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## Accounting Information Systems in the Knowledge Society

Valentin RADU<sup>1</sup>, Alina Iuliana TABIRCA<sup>2\*</sup>

### *Abstract*

*Considering how fast our world is passing through a period of great transit from the traditional accounting to a creative accounting with developed ramifications into computerized and cloud accounting lots of countries should consider make immediate steps to catch up. Moreover the development of ICT has created new dimensions not only in accounting but also in other areas that are strictly under the influence of a dynamic business environment. We discuss the roll of information in a world were high productivity and quality research is a prerequisite for success. But beyond the importance of information, knowledge and decision, new requirements such as access to information, time of transformation, transmission speed, decision making speed are highly important. The purpose of this paper is to discuss and demonstrate how all of these dimensions favor a better financial management, also a decrease of human resources can even save time by using available ICT.*

**Keywords:** *Accounting; Information Systems; ICT.*

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## 1. Introduction

Accounting Information Systems (AIS) integrates available technologies for organizations in managing data bases, which may results in a substantial change for accounting. The use of AIS eliminates bureaucracy and classical evidence of financial documents (receipts, invoices, etc.). Information technologies (ICT) have become tools commonly used for collecting, processing, storing, organizing and transmitting data to decision-makers [1-3]. In the business environment, the use of ICT increases the ability of entities (public or private) to record and manage their economic transactions. ICT can manage all data, information and knowledge used by entities to achieve their business goals, in line with their mission and strategies. New software tools are used to process data in business, and accounting software, which improve the performance and competitiveness of the firm.

AIS it's an integrated system of collection, storage and processing of financial and accounting information that is used by decision makers in order to make good decisions for their company and investors. An AIS is generally a computer-based method for tracking accounting activity in conjunction with information technology resources. All resulting reports can be used internally (management use) or externally (other interested parties such as: investors, creditors and tax authorities, etc.). We are all aware of how important the information becomes in the financial areas such as accounting still some education in the latest database management techniques and system modeling approaches are needed as Romanian's are not very qualified.

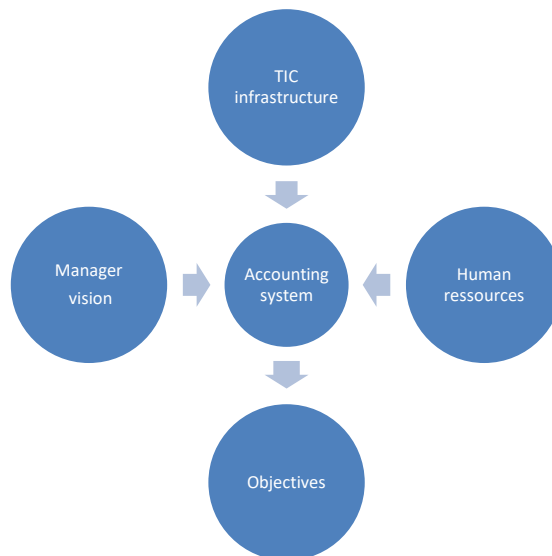
## 2. ICT influence on accounting systems

ICT modifies the way the business is performing in its essential aspects of organization, vision, strategy and politics. It also provides more agility in the recording of accounting facts and in the management of business activities [4]. Technological development has given rise to numerous tools that have facilitated the work of accountants, bringing more speed and quality to the production of information and increasing the level of transparency of the decision-making process. Such technological resources helped to maximize the main function of the accountant, which is the generation of information [5].

The ongoing ICT development offers new functions and tools for accounting procedures, resulting in positive changes in the accounting

profession. Advantages of financial-accounting data processing using smart computers/smart devices are: rapid access to appropriate reports or detailed representation of any financial information that can be easily printed or transmitted via email, as well as quickly detecting errors or control efficient information. [1, 6]

Each company operates on the basis of managers' vision along with human resources and a set of equipment. The accounting activity it's only a business progress reporting activity in the manager's view. The involvement of ICT in the accounting process changes this vision and involves changes in hardware (computers, peripherals, network communication equipment, security devices), software changes (upgrading, resizing, restructuring) and an increase in human resource abilities that uses the accounting system (Figure no. 1). Throughout history, accountants had to review their procedures and experience moments of transition, in which the mechanical phase was replaced by the technique and, soon after, by the phase of insertion of digital technologies. Since then, the accountant has sought to play a role ever more distant from the former bookkeeper role. In view of this new reality, the accounting professional must be in constant evolution and qualification, becoming an agent of changes in the market, capable of transmitting quality information that helps in the decision-making process of companies [5].



