

Correlation of the Structure and Content of Educational and Training Workforce with Current and Future Needs of the Economy

Păunescu Loredana Maria

Petroleum&Gas University, Ploiesti, Romania

loredana.paunescu@yahoo.com

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.

Aknowledgement

This paper has been developed within the period of sustainability of the project entitled "Horizon 2020 - Doctoral and Postdoctoral Studies: Promoting the National Interest through Excellence, Competitiveness and Responsibility in the Field of Romanian Fundamental and Applied Scientific Research", contract number POSDRU/159/1.5/S/140106. This project is co-financed by European Social Fund through Sectoral Operational Programme for Human Resources Development 2007-2013. Investing in people!

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.