Decision-Making Processes and Their Implementation in Digital Accounting Practices

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Abstract: - This paper presents, with examples, the changes produced by digital accounting in the process of adopting and implementing accounting decisions. Information and communication technologies have generated significant changes in the accounting activities of enterprises. Nowadays, researches in this area are oriented towards the complete computerization of accounting activities, a process supported by spectacular technological evolution and geographical expansion of enterprises in the last decades. In this context, the emergence and development of the concept of digital accounting became something natural and its influence is manifested from the ordinary activities to the decisional ones.

Key-Words: - digital accounting, accounting decision, business decision, information technology, investment decision, make or buy decision

1 Introduction

Information and communication tehnologies have developed spectacularry and received a lot of attention both from the scientific world as well as from practitioners. Their main advantage, at the managerial level, is the fluidization of information flow, so that all decisions are based on continuously updated information and, for this reason, the value of both companies which distribute information or provide technology and companies that use it has greatly increased. On the other hand, individual and group level, within an organization, information technologies have several well-defined objectives *to improve the quality of work, better monitoring of its effective cooperation and coordination, exchange of power and influence between different groups, more transparency on the organization's activities for employees*. Companies directly or indirectly influenced the technological development by developing equipment and software or by acquisition and use. On the other hand, the IT industry has a significant influence on the competition because all the studies show that competition intensifies in almost every industry, companies must develop innovative products and business processes to survive and thrive and that information technology is a powerful tool to help them do so. [1] This is the context that led to the appearance and expansion of the concept and practice of *digital accounting*. This means *full computerization of business accounting information flows, how to achieve the processing and storage of information, whether it is internal activity or business relations with the outside.* The realization of complete digitization of the enterprises' operations involves at least the fulfilment of at least the following conditions: (1) meeting a superior coherence and collaboration level at the organization level, both from the human and technologic viewpoint, (2) the clear-cut distinction of the informational cycles within the company and also in the relationships with external partners and (3) assuming material and social risks by the company and its employees. [2]

The expansion of Internet usage along with the development of Enterprise Resource Planning (ERP) played the key role in this new approach of accounting activities. They have generated major changes in cycles, processes and accounting

functions. At the same time, digital accounting results from the expansion, general acceptance and application of concepts as knowledge and digital governance, which require management of documents in electronic environment. [3] A significant contribution to the development of digital accounting was the use of eXtensible Business Reporting Language (XBRL) which captures financial information through a series of business' information processes which will eventually be reported to shareholders, banks, regulators, and other parties. [4]

2 Premises, conditions and effects of accounting digitization

Digital accounting calls for major changes to enable full computerization of the accounting cycle and the modalities of exchange information between internal users, and communicate with the outside organization. For this reason, the digitization of accounting must be preceded by feasibility studies which, in economic terms, should allow objective comparisons between costs and revenues generated by it. In this respect, answers to the following questions should be formulated [5]: (1) are the proposed system time, money and other resources and costs needed to be implemented justified? and (2) does the unit have the necessary funds for developing and implementing the system, given the capital requirements for other existing projects? The main costs to be taken into account in the financial analysis are the following [6]:

1. Investment in hardware and software resources. There are the initial costs if these resources are purchased or costs of service when the system is rented or taken on lease. [5]
2. Investment in human resources for the design and implementation of the system and during the use through the specialization courses of the personnel who will use and maintain the system or by hiring others with a higher qualifications but where wage costs are much higher;
3. Additional costs necessary to ensure security control and audit to carry out transactions in optimal conditions since losses due to production risks may be, if fully computerized accounting, much higher than the classic system of work.

In terms of benefits, the literature mentions the following favorable effects of digitization accounting [7]:

- small degree of human intervention;
- complex and dynamic system;
- open and interactive system;
- real-time system;
- high level of standardization;
- high quality of accounting information.