**Figure no. 1** - Factors who make Accounting systems better  
(Source: own realization)

All these elements generate a number of effects related to the results of the accounting activity [7]:

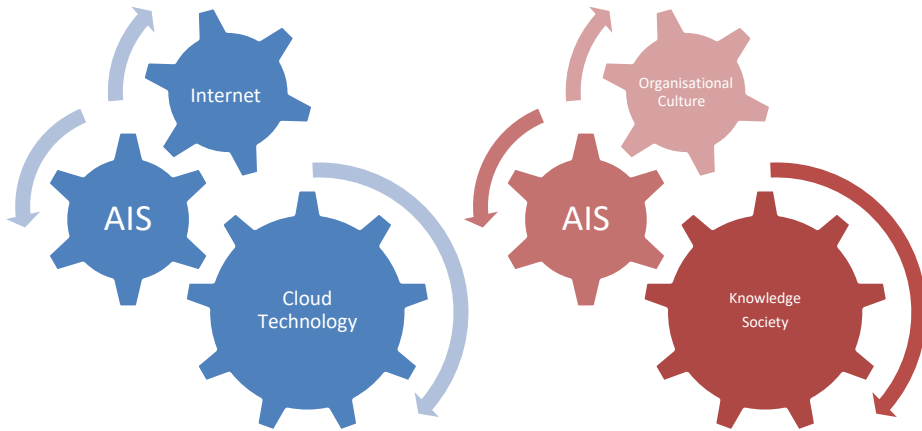
- Faster processing of accounting data;
- Increased functionality by using information in other activities;
- Increase of information accuracy;
- Reduce operating errors;
- Improving and increasing processing speed;
- Better connection with all stakeholders (clients, suppliers, decision makers, employees);
- Increasing the amount of information reported in a shorter time interval;
- Sizing the reporting modalities;
- Increasing the quality of accounting information (form, reliability, accuracy);
- Providing information to decision-makers to substantiate the strategy.

Using ICT reduces errors created by manually account records. By using such a specialized accounting software, financial reports can be generated easily and in a timely manner. They can thus obtain financial information at the right time, allowing managers to make the best decisions and improve the company's competitiveness. A significant impact of ICT on accounting systems is their ability to record and better track accounting transactions [8].

### **3. Cloud Accounting**

AIS in the knowledge society cannot be grounded without taking into account the factors that influence the development of this type of informational management such as the Internet, Information Technologies and Organizational Culture.

The influence of these factors relies in the decision of the entrepreneur to adopt, at the level of the organization, an accounting information system based on Cloud technology (Figure no. 2).



**Figure no. 2.** - Factors Influencing Design of the AIS  
(Source: own realization)

Most AISs are currently using Cloud technology and are becoming more and more accessible to start-ups and small and medium-sized businesses, offering solutions that completely change dynamics. Essentially, Cloud technology allows users to access the online accounting platform on a subscription basis from any device (laptop, tablet, desktop-pc, smartphone) wherever they are, as long as they have an internet connection. Global web resizing, increased transfer speeds and easier access have encouraged the use of Cloud technologies.

In the knowledge society, the online accounting services are truly revolutionary because, through Cloud technology, the relationship between managers and accountants becomes truly effective. As an end-user, the entrepreneur only needs to upload a scanned or photocopied copy of the desired document (eg. the invoice), and the information in it will be processed and recorded in the final accounting document (balance sheet, report, NAFA statement, etc.) by an accountant with whom the platform collaborates.

Major benefits of Cloud implementation in AIS:

- Flexibility and adaptability. Information management can be done permanently regardless of time and space. Online accounting services provide permanent access to their own accounting information on any device with an Internet connection;
- Efficient operational management. In a classic system, accounting is an activity that consumes time, energy and many other resources. Online

accounting services take on all the repetitive tasks, reduce processing time, and offer the opportunity to manage and develop business through more efficient and better operational management.

- Vision and performance. Entrepreneurs who integrate online accounting services at the organization level will have a clearer view of business performance, and in decision-making, response time and effectiveness of decisions are clear arguments for business substantiation. Permanent access to documents and information stored in the Cloud environment will allow you to manage and resolve any current or exceptional issues.

#### 4. Change of AIS in the knowledge society context

Integrated financial-accounting systems will allow simultaneous transformations into the accounting process with changes in organizational structure and decision-making within the new organizational climate [9].

