Integration of Modern Information Technologies in the Field of Financial Accounting

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Abstract. Financial accounting activities are currently influenced as many other important areas that characterize and surround the activities within each economic entity, the avalanche of modern information technologies, which are able to improve specific business processes and to ensure future business success. Approach analysis of the impact of new technologies on this field should be so as a starting point to identify the opportunities and the benefits they would bring to specific activities. Information and communication technologies are in use both at the individual level and at the organizational level with the flexibility of the increasingly high, using a huge volume of information that financial accounting with direct impact on all human activities. Basically, it has already made the passage to a new stage: the global network society, whose main features are digitizing and interconnectivity. In this sense, this paper has as its main objective of examining the impact of modern information technologies may have on the financial accounting domain and the identification and submission directions for their integration within organizations.

Keywords: financial accounting systems, business process, intelligent systems, expert system, information technology

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1. Introduction

In all, the financial accounting adapts requirements to inform them that they needed the information. In this way, specific research has shown that range from rudimentary bookkeeping, which is based on a simple accounting system, focused on simple bookkeeping entry, it was the double-entry accounting system, where attempting to remove the basic informational support and replaced with a much less vulnerable and more quickly in terms of possibilities for collecting, analyzing, processing and transmission of financial accounting data. Thus, we can affirm that the whole transition by means of the processing and storage by electronic means has been a gradual evolution.

Currently, financial accountant with modern means of information through which we can collect, analyze, manage, process and distribute both concrete, real, information arising from economic transactions, and those related to knowledge, which does not represent anything other than intangible assets of each economic entity, which is running in integrated by means of specific technologies, as among other things, data mining, knowledge bases, document management and electronic data exchange.

Recent research has shown that information technologies are used at the individual level and at the organizational level with the flexibility of the increasingly intensive, using a huge volume of information with a direct impact on all human activities from all departments. Basically, it appears that modern information technology integrates everything better and are able to offer significant benefits to all categories of users involved, the end user that transform operational information to decision-makers, actors who have as its main objective framing the decision so that, when applied in practice to be able of generating competitive advantage and, at the same time, to ensure and guarantee business success. We can affirm in this connection that the transition to a new stage called by specialists "computer global society", whose main features are the interconnectivity and automation of information flows.

An essential feature of modern organizations today refers to use in a growing proportion of information systems, based on information systems. Among the implications of using information technologies in the financial-accounting department, visible: increased productivity, both as employees
and, in particular labor, the effective sharing of all resources, improve the decision-making processes, increasing the Organization's performance and, consequently, as a result of all, to ensure success in business.

In this context, were made available various and multiple techniques of integration through information technology. They, along with advanced systems, data management, contribute to increasing the efficiency of the recovery and restore of information. These developments are not only the accounting process easier, but also leads to a use much more focused and more relevant information managed by the enterprise's information systems. In general, the effectiveness and efficiency in accounting were obtained with the help of information technologies, which will become more present with the development and introduction of the intelligent. Basically, we cannot affirm that computerization a domain of activity does not create competitiveness and does not lead to optimal results; however, we can provide the certainty that if you appeal to modern technologies and especially smart, the benefits would be far more numerous, while the benefits would go on all the parties involved in the conduct of business processes.

2. The implications of new information technologies in the domain of accounting financial performance

The avalanche of modern information technologies is important and has implications in most fields of activity. This statement is substantiated by the many benefits that these technologies can bring when integrated into an organization. Obviously, the financial accounting cannot remain untouched by the potential benefits that new technologies may bring. In this sense, the last time I was witnessing an explosion of technologies that are able to bring substantial benefits in this area. In addition, it must be noted a growing interest in terms of transitioning to the next stage, namely that of smart systems integration in the life and work of financial accounting.