Beyond cost-benefit analysis, the complete digitization of the enterprises' operations involves at least the fulfillment of at least the following conditions: (1) meeting a superior coherence and collaboration level at the organization level, both from the human and technologic viewpoint, (2) the clear-cut distinction of the informational cycles within the company and also in the relationships with external partners and (3) assuming material and social risks by the company and its employees. [2]

3 Types of accounting decisions and their main features

In specialty literature the researches [8] regarding accounting decisions are linked to the positivist theory of accounting. The authors [9] are accustomed to use the term of accounting choice, and not that of accounting decisions, probably in order to prevent a confusion between the term of accounting decisions and economic decision, the last one being frequently met under the form of "decision" (without specifying "economic decision").

The researches in the domain of accounting decisions are not numerous [10]; albeit many studies [11] exist regarding the role of accounting and the information provided by this one in the economic decisional process. Economic decisions are addressed to the optimal functionality of the firm, on long and short term.

The accounting decision is any decision whose core objective is to influence (the form, or the substance) of the outputs from the accounting system of a firm in an identifiable manner.

The domain of study of accounting decision is an interdisciplinary one. The decision-making environment is represented by firm's transaction, the decision factors are the accountants and the managers, and the decision-making alternatives are of an accounting nature. Thus, we can infer that the interdisciplinary domains are: accounting, management, firm transaction.

In a published paper [12], we have classified the accounting decisions based on their affiliation to the transaction or financial accounting. In Table 1 we have presented the accounting decisions, the constraints that are required by their finalization, the result of their enacting, and the result of accounting decisions. One can observe that economic decisions

are influenced by accounting decisions. Making economic decisions leads to the necessity of new accounting decisions. Also, accounting decisions making may influence making other accounting decisions.

Table 1 Accounting decisions, constraints and implications

Accounting decision designation	***Constraints***	***Result***	***Implications***
Ascertainment	Conformation to the objective of faithful image Constraints regarding external and internal factors Cost-benefit ratio	*Information*	**Economic decisions** ↓ **Accounting decisions**
Evaluation			
Classification			
Make or buy			
Politics regarding the capital expenses and control expenses			
Allotment of product and service costs			

Every decision is taken based on a rigorous study of the problem to be solved [13]; the study is accomplished based on the information gathered about the problem in hand, based on the effects of adopting an alternative or another upon the presentation of the respective element in the balance sheet, as well as the effects upon profit and loss account. All these information are accounting information extracted from the informational financial-accounting system.

Analyze of economical elements in enterprise practice reveals problems affiliated to quantification: the recognition problem, the problem of evaluation and the problem of classification. These three problems are placed in present at the base of almost every major decision in the field of financial accounting and implementation of accounting decisions. In Table 2 the decisions in accounting and their results are delimitated.

The accounting decision for enterprise transaction is represented by the rational choice from a set of possible alternatives represented by accounting methods and treatments with the objective of efficiently controlling an enterprise.

The accounting control of an enterprise resides in its administration, compliance to regulations with accounting character, so as, through enterprise's decisions and actions, the fundamental objective of a faithful image.

The accounting decisions for assets, debts and equities are made Chief Financial Officer together with other accountants from the financial-economic department, which, based on information from the financial accounting, from the economic environment, based on regulations and standards existent in the domain and on the analysis accomplished based on the information at hand, offer the adequate solutions. To be bared in mind that all these decisions does not submit themselves to the approval of general manager, these must be adopted or approved by the economic director, and the information resulted from adopting such decisions enters in the informational circuit of the firm, being materialized in an output at the accounting system level and input for assets, debts or capitals owned – level. The justificatory documents afferent to the information represented by these accounting decisions are the decisions of economic manager and the resolutions or the so-called notifications or announcements (communications).

Table 2 The accounting decisions and their results

Applicability area	***Designation***	***Detailing (Particularization)***	***Result***
Financial Accounting	***Recognition***	*Decisions regarding the* ***professional judgement*** *in accomplishing of accounting management*	*Presentation of financial information to extern users, information subsequently used in taking* ***the financing and investments decisions.***
	Evaluation		
	Classification		
Management Accounting	***Make or buy***	*Decisions regarding* ***performance management*** *(balanced scorecard) and tracking of the accomplishment of budget-scheduled levels*	*Information presentation to enterprise management for planning, control and* ***economic-decision*** *making (especially those referring to current activity of exploitation)*

The decisions for internal control are made by Chief Financial Officer, seconded by the executive control accountants which, based on the information regarding costs or activities, offer solutions for controlling the costs, evaluation of performances, and for budgeting and planning of the activity.