While organizations will focus on knowledge systems rather than on knowledge-based systems, the accounting system will focus on a process that will adopt a new set of assumptions, synchronizing with transformations into organizations [10].

**Table 1.** Changes in the financial-accounting system

Traditional accounting system	Integrated accounting system
Traditional organization (predefined structure) static environment (stable accounting system)	Emergent Organization (the structure evolves according to changes) Dynamic Environment (dynamic accounting system forced to respond quickly to changes)
Development in steps/stages (in a stable and traditional environment, in order to gain operative efficiency, the accounting system needs to improve in stages)	Continuous Development (in a dynamic environment, the accounting system undergoes continuous changes to improve product quality)
Using technology as an applicative tool (information technology is used to increase productivity)	Technology - Opportunity to improve (information technology is used to improve the production process)
Orientation towards production (focuses on the product)	Orientation towards market (focuses on product differentiation, customer satisfaction)
Unidimensional (concern about currency fluctuations)	Multidimensional Measures (is driven by the idea that time is money, puts the issue of satisfying shareholders and takes security measures against the stock market)

System based on knowledge (is limited on what is already known)	Learning Based System (recognizes what to learn and what needs to be changed)
Focalizing on time periods (this system is able to produce reports at the end of a period)	Focus on transaction (this process is capable of producing reports at the end of each transaction at any time, whether past, present or future)
Quantification of value (quantifies product value/cost)	Creating values (add value to the organization's value chain)
Historic (historical accounting is confronted with the past)	Real time (is confronted with the present and the future)

(Source: own realization)

Changes in the organizational environment, decision-making, and technology indicate a new accounting system model. Accountants in the organization will perform more tasks. Continuing improvement, global systems and new organizational dynamics will transform the accounting system into a synchronized accounting system in the knowledge society [11-12].

## 5. Research study about AIS in the Knowledge Society

To verify the theoretical foundations, we have conducted a study, at the level of 40 SMEs, to check several hypotheses:

1. SMEs use information technology in their current work;
2. The accounting information system is managed by its own means or outsourced;
3. Managers' vision on ICT integration and the adoption of an integrated AIS is beneficial to the organization;
4. The specific human resource (accountants) is prepared to use integrated AIS

### 5.1. Framework analysis

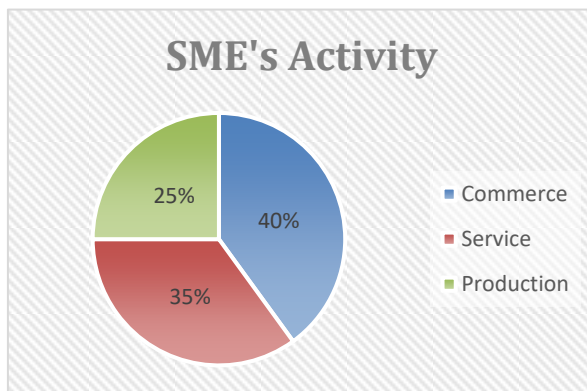
To achieve the objectives of the study, we started to select organizations in a non-aleatory way, the method of information gathering being based on a questionnaire. We proceeded to build it, targeting the following points:

- Data about organizations subject to research;
- Perception on the knowledge society;
- AIS analysis;
- ICT integration in the organization;



- Improving the specific human resource.

For the study we chose 40 Romanian SMEs, of which 30 from the urban areas and 10 from rural areas structured in the following way:



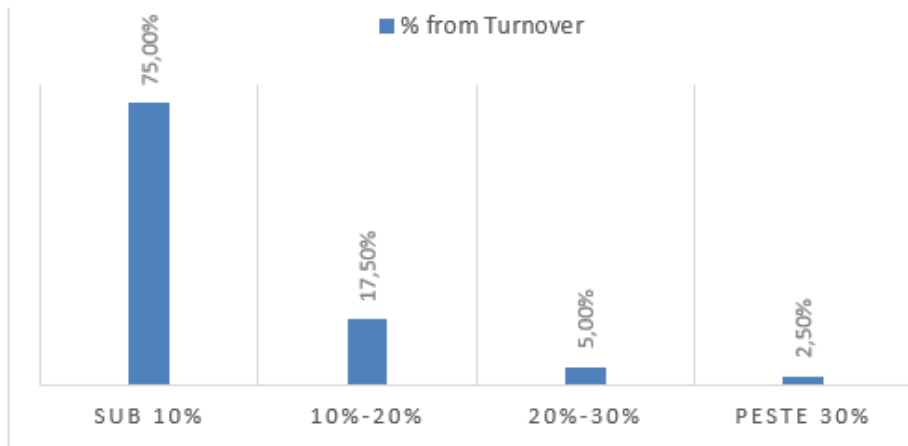
**Figure no. 3.** – Repartition of SME by activity sector  
(Source: own realization)

For each entity, a questionnaire was applied to the manager and accountant of the organization. The applied questionnaire was built on 12 questions relevant to the hypotheses that were issued above.

