system quality could be obtained by allocating budget sources with a much smaller share than 7-8% of GDP.

The sources of revenue of higher education institutions are:

- Direct public financing (65-75% of the university's budget);
- Tuition fees that can vary according to specialty and level of training;
- Additional sources (about 10%, given by charity financing, contracts concluded with the real sector of the economy, consultancy services, rendering into service of some buildings etc. owned by the institution etc.)
- Structural funds, programs for research and development (an extremely competitive source amongst universities) etc.

Currently, is more and more used the notion of **financial sustainability** of higher education institution. This collocation implies the capacity of the university to obtain revenues aimed at maintaining the education process and application of projects and activities that ensure the achievement of the education objective.

In the Republic of Moldova, starting since 2013, higher education institutions activate under the conditions of **financial autonomy**.¹⁸¹ Financial autonomy is embodied through:

- duration and type of public financing;
- capacity to keep the surplus;
- capacity to borrow money;
- capacity to hold the ownership right on buildings;
- capacity to levy tuition fees from students.

In the Republic of Moldova, higher education financing from the state budget takes place according to the state order¹⁸², which is determined emerging from the country's necessities of certain specialties, being correlated to the amount of graduates, cost per student, financial of the state, coordinated with the Ministry of Education, Ministry of Labor, Family and Social Protection and Ministry of Finance. On that basis, universities' financial autonomy is straitened, while, simultaneously to the state budget financing reduction, the Government maintains the limit of the amount of students who can be enrolled to a faculty, restricting the revenues of education institutions. In the same time, universities provide paid services, although, their activity, in the context of the current legal frame, is not an entrepreneurial one. Universities wish for obtaining a complete autonomy, both administrative and financial, which implies the establishment, with no Government implication, of the amount of students to be enrolled, the quantities of fees for tuition and accommodation in campuses.

6. Conclusions

Universities from Republic of Moldova should harmonize the directions for institutional development not just according to internal necessities, but also to national priorities and global tendencies. Currently, higher education should face several major challenges: to reach a qualitative and competitive level on the international plan, to assume the responsibility for the formation of a contingent of progressive, creative and intelligent people in the context of sustainable development, to enhance their financing and diversify their financing sources. These major goals imply changes within the domestic higher education, aimed at the improvement of quality of education.

It is an urgent need for Republic of Moldova to build quality and capacity in universities and to create skills that remain in country and, it is possible, first of all, with public and private investments. When all citizens have the opportunity and resources to succeed in the education system, the state reaps the rewards of an educated and productive citizenry. The benefits of a highly educated citizenry include improving the state's economy, meeting future workforce needs, and improving the state's quality of life.

¹⁸¹ **Financial autonomy** implies the freedom of universities to manage the financial resources, including their accumulation and allocation, respecting certain principles, such as responsibility, ensuring education quality, compliance with the legal framework, respecting policies of university ethics, assuring the managerial efficiency and efficiency of resources' usage.

¹⁸² **Stat order** regards the amount of budget financed studying scholarships for Bachelor's Degree (first cycle) and Master's Degree (second cycle) students.

References:

1. Education Code of the Republic of Moldova nr. 52 of 17.07.14, In Official Monitor Nr. 319-324 from 24.10.2014, <http://lex.justice.md/md/355156/>
2. Bugaian L., Ciclul III. Studii superioare de doctorat: practici europene, <http://www.erasmusplus.md/>
3. Bell, J. D., Higher education and economic development, <http://www.wiche.edu/>
4. Doga-Mirzac M., Rolul cheltuielilor pentru învățământ în dezvoltarea economico-socială a Republicii Moldova, Revista Științifică a Universității de Stat din Moldova, 2012, nr.2(52), p. 137-140
5. Analysis of public spending for education sector , <http://expert-grup.org/>
6. Global Competitiveness Report 2014-15
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf
7. Report on poverty in Republic of Moldova, <http://www.mec.gov.md/>
8. Human Development Index and its components, <http://hdr.undp.org/en/composite/HDI>
9. Human Development Report, 2015, <http://hdr.undp.org/>

Correlation of the Structure and Content of Educational and Training Workforce with Current and Future Needs of the Economy

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In this article we will direct our attention to developing and promoting the social economy as a flexible and sustainable tool for generating jobs and economic development and social inclusion in Romania with regard to labor market imbalances. The current economy needs well-trained workforce in the context of globalization and technological revolutions, requiring development skills, creativity, sound knowledge, an increase accountability. In a world subject to constant change, to stagnate in terms of preparation is a dangerous behavior for the contemporary man and society. The analysis reflects one of the problems in Romania, namely low labor market flexibility, and attention was directed to one of the main reasons, namely the reduced flexibility of the education system.

Keywords: education, future needs, economic university graduates, flexible education system.

JEL Codes: A, A2, A23.

REL Codes: 4B, 12B, 4D, 16E, 8G, 12I.

1. Introduction

Analysis insertion of graduates into the labor market is very important in the current economic context who knows the fluctuations in unemployment, both in general and youth in particular.