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4 Some examples of accounting decisions and their changes in digital accounting

Accounting decisions, under complete computerization of accounting activities change significantly both in terms of their underlying information and the mode of how they transmit or even implement it. Regarding the awareness of the decision-maker, digital accounting provides continuous access to information updated in real time which favourably influences the quality of decisions and the speed at which they are applied. An example in this regard is the decision to invest in the purchase of fixed asset. It is based on information from various sources including: accounting, financial, economic, legal regulations, but also those relating to the organization plans on short, medium and long term. Digital accounting makes changes in all stages of adoption and implementation of such decisions, as follows:

- Use a collaborative environment to prepare documentation substantiating where the persons concerned shall exchange information via e-mail and / or organization's portal;
- Approval of documents by management using digital signature;
- Identification of potential suppliers by searching their own databases, if there were contracts of the same type, or those available on-line, companies websites, forums et. al. Requests for proposals are sent by e-mail and responses are received in the same way;
- Negotiations can be performed directly or by using the electronic medium of communication (forums, e-mail), and signing is done by using electronic signature.
- Documentation of delivery and commissioning of the asset is done electronically. In the same time the fixed asset is automated taken in accounting application and generated records relating to the acquisition, including a ID allocation, specifying the person responsible for asset and automatic generation of fixed asset sheet.
- The payment of fixed asset through Internet banking, taking account of any advances, and procedures for registration of its related depreciation.

Digital accounting brings in this case, some important advantages that support decision making like, *real-time updating of information* (accounts, income available, fixed assets management), *collaborative environment* in which all those involved receive and provide information on-line (producing documentation substantiating, the list of potential suppliers, goods offered by them and their characteristics), *prompt management information and increase the speed of transmission of the decision to purchase, increased time for documentation, selection of suppliers, conduct investment by reducing the required preparation of various documents, obtaining signatures, disclosure*.

Another example of changes that may occur in digital accounting regards make or buys decisions. This decision typically occurs when a company which is developing a product or a part of it has difficulties with suppliers or the production capacity is not quantitatively or qualitatively, as the demand. With digital accounting, decision makers have access to all information necessary to identify potential crisis situations which could lead to changing the options from making to buying a product. In this case, digital accounting causes changes for the following activities:

- Track raw materials and consumable costs by scanning bar codes and automatic recording accounting operation.
- Recording of labour costs by counting working time based on access cards used by employees.
- Automatic updating of information on production costs based on information previously received and expenditures directed.

After obtaining information on costs the management can make comparisons between them and the product acquisition costs through the access of databases which contain potential available suppliers. Prior to the adoption of the buy decision should be considered other offers raw materials and consumables from suppliers in the area of interest and, eventually, search for new customers, in the same manner.

5 Conclusion

Decision making is complex and often controversial, and the changes it would bring into the field of digital accounting should be carefully analyzed and understood both in terms of benefits and the risks involved. It is also clear that implementing a system able to automate all operations of a company as digital accounting involves, is a lengthy, expensive and requires detailed analysis, especially since possible errors in

the electronic environment spread and multiply very quickly and often are much more difficult to identify and correct. Even in these conditions, digital accounting is the next stage of accounting information system evolution because it brings at least the following advantages [14]:

- Eliminating or limiting tax evasion because all operations will be automatically registered and therefore they can be controlled;
- Eliminating human errors – the resort to information and communication technologies will implicitly lead to a higher standardization of procedures and it will make it impossible not to observe the problem solving algorithms;
- The standardization of procedures by automation will lead to a smoother standardization at the level of quality management and accounting harmonization;
- Intern control and financial audit will constitute attractive and efficient activities from all points of view.

The implementation of technologies and methods specific for digital accounting should be done gradually by automating business activities and with the contribution of all employees engaged in accounting activities, and above all, management. It is also necessary to involve all participants in economic transactions, including the state, through its organizations.

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