In this regard, research implemented during the past years has shown clearly in a way that the impact of modern information technologies on the performance of the financial accounting department may be present in two ways:

1. creation of prerequisites for the achievement of the process of analysis in a much more detailed, directed chiefly at the Department of management, which can lead to:
   - developing far better decisions, and especially, far more opportune so that the information remains timely and useful. As we know, in order to be credible, any information contained in the financial statements or documents reporting must be complete, clear, within reasonable limits of threshold of significance and relate to the cost of obtaining it. Clearly, no preference shall be given complete information for obtaining whose cost exceeds the net size of the risk assumed by random. Also, an omission may render the information to be false or misleading and thus no longer have a believable and become ineffective in terms of relevance. If there is undue delay in reporting the information, it may lose its relevance. Department of decision-making may be forced to choose between the relative value of reporting at the time, and providing credible information. To provide timely information, often you may need to report all aspects of a transaction or other event, before they are known, although in this way is affected credibility. On the contrary, if the reporting is delayed until all issues are known, the information is credible, but reduced utility for users who had, in the meantime, take decisions. In order to achieve a balance between relevance and reliability, it is fundamental that adequate consideration of the needs of users in making economic decisions.
   - identify opportunities for better business, for example using the data mining technique, so as to create and ensure prerequisites the conduct of the business processes in place to ensure success in business and the efficient management of the competitive environment.

2. adverse divisions can be identified more quickly, thereby supporting the decision-making in a compartment greater control and more optimal for your organization.

In the literature on the relationship between IT and the integration in the field of performance and productivity have been identified significant positive effects of such investment software. But they should not be the only way of integration. Investments in information technology are being developed mainly in order not to risk losing touch with developments in the market and competition. Information technologies may have an impact on performance, but they are not sufficient for this. New technologies should be considered additional resources added to an organizational and technical context. They should be supported and with the support of other organizational and managerial means. Thus, the effects of this difficult set of vectors can be isolated through the contributions of each factor.

Performance can be obtained in an organization or a department within it with the new information technologies, among other things, in connection with learning phenomena associated with the use of these technologies. Thus, researchers have noted that "the most successful implementations of information technologies in organizations are those that have already registered an experience. The
effectiveness of a computer system is therefore dependent not on the technology itself, nor the organization seen in isolation, but a combination of the two” [Neo, 2008]. The contribution of current information technologies should not be regarded as a static process but as a technical and organizational co-evolution.

The implications of the use of information technology in financial accounting department of a firm may be summarized as follows [Dumitru, Glavan, 2006]:

- increased labor productivity, speed data communication, but also for analysis and processing of an increasing volume of data;
- automatic generation of documents of informatics applications;
- use of procedures to correct any errors that appear in the information flows both within an organization and between an organization and a specialized institution;
- improve the decision-making process;
- improving performance.

In a large sense, the effects of information activities within the accounting departments of organizations are mainly the following:

- reduce the number of errors committed in preparation of documents;
- establishment of a high level of data processing;
- significant reduction of calculation errors and edit;
- increased speed of data processing;
- conduct financial diagnosis automatically and correctly interpret the results and rapidly.

In this sense, starting from the analysis of all aspects of the foregoing, we affirm that the integration of modern information technologies in organizations in general and the financial accounting department in particular, it is convenient, beneficial and leads to the improvement of business processes specific to each compartment or area.

3. The use of intelligent systems and expert systems in financial accounting field

Artificial Intelligence accounts has become a reality not only in biology or biogenetic, but also in the economic, with applications in the most diverse in the economic and financial management of firms. Financial-accounting, two basic components of artificial intelligence have wide applicability: expert systems and smart databases.

Also, with the development of specific technologies within the field of artificial intelligence, computer science researchers and management have expressed interest in more intense towards the use and adaptation of new technologies in the economic, financial-accounting. A good example of this is the development of the XBRL standard for financial reporting, the use of intelligent agents technology, reagents that can be carried out owing to financial systems expert. Basically, multiagent systems technology with standard XBRL can bring important benefits in the field of financial accounting.