In this context it intensifies efforts to seek solutions through the development of quality human capital through education, research and innovation.

2. Timelines of the research

Research will focus on analyzing the relationship between the education system and labor market demand. The analysis is based on the following assumptions:

1. Specialization in a particular area requires regional concentration of a number of economic graduates who hold qualifications required by employers;
2. Discrepancies between the qualifications of the workforce and those required by employers are much stronger when employment is between different sectors of the economy than in the same sector;
3. Increasing competition borne by those looking for a job or intensification of the search for a job in the workforce already employed. It is expected that people who already have a job to be favored by employers to the detriment of young graduates;
4. Structural changes in the economy induce labor reallocation between industries, which causes frictional unemployment as a result of the movement of labor from declining to expanding ones.

In Romania the problem of underutilization or inappropriate use of labor resources is one very topical, given the increasing rates of unemployment, especially among young graduates and the long-term economic. Improving training is primarily related to investment in education, leading to the development of creativity, skills, performance, competition and greater stability in the labor market. Today, economic analyzes of education increasingly put out the link between educational investment in human capital and economic growth.

Analysis of supply and demand for university education in Romania highlights both achievements but also some distortions that arise, especially in the networking supply and demand of education, which complicates the insertion of graduates into the labor market. On the other hand, the education system must take into account the rapid changes that determine each sector to need constant updating of skills, besides acquiring knowledge and skills.

Better preparation and adaptation of graduates before and after their studies to changes on the labor market are required by intensifying international competition.

3. Research methods, material and techniques

Work methodology addressed in the research work consisted of the following steps:

1. Meetings and discussions with students in their final years, as well as those who have completed undergraduate studies and continuing through master;
2. Develop questionnaires that help students master and those who have a job can answer different questions;
3. Collecting information;
4. Analysis and interpretation of data collected.

The research was initiated by using the first method of research, document analysis, in order to collect existing data, namely, statistical documents provided by staff of universities "Petroleum and Gas" in Ploiesti, "Valahia" and the University Pitesti.

There were also collected statistics provided by the NEA on the Job Fair, National Prognosis Commission report on prospects for employment of labor in Romania, as well as data from a study conducted in recent years by the Agency for Governmental Strategies.

ALUMNI platform generated especially for graduates in universities analyzed was another reliable source and pertinent data collection for research conducted. ALUMNI Association is an association with scientific and social, governmental, democratic, independent, nonprofit and apolitical.

ALUMNI aims to facilitate communication between all members of the association in the country and abroad. ALUMNI members are all graduates of bachelor and master programs of Petroleum-Gas University of Ploiesti, namely the University Valahia, regardless of year of graduation or specialization graduated. So the goal of the association is to establish a link between graduates Petroleum-Gas University of Ploiesti and between the University of Valahia by creating and maintaining a database accessible to everyone via the website. Also, it was generated in a registration form with personal data (the year when they completed their studies, college graduation, specialization) and the actual workplace, as well as reports showing promotions and list members of this association.

In this association, all faculties are involved. The objective of this research is to strengthen the role of universities in assessing how the knowledge, competences and skills acquired are sufficient to allow university graduates to engage in the labor market.

Also in the paper are tracked as specific objectives, the following:

- Establish correlation between educational path and offer jobs for young graduates;
- The development, piloting and strengthening regional instruments to achieve regular monitoring and even the generation of forecasts of labor market insertion of graduates;
- Promoting and supporting methodological approaches at the regional level on the studies of graduates entering the labor market.

Research has provided initial questionnaire applied amend previous promotions, and database consolidation and validation of the graduates of 2014 and 2015 promotions.

It should be noted that the questionnaires will be done at institutional level.

At the moment, according to estimations, 25% of young people are unemployed.

Increasingly more can be observed that the Internet has changed the psychology of young people, especially those representing the so-called Generation Y (referring to those born in the years 1980 to 2000), desiring higher wages than they can provide employers and flexibility in the work program. It is true that they are extremely creative, which is a plus for some domains in which ingenuity, creativity, resourcefulness, willingness new, modern and idealistic can conquer the labor market in the area of IT, communications, cybernetics and robotics industrial.

An important aspect analyzed in this paper presents the positioning of young people in the labor market is influenced by many factors such as structural (macro-economic situation and offers labor market) to personal (family responsibilities, health), and horizontal positioning (education, gender, place of residence) and vertical (social and material resources).

Relating to these factors affecting the labor market positioning, we present and interpret data and results from analyzes conducted. The question that led to the investigation was whether their theoretical skills required by graduates meet current needs and whether the conditions of placement desired.

Methods and tools for research on employment higher education graduates in employment were applied on a sample of 2,000 students and master at the "Oil & Gas" in Ploiesti, of the University "Valahia" and the University of Pitesti.

From the theoretical point of view, all these analyzes create the whole picture frame employability of graduates. But bottlenecks occurring in the labor market and the large number of unemployed young people shows that denies the reality of what seemed possible smooth transition from being a student / graduate student at the employee.