Expert systems can be applied successfully in the field of economics, in general and financial accounting, in particular, because of the nature of the processing operations and symbolic of how to exploit the information. As a result of the necessity for the interpretation of each economic operations which is subject to the posting shall be imposed other than traditional reception systems and automatic data processing, accounting tools to compensate for human expertise and make interpretations in order to achieve similar results in human thought, but in a shorter period of time. Expert systems are able to treat such a problem, and of the most popular areas for their use in the field of accounting and finance can be listed: managing accounts for vendors and customers, financial planning, determination and analysis of deviations from planned, to support internal control, financial stocks, management of the firm diagnosis.

Currently, the competitive environment, the specific activities of each organization's dynamics, but also increasingly complex information needs, as well as premises in decision-making, have caused organizations to conclude that they need to know, in real time, you have more chances in the competition and what are the ways in which they can achieve business success. Investors and their management requires information and knowledge more than it offers traditional audit annual financial (related to this aspect, it is important to highlight the importance of the statutory audit which has as its main objective increasing information in financial statements – accounting needed in the process of drafting the necessary decisions to end-users). In this sense, all accounting firms that cannot meet their clients in real time is at a disadvantage against automatic whole competitive environment. As a result, the phenomena are global virtual economic environment crucial and crucial in the evolution of the new model of financial-accounting audit.

These issues have been studied intensively and have led to adapt quickly to the financial and managerial accounting, auditing, accounting, education and research of accounting firms to new challenges. The entire accounting profession is involved in the development of strategic plans for the
identification and implementation of solutions for insurance against the introduction of new technologies in the new smart accounting services, carried out on existing skills or key that will develop in the near future. Audit services revolve around the need for privacy, authentication and integrity of accounting data, with the acceptance of applications based on trusted clients of the profession, while performing transactions in the virtual environment.

So at the enterprise level, and at the Bank level, some decisions may be adopted by means of financial accounting systems expert. Regardless of their field of activity under consideration, were laid out as three types of expert systems:

- type diagnosis involving the development of expertise;
- for the foresight-what is used in planning for the development of optimal plans or programs;
- control which has as their main purpose to support the decision to be drawn up and adopted within the time-extremely fast and that processes a large volume of data.

At the enterprise level, among the main tasks for which you can develop expert systems we can enumerate:

- financial analysis and planning;
- treasury management;
- choice of variants of the financing of an investment.

The wizard embeds knowledge systems experts in a given domain and uses them in making decisions, preparing recommendations, consultations, etc. An expert system is a set of computer software for simulation of human reasoning experts in a specific domain. Their use in economic practice is based on the premise that any problem can be solved by a succession of discussions, which can be decomposed into logical rules. Expert systems first appeared in chemistry and medicine (DENDRAL-MYCIN, 1967-1976), and then in the field of geological domain (PROSPECTOR-1979). Financial-accounting of expertise there are countless systems expert: GURU, INTELLIGENCE SERVICE, DEXPER, CONSULTA\IT, PLUS PERSONNEL, etc.

Expert economic and financial systems are designed primarily to support managers in the decision-making process, their purpose being to breeding by the computer system of the different human senses, so that managers, irrespective of their degree of training and experience on different hierarchical levels, to take optimal decisions and accurate, solving problems at a time, in short time, replacing the successful experts. Basically, it follows the transition from a manual system of decision making on one computer, which is certainly capable of producing decisions much more quickly and by taking into account all factors which can has influence for the whole managerial or decision-making process.