Another question that has generated research is "what attributes and skills coming young graduates to improve practices in the labor market?" Or "why should employers to focus on young graduates when employment functions requiring expertise in a particular field?"

Also, the question "how many university graduates will be able to be immediately absorbed by the labor market?" In this regard, the analysis performed followed compatibility with all knowledge graduates and requirements of employers.

The compatibility of the characteristics of those who are seeking employment and job vacancies will be analyzed using research tools that could respond to the challenges of the labor market.

This has been achieved and a sample group which involved the prior existence of the investigated group subjected to observation. This method was used in the present study because existing groups of individuals in the group were significant to the investigation and, also, it was necessary to construct a sample relatively quickly and with minimal costs. Subjects were divided into three study groups.

The meeting between the supply of labor (S number of young graduates seeking a job) and demand (V number of vacancies) is the subject of examination of compatibility:
 $W = w(S, V)$

It is obvious assumption that the number of graduates Economic, respectively vacancies must be zero. It noted with W flux meetings between supply and demand for labor within a defined period of time.

Report $R = \frac{V}{S}$ it is called restricting labor market (number of jobs per one young graduate).

The probability of a graduate to find a job in a unit time is given by:

$p(R) = \frac{w(S, V)}{S}$, called transition probability or rate risk and the probability that a vacancy to be filled

by a graduate degree in economics is given by:

$q(R) = \frac{w(S, V)}{V}$.

In an environment stationary inverse of each of the two probabilities is neîncadrării average duration of a job or job vacancies. Probability guarantee of research results is an expression of the extent to which it can validate results obtained with the sample and lead to some conclusions valid throughout the investigated group.

It is known that won using a probability of less than 95%, which means that, while preserving a way of building the sample and the achievement of research in 95 cases out of 100, the results will be similar to those that have been provided by the present research. Also, if the probability is greater guarantee of research results and the sample size should be large. How sample of research encompasses a large number of subjects for the South region, it can be considered that the results are taken into account. Starting from the characteristics of the group investigated the field / specialty, age, gender, etc. It was followed by arithmetic average frequency. Using indicators on education and training outcomes in the labor market leads to finding a tool to assess the effectiveness of labor market functioning in terms of compatibility between demand and supply of labor, namely the desire insertion index.

The variables used in the analysis are:

- a) the economic graduates looking for a job;
 - b) the number of firms in search of labor;
 - c) a set of other control variables for estimating the number of jobs formed at a certain time.
- Testing hypotheses mentioned led to the conclusion that the impact of structural change is more powerful if the process for filling a vacancy, even more so than finding a job by young graduates

economy. The explanation for this is that structural change increases the gap between the qualifications of the workforce and those sought by employers.

Specialization in a particular field may have short or medium term beneficial effect on the functioning of the labor market, but long-term structural changes can make it become a factor of increasing unemployment.

4. Results and discussion

As noted above, was conducted a random sample by the following variables: area of specialization, year, type of education, demographic characteristics (age, gender, origin) and the number of subjects (approximately 2000 subjects, coming from three large universities in the South-Muntenia (development region in southern Romania, which groups seven counties, and namely: Prahova, Dambovită, Argeș, Calarasi, Giurgiu, Ialomita and Teleorman). Universities who entered the study conducted are: Petroleum-Gas University of Ploiesti, Universitatea "Valahia" and University of Pitesti, being the economic area concerned. Number of subjects that are part of the group investigated is variable illustrating the size of the proposed study and variables (field, specialization) highlights that subjects are mostly within specific economic faculties.

The research methods used may vary according to these variables. This is the assumption from which we started, and the purpose was to obtain a homogeneous category selections study at three universities. The study focused on applying three subjects research tools, thus generating ternary analysis (piloting questionnaire, focus groups and interviews). The analysis aims to see if there is a match between the three target groups on their views about employability. Inserting other research tools (document analysis, survey, even observation), complementary to the three mentioned above, led to complex qualitative and quantitative data. It was also interesting to see how the number of research methods used depend on the number of subjects that are part of the analyzed group. Their number may be viewed as an indicator of the scale research. Although analysis of documents was preferred as the primary method of data collection, however, it is usually used in conjunction with other methods, so the purpose of supplementing the information, and the purpose of examining the validity of the data. So it resorted to using a survey, and a personal interview, all these methods being considered throughout the analysis performed.

Limited time and resources have made the analysis to be carried out, for the most part, the group of subjects represented by students and masters from the three universities mentioned above, mostly from the Faculty of Economics and reduced from the Faculty of Engineering and the Faculty of Letters and Sciences. The aim of such a survey was:

- to verify the validity of the data obtained initially on a wider and more representative sample;
- after addressing questions on issues that were not previously addressed predominantly to obtain quantitative data (related to the employment of the workforce).

Using the research method, along with document analysis, survey, had considered the following elements: use appropriate questions, sample construction and choose the most relevant data analysis techniques. Also it should be noted that questions had to be related to the research subject and the number and content of the questions must correspond perfectly to the relative importance of the variables taken into account; while emphasis should be on clarity in the questions. Although the research was initiated by analyzing documents, followed by the survey among students, employers, local authorities, graduates from several specialties, among methods secondary (support), most useful information analysis resulted in the questionnaire piloted among students and masters. Respondents to this survey were 98%. The questionnaire included specific elements of differentiation of respondents, meaning that they could determine the specialization they are studying, the year in which the education, age, gender and area of origin. Also before the actual piloting of the questionnaire, the group of respondents explained their reason for participating in this action research.

The questionnaire contains a set of 12 questions open in most, aiming to find out their views expressed freely, thereby finding how subjects' thinking and that their views expressed freely, having as main objectives the identification of the following issues:

- ✓ The quality of Romanian university education;
- ✓ The correlation between university curricula and labor market requirements;
- ✓ Utility of their subject;
- ✓ Self-assessment skills acquired;
- ✓ The rate of employment before or after completing undergraduate studies;
- ✓ Jams occurred on engagement;
- ✓ Concordance between the function and studies are completed / expertise;

- ✓ Ways of information on job vacancies.Întrebările din chestionarele folosite au fost clar structurate și relativ simple.

The sampling ensured a reasonable representation of general assessments pursued. After piloting the questionnaire were held focus groups with students and masters from the Faculty of Economics. Subjects have been introduced to organize work, to obtain quality data on their views on the Romanian education system and acquiring skills required by the labor market after graduation academic. The subjects could complete descriptions provided which contained specific elements such as respondents, field of study and specialization, age, gender and area of origin. Focus groups held with students and master's contained six questions that were directed towards:

- ✓ utility of theoretical knowledge acquired during their studies academic labor market insertion;
- ✓ self-importance of financial support;
- ✓ expertise hypothesis that subjects should respect the position they will hold;
- ✓ the provision to retrain according to the new requirements of the labor market;
- ✓ subjective expectations about future job;
- ✓ presentation bottlenecks that have faced when trying to find a job.

During a focus group was 30 minutes for each question respondents having from 5 minutes to provide a response. Continued research interviewing academics, and then followed focus groups with students and masters in economics. Each teacher interviewed was handed a card containing five questions. The interview was 30 minutes for each question respondents having available 5 minutes. Questions focused on:

- ✚ mention the criteria that they take students / master in choosing a specific field of study;
- ✚ vision of consistency student / master in terms of improving skills;
- ✚ expectations graduates on the labor market insertion;
- ✚ the level of education;
- ✚ counseling in finding a suitable job.

Table 1. Stages of implementation research tools

Stages of implementation instruments	Stage 1: Piloting the questionnaire the group of subjects invited to participate in this action Stage 2: Organizing focus group sites Stage 3: Interviews with teachers
The target group	Students from years of studies II and III, to form living and ID, master, and teachers. The group of subjects was number 2000. Those invited to participate in this study participated in 98%.
The net rate of response¹	Within UPG Ploiesti: -studentii second year: 386, equivalent to a net response rate of 20.2%; -studentii third year: 587 responses equivalent to a net rate of 20.1%; -masteranzi 187 responses equivalent to a net rate of 19.8%. The University "Valahia": -studentii the years II and III (courses): 289; -studentii the years II and III (part-time courses): 65; -masteranzii second year: 135. From the University of Pitesti - II and III year students (courses): 170; - II and III year students (part-time courses): 73; - MA second year: 108.

Source: author

¹ Number of replies reported the number of graduates invited to participate in the study.

So they were questioned prospective 1160 graduate of the University "Oil and Gas of Ploiesti, 489 students / MA from the University" Valahia "and 351 subjects from the University of Pitesti. However, during the research there were various moments of blockage on attitudes on the effort to complete and answer questions, students / master is rather reluctant to present their vision real on their status

It was interesting to see that while reluctant initially, when students / master students understand the usefulness of this study and that those involved are themselves in an attempt to facilitate employability (through the presentation of research results and providing solutions), they

were involved in carrying out research, saying they pay attention and hoping to get and they, in turn, personal solutions to overcome bottlenecks.

Following this analysis were obtained qualitative and quantitative data that led to the formulation of clear conclusions without any trace of suspicion on the results.

For the three categories of subjects (students, master students and academics) have been common items, but also specific items that addressed the different status to that which they hold. Common items were related to aspects of the study programs offered by the faculties and the extent to which they are adapted to labor market requirements. Also, reference was made to the components and regarded as the most important job in order to obtain desired information on how to publish vacancies on the causes that generate bottlenecks, and the skills gained during academic studies.

Common items aimed at putting mirror the opinions of professors with students / master degree of concordance to observe the ways in which the three categories of subjects perceive the labor market requirements.