Even defined as computer software capable of reproducing the human reasoning and inferences, inductions, expert systems propose to achieve the following main objectives (not only):

- getting knowledge and information from experts;
- storage of knowledge;
- promote dialogue “friendly” to the end user through a user friendly interfaces as possible;
- to provide speedy and appropriate information requested by the user;
- apply for other programmers (SGBD, utilities) data and information on the basis of which offer recipient solutions tips, advice, explanations, so as to guarantee the interconnectivity of computer applications, as well as facilitating communication act itself between the systems;
- it can be called from other programs for the provision of information in a particular field;
- to be able to receive and process information outside of the physical environment through sensors capture – in practice, this objective can be achieved by coupling in intelligent information technologies, as for example multiagent systems, which may include an agent that has as its main purpose the observation of the environment and to react each time it takes, depending on the actions to be implemented in its environment (it is known that of the properties that characterize the multiagent systems and agencies in and of itself is reactivity and autonomy);
- able to act and interact with devices and instruments depending on the decision it has taken it at some point.

The operation is controlled by expert system engine interfaces. Depending on the purpose of user interface engine, select it from the rules, the rules to be applied to solve the problem proposed to be resolved. Depending on the envisaged rules engine provides interfaces to choose from the facts, the facts which serve as conditions to selected rules. Through the application of the rules are born new facts that update the database with accurate facts. Depending on the envisaged knowledge available, the engine’s current dealings through dialog interface with the external environment (sensors, other users, and the software) in order to obtain new knowledge necessary in making the decision. Once the order has been reached, or the basis of rules applicable to ended, the search process takes the end and the facts of the truthful facts shall be sent to the module for the preparation of the report explaining descriptive
In the field of accounting, financial expert systems are used for:
- auditing;
- tax planning of enterprise;
- determination of the profit tax;
- financial planning;
- financial accounting and management accounting.

Examples of expert systems developed and used in the field of accounting and finance.
- Automated Tax-preparation documents
- Aggregate Assistant – design statements of accounts
- Aymm (Finance) – new Governments to check financing business outlets
- Needham (Business) – processing transactions for financial accounting and management services
- Ticom – assessment of internal control in auditing
- Assistance in the assessment of Hearing – weak borrowers
- C & L Control Risk Advisor Eval – evaluation of flow, internal control.

The company is in a continuous process of transition to the “global information society”. If an organization that operates within the framework of this global information environment wants to survive and be successful in business, and it is important to know which are the fundamental characteristics that have to be, so that the process of modernization to be as effective as possible.

Under the terms of a modern computerized society cannot survive without to have real time information arising both from inside and outside of it. The task of collecting, processing, storage and provision of information and knowledge is the responsibility of the enterprise information system. As a result, in terms of modern information, an enterprise must be coupled to the most modern information technologies and communication of the moment in which we relate.

Financial-accounting is very responsive to expert systems technology, as evidenced from the multitude of systems and expert-developed and used, already, the most famous companies specializing in financial services and accounting.

4. Concluding remarks and future research

In recent years we are witnessing a true revolution in the field of computer science and particularly smart technologies. One of the main reasons leading to this expansion is due to the immense quantity of information that the Internet offers today and which can be important factor analyzed and processed only by traditional means. Consequently, modern information technology have been gradually place, and today they are an indispensable tool for the actors of the decision-makers of an organization, since its whole activity is based on the analysis of specific information their scope of activity and adopt the most appropriate decisions on the basis thereof. Thus, the technology has advanced, intelligent systems is now in a position to propose solutions to cover all areas of activity, as well as financial accounting. In addition, this technology may be imposed and that the solution set for the adoption of complex problems, to assist the user in his tasks and to facilitate further adoption of decisions which the economic activity of the entity profitability.

In this context, within the framework of this work I tried to highlight the importance and benefits of smart technologies that can bring financial accounting domain. In addition, we consider that their use is able to guarantee that the correct information conclusive, so that decisions would lead to the improvement of the activity of each company.

We believe that it is important that specific research to continue and be further supported by the scientific community in the field of accounting and finance, because only in this way a company will be able to cope with the competitive environment and competitiveness increasingly intensified.

Also, the combination of systems with agents that allow web reporting accounting information (XBRL-based products) will bring significant benefits and will open up new opportunities for the examination of the information.

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