It was also examined to what extent their options overlap or contradict, where there are points of convergence attitudinal and opinion on the importance of collaboration between universities and employers to facilitate / ensure the employment of recent graduates and how homogeneous or heterogeneous is the attitude of subjects on the socio-economic development of a country, as a result of investment in education / education.

Specific items laid great emphasis on the individual perspective of subjects related to skills obtained and the need for self-supporting to handle only certain functions, qualities held and listing the bottlenecks that prevented them take their desired spot on labor market. It was taken into account the fact that opinions could be influenced by factors such as: field of study, year of study or seniority. They can be influenced to the same extent and peculiarities, such as: age, gender of the subject or her background. Individual interviews conducted with university professors have sought to highlight and detail the correlation between the knowledge and skills acquired during college and those required by employers. Also was done to outline a sketch of students / master on choosing a specific field of study and analyze their consistency in acquiring skills, expectations, readiness and / or adaptation interdependence between what forms academia and request economic environment it is to integrate graduate and limits or difficulties they encounter.

5. Conclusions

Following the analysis carried out has been noted that the approaches excessively theoretical, general and lack of applicability immediate knowledge gained are claimed even graduates, who are made in the integration to the labor market to meet requirements which have very good knowledge of theoretical but they are unable to apply them practically.

In this analysis, following the implementation of research tools, it was concluded that all respondents are of the opinion that something should change, both in higher education and the level of those in charge of training young graduates work. Subjects analyzed believes that is indeed need much more practice during college.

Among the measures that higher education institutions should apply in order to meet the needs of employers, we notice the conditions for admission to the faculties, which would create in the minds of youth, an analysis more clearly their needs to be assigned to college to study a particular field, consciously chosen and long term. Also, the number of graduates will not be so great that the labor market being suffocated and incapable of absorption so many specialists.

Faculty can assess the activity and ascertain to what extent manages to form skills and abilities which it has proposed. Academia can adapt syllabus so as to cover the gaps noticed after evaluation of their graduates.

Also, the partnership school - firm relies on a balance between supply and demand is educational and important in terms of personal development of students and their future socio-professional insertion. Thus, prestige and effectiveness of the institution of higher education is given and subsequent steps of its graduates, either through continuing education, either through their integration in the labor market.

6. Authors'contributions

Methods of analysis addressed conducted research are useful tools for analyzing the effectiveness of labor market functioning in terms of compatibility between economic characteristics of graduates looking for a job and peculiarities of vacancies.

The main advantage of applying these tools is that the capture of an integrated and easy to analyze complex relationships that are established on the labor market, using a relatively small number of variables. Obtain the number of jobs occupied at a time from the number of graduates Economic looking for a job, the number of companies that are looking for graduates and a number of control variables.

The research results will form a working tool that shows the challenges facing young graduates in the labor market, which appropriate measures to improve their situation and recommendations to facilitate their integration into the labor market. Clearly the message transmitted, namely the need for quality education and the need to adapt the Romanian higher education to labor market requirements.

7. Proposals and recommendations

The analysis reflects one of the problems in our country, namely low labor market flexibility, and attention was directed to one of the main reasons, namely the reduced flexibility of the education system.

As in other countries the student does not have to decide on his future profession at the age of 18, but later a proposal, respectively, a solution would be the universities can be reorganized.

Thus, since the first two years students to attend basic courses and selected them in the areas they are interested. Then they can pick an area that would like to deepen it. If the election turns out to be wrong, then they can change the already avan core courses. Naturally, in order to change the industry needed another year of study, it may participate even after they have finished school. Years preparatory economic crisis are characterized by economic growth, but not always the ability of the economy to generate adequate jobs. However, it is observed that the education system is not keeping pace with developments in the labor market, but offers generations of increasingly larger economic graduates. Youth transition from school to work has become longer and more difficult now.

Today, few young graduates manage to integrate quickly into the labor market and to secure the newly gained position. High rates of unemployment among graduates and significant incidence of underemployment among them indicates important that they experience difficulties in the transition-graduation employment.

This phenomenon occurs not only in countries in the developing world, but also in advanced economies where active measures and support programs are better developed. In this regard would require correlation methods as varied structures and contents of education and training of the workforce with current and future needs of the economy. Better education and access to education for gaining greater stability in the labor market would (allow) a natural insertion in the labor market. Increased labor mobility could improve the economic position of young graduates. The flexibility of the labor market plays an important role in the absorption of newcomers.

This shows the market's ability to respond to changes occurring in the economic and social environment. In recent years, was in the spotlight flexibility in terms of better adapting to change, to change. This implies a certain structure of the education system. Increasing adaptability of long-term labor market requirements must be achieved through investment in human resource development, based on a strategy of lifelong learning, as well as more flexible labor market.

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References

1. Aceleanu, M.I., *Lifelong Learning – Necessity For Romanian Labour Market Flexibility*, Proceedings of the 6th International Conference on Business Excellence, Vol 2, 2011;
2. Aceleanu, M. I., *The Relationship Between Education And Quality Of Life. Implications Of The Labour Market In Romania*, Journal of International Scientific Publications, Vol 9, Part 2, 2011;
3. Argăseală, M., *Formarea continuă a angajaților – șansa unor întreprinderi inovative cu angajați pasionați de munca lor*, București, POSDRU/62/2.3/S/22025, 2012;
4. Dávila Gómez, A. M., Crowther D., *Human Dignity and Managerial Responsibility: Diversity, Rights, and Sustainability*, Gower Publishing, Ltd., England, 2012;
5. Datalo, A., *Strategies to Approximate Random Sampling and Assignment*, Oxford: Oxford University Press, 2010;
6. Jackson S E., Schuler R. S., Werner S. , *Managing Human Resources*, USA: Cengage Learning, 2012;

7. Jackson, S. E., Ones D. S., Dilchert S. (Ed.) *Managing Human Resources for Environmental Sustainability, The Professional Practice Series*, 2012.
8. Kearns, P., *HR Strategy, Creating Business. Strategy With Human Capital, USA: Butterworth – Heinemann*, 2010;
9. Lawler, E. E., Boudreau J. W. , *Effective Human Resource Management, A Global Analysis*, , Stanford University Press, Stanford California, 2010;
10. Rothwell, W. J., Lindholm J., Yarrish K. K., Zaballero A., *Encyclopedia of Human Resource Management, Human Resources and Employment Forms*, Ed. by William Rothwell, San Francisco: John Wiley & Sons, 2012.

The Behavior of Contemporary Journalist Oscillates between Socially Responsible Behavior Journalist and the Journalist who Voluntarily Conform Public Opinion and Public Interest

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The contemporary journalist usually acts on the six pillars of social responsibility and in order to serve the public interest and public information and training. New media, the new status of the journalist and new implications of global phenomena determine changing the role of the journalist and mostly voluntary compliance of his needs and dues community to which he belongs. The risk of the future is the appearance of the journalist who is acting only under pressure from the community which will cause deformation of public interest and public opinion under the pressure of selfish and individualistic communities.

Keywords: social responsibility, social media, journalism, public opinion, public interest.

Jel Code: M14

Novelty and publicizing the concept of social responsibility among journalists triggered and a current, respectively compliance imitation behavior to the behavior of some journalists (Romanians and foreign ones) recognized to be socially responsible. It is fashionable to declare yourself to be responsible because it shows that you care, show that you are involved and it is fashionable to use terms like sustainability and social responsibility or ethical and journalists as, possible vectors opinion recites and require public space theme of social responsibility. The journalist's role¹⁸³ is to inform or warn about events and products or events and ongoing or upcoming events.

The journalist gives his audience the information on which audience form its attitudes and its behavior sets.¹⁸⁴

Journalist working to obtain audience that in order to obtain financial resources in order to serve his audience information.

The journalist can work:

1. under the pressure of partisan interests (economic or political)
2. under public pressure¹⁸⁵
3. In order to serve the public
4. in the public interest¹⁸⁶

Usually partisan interests, be it economic or political, action dominates journalists in contemporary Romanian society.

Manipulative behavior¹⁸⁷ of the journalist acting under the pressure of partisan interests can hardly be recognized and unfortunately cannot be combated only through action pecuniary (established by competent bodies and facts provided) or by action of boycott audience (what is done to loss audience).

Journalist acting under the pressure of economic or political interests and handling the audience can be recognized by the following characteristics¹⁸⁸:

- Use of false fears
- Imposing debate and or information of no interest themes
- Remove the context of statements, declarations

¹⁸³ Dobrescu Paul, Bărgăoanu Alina, *Mass Media și societatea, comunicare.ro, 2003, pagina 113*

¹⁸⁴ Bondrea Aurelian, *Sociologia Opiniei Publice și a mass mediei, Editura Fundatia România de mâine, 2007, pagina 147*

¹⁸⁵ Reiffel Reimy, *Sociologia Mass Media, editura Polirom, 2005, pagina 49*

¹⁸⁶ Preoteasa Manuela, Radu Nicoleta Raluca, *Economia Mass- Media, Polirom, 2012, pagina 76*

¹⁸⁷ Dobrescu Paul, Bărgăoanu Alina, *Mass Media și societatea, comunicare.ro, 2003, pagina 139*

¹⁸⁸ Bondrea Aurelian, *Sociologia Opiniei publice și a mass mediei, Editura Fundatia România de mâine, pagina 89*

- Solving brief and only in statements of various issues debated
- Call or invited specialists with similar opinion
- Use of information which is difficult to verify
- Use different dosage truth to reality
- Use omission
- Imposing conformism
- Use specific of angles of approach of formed audience
- Use persuasion
- Adapting to the audience that follows its
- Support by directly or indirectly
- Attack to invited or the different people
- Use of information under the name news sources without specifying sources
- Excessive use of terms such as speech ethics, social responsibility, truth
- Use exaggeration and sensationalism or common events
- Hijacking public attention to issues of concern partisan
- Minimize events or creating events and what to eliminate from consideration other important events.

The result of the action of the journalist can be interpreted either as handling or information (depending on how the journalist acting) and direct beneficiary of the journalist's action is public opinion¹⁸⁹.

Public opinion is expressed spontaneously, it may be the result of media and can be strengthened or altered if the intermediaries (whether if they are people or media) are opinion leaders recognized (journalists, politicians, celebrities, people business, religious leaders).

Opinion is usually specific to each individual and group (segmented by age, education, culture) and the existence of a common public opinion requires that the various groups that make up society have the same opinion, have the same interpretation of the conduct of facts.

Public opinion is shared only if it leads to joint actions of people who share the same opinion, or shares that may be arising from pluralism of opinions or even their handling.

Usually public opinion built through mass media is a dominant one and determines loyalty and capture or audience segments who share the same opinion and influencing change and or expectations. (Example: Viewers who have a certain opinion to a state of affairs will only watch those TV stations that have a similar opinion).

If public opinion is manipulated by the media, we can meet even the Stockholm syndrome and also the emergence of deviant behavior and journalists (who are influenced directly by the public that they even influenced it).

Public opinion can be positive or negative but is not definitive, it can replace or remodel depending on the pressures being subjected.

Public opinion states spontaneously and openly and it reflects in some way the social and existent reality in the community and/or expectations of the community members.

And public opinion is usually broken by media channel to which the public is informed of the appearing of an overall¹⁹⁰ public opinion is determined by either a specific event or a multitude of related events.

The appearing of events with role shutter can be determined either by raising awareness of a particular behavior of an entity to a theme of general interest or as a result of the interaction between sphere institutionalized and the non-institutionalized, the interaction between government and the governed or of those who and require those who must comply.

Moreover, compliance¹⁹¹ under the pressure of public opinion is determined only during the public is present and active.

Democracy and the evolution of contemporary society have imposed limits journalists' behavior, however, both limits set by the relevant legislation and codes of ethics and codes of conduct or set of professional organizations of journalists.

Where journalist act in order to serve public opinion, the journalist would adopt socially responsible behavior in order to obtain reliable reputation, recognition and gratitude.

There may be possibility that the existence of a well-defined public opinion to impose journalist adoption of socially responsible behavior.

¹⁸⁹ Reiffel Reimy, *Sociologia Mass Media*, editura Polirom, 2005, pagina 129

¹⁹⁰ Bondrea Aurelian, *Sociologia Opiniei publice și a mass media*, Editura Fundatia România de mâine, pagina 119

¹⁹¹ Drăgan Ion, *Paradigme ale comunicării de masă*, Editura Șansa srl, 1996, pagina 125

Journalist's socially responsible¹⁹² behavior generally acts on six levels:

1. Economic - make profit: by his actions journalist seeks audience and implicitly financial resources resulting making a profit.
2. Legal - law-abiding and legal provisions.
3. Ethics - acting in accordance with social and moral norms or expectations and consistent with ethical and moral or community / society that journalist serves it.
4. Philanthropic - acting for the benefit of disadvantaged social strata being either partner or the initiator of philanthropic and sponsorship activities.
5. Environmentally friendly - acting on behalf and defending nature and the benefit of future generations being either partner or initiator.
6. Civic - acting either as a partner or as a starter for the benefit of society and the rights and freedoms of all individuals in society.

The socially responsible journalist acts fairly, honestly and firmly in favor of and behaves like a good citizen.

Conclusions

Paradoxically or not appearance and explosion of new media: Internet - blog and especially social media - facebook, tweeter also led to the emergence of a new type of journalist, a journalist who has no pressure nor the taxation laws (legislation is ambiguous and easily interpretable) and no communication restrictions¹⁹³ and unfortunately no danger of losing the audience (example: if a journalist from the new wave causes negative reactions he has the opportunity to change the name on the account and social platform).

The purpose of the new journalist¹⁹⁴ is to make profits and he uses persuasion and or manipulation, using sensationalism and uses operation of nativity or credibility (statistically social platforms are responsible¹⁹⁵ for over 60% of new economic crimes and 38% of offenses against the integrity of people). Also new forms of organization as freelancer or in the form of authorized person action-oriented journalist impose only just be for profit and to pay taxes imposed by society and for the work (taxes).

In this case can be a socially responsible journalist if the main purpose is to generate profit?

Theoretically only the journalist that has no pressure on him to obtain his financial resources necessary for living could be a responsible journalist that would lead to the assumption that only journalists working in public institutions (public radio and television) should be socially responsible. Basically though at first sight, this type of journalist is not carrying the pressure of obtaining financial resources due to the inclusion of politics and especially due capping wages and conditions to promote this type of journalism is the least involved socially responsible commitment to reducing him just compliance and mimicry and only if this type of behavior is allowed to him.

For profit may be created by immoral behavior of the journalist (blackmail) by serving the public interest deformed (give the public what it demands that audience and get financial resources) by serving enlightened¹⁹⁶ public interest.

Serving distorted of the the public interest and provide public just what it wants to see or hear has determined the current music (manele) or and programs that promote promiscuity or and programs that promote anti-social behavior or require the collective mental models and potentially harmful patterns of behavior normal and harmonious development of society.

Use of the term public interest as what the public demands is aimed only use deformed audience and implicitly obtaining financial resources.

The public interest is difficult to define but usually is used to define the public interest¹⁹⁷ as linked to social factors and factors of a community that can define the cognitive evolution of a community or a nation.

So the public interest could be defined as actions that have a beneficial role on social and cognitive development of the community in its great majority.

¹⁹² Oprea Luminita, *CSR Vector*, Universul Juridic București, 2011, paginile 50 -51

¹⁹³ Horea Mihai Bădău – *Tehnici de comunicare în social media*, editura Polirom 2011, pagina 117

¹⁹⁴ Horea Mihai Bădău – *Tehnici de comunicare în social media*, editura Polirom 2011, pagina 31

¹⁹⁵ http://www.mpublic.ro/presa/2015/discurs_PG_bilant_2015.pdf 5.4.2016 ora 14.46

¹⁹⁶ Reiffel Reimy, *Sociologia Mass Media*, editura Polirom, 2005, pagina 78

¹⁹⁷ Drăgan Ion, *Paradigme ale comunicării de masă*, Editura Șansa srl, 1996, pagina 48

The public interest should be based¹⁹⁸ on the principle of democracy that the majority decides and that should be neutral and impartial, prioritized and segmented based on the importance of the topic (public interest) and its spread in the community.

Public interest should not be dictated by politics or the media, the public interest must only be reflected by the media. Media should not give us any issues for discussion¹⁹⁹ and how we should think, not media must determine how it will develop a community socially and cognitively.

Public interest is closely linked to the public and should be reflected in the practice of public, democratic opinion seen as a result of the preference of the majority.

If the public interest is the most enlightened expression, the journalist can adopt themes that can bring harm and damages to majority?

What happens to media coverage of the phenomenon?

- Tele justice
- Terrorism
- Migration

Public interest is extremely sensitive and linked to the achievement of justice and justice is one of the essential characteristics of democracy and one of contemporary charges of public opinion.

However, use of tele justice and abuse of the term news-based information sources is only an attack on the fundamental freedoms of the individual, a presumption of innocence attack.

At the same time aggressive coverage of information referring of terrorism and/or migration causes development of feelings and especially anti bullying and reprehensible against social groups or national belonging of those terrorists. The impact of terrorism and migration have resulted in increased selfishness, egoism reflected both at the individual level but especially at the community level that society one. The journalist has the right and obligation to inform quickly and able to use the appeal to human feelings in his accounts (compassion, mercy).

However, the journalist has the moral obligation to defend the community to which he belongs and to defend the values that led to the realization of that community. Although ethics and morals could be unrestrained in reporting events that may negatively affect community journalist's obligation is to inform quickly and objectively regardless of the effects that his account might produce.

The community uses the information provided by the journalist in order to correct its behavior but the community is that one which through its audience determines the course of action of the journalist.

Usually the journalist has only an information role and also for complying of the requirements of the community to which he belongs.

The journalist depends primarily on the resources of the community to which he belongs and results of his work which are closely aligned with his audience and if his action has a negative impact on the community will lead to the disappearance of journalist (German journalists 'case pro Migration). In these circumstances there is a risk that the journalist simply reflects what the public wants and what the public interest required and the risk appears that the journalist acting under the pressure of public action that judges selects and imposes.

Also it appears the risk that the public interest be defined by the feelings and charges momentary of a community and the public interest to be determined by the most common noisy of community which will cause the public to be dominated by selfishness and individualism community.

References

1. Bondrea Aurelian, *Sociology of Public Opinion and the mass media*, Publishing Tomorrow Foundation Romania, 2007
2. Paul Dobrescu, Alina Bargaoanu, *Mass Media and Society*, publisher Comunicar.ro 2003
3. Ion Dragan, *Paradigms of mass communication*, Chance Publishing Ltd. 1996
4. Horea Mihai Bădău, *communication techniques in social media*, Polirom 2011
5. Luminita Oprea, *CSR Vector*, Legal Universe Bucharest, 2011
6. Manuela Preoteasa, Raluca Nicoleta Radu, *Economy of Mass Media*, Polirom 2012
7. Reiffel Reimy, *Sociology of Mass Media*, Polirom 2005
8. Ștefanov Daniel, *Reasons and examples pro publicity*, Publishing Coresi, 2016
9. Internet
10. http://www.mpublic.ro/presa/2015/discurs_PG_bilant_2015.pdf 5.4.2016 ora 14.46

¹⁹⁸ Preoteasa Manuela, Radu Nicoleta Raluca, *Economia Mass- Media*, Polirom , 2012,p. 76

¹⁹⁹ Ștefanov Daniel, *Motive și exemple pro publicitate*, Editura Coresi, 2016, pagina 45