### ***5.2. Data interpretation***

After processing the data, we synthesize the main conclusions according to the identified hypotheses:

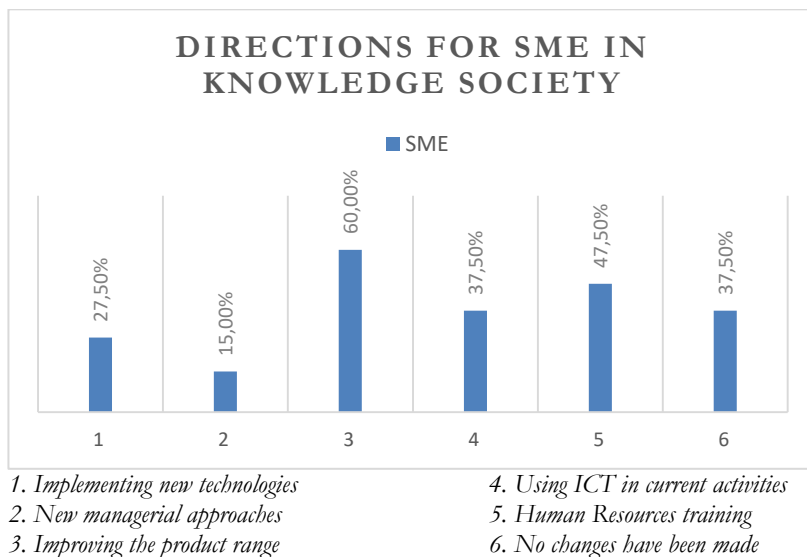
Sample organizations largely use specialized applications that do not allow integration of AIS and which, through association, lead to frequent errors in substantiating financial-accounting decisions. The vast majority of applications is inventory applications, assets tracking and customer records, and usually address to non-specialist users in information technology. Regardless of the form of data processing, the interviewees expressed their favorable appreciation regarding the IT system existing in the organization, even if it does not allow integration through the evolution of ICT. The clear direction is to exploit existing applications by introducing data and obtaining reporting situations without having specialized categories of employees to develop and maintain programs. Although the assessment of the losses and benefits of the information system shows an acceptance of the situation, the question of how this system meets the requirements of globalization, over 70% of respondents considered the system unacceptable in the new economic climate.



**Figure no. 4.** – Investment in ICT (percent from Turnover)

(Source: own realization)

- The largest share of organizations in the SME's category is not financially capable of adapting AIS to globalization, having to operate under the same conditions. Generally, SMEs use the outsourcing system when referring to AIS, so at the level of management, disclosure of financial-accounting information is done sequentially, which generates errors and delays in decision making.
- The impact of the phenomenon of globalization on the level of financial accounting activity is found in the field of accounting convergence, IT implementation, and integration of IT applications and specialization of personnel. The main directions to be improved include the use of existing applications in the organization, the processing of databases, programming elements for maintenance and development of databases and data transfers. In this way, managers' vision does not correspond to a long-term strategy by integrating ICT into current activity. We are surprised to note that the vast majority of organizations are confined to use information management systems without being aware of the integrating role of information and the benefits of an integrated information system.



**Figure no. 5.** – Analysis of business improvement initiatives  
(Source: own realization)

- Users of financial-accounting information are in the non-programmable end-users area, although they represent a category with secondary and higher education. Users of financial-accounting information are pleased with the results of today's systems, although they are aware that they could gain opportunities and benefits from new integrated applications. The price-quality ratio is still viewed as subunit by the management of the organization that is not willing to take financial risks to improve the information system. Regarding the human component, without proper specialization of the personnel involved in the information system, the human resource has an inappropriate exploitation which will not lead to high efficiency. Regardless of the way in which the specialization is done, it must be supported by the organization's leadership.

## 6. Conclusions

The reality is that classical accounting software is quite difficult to use by an entrepreneur, which is why they are mostly used by accountants. After all, accounting software represents only a digital conversion of work done by an accountant. The use of such software requires advanced accounting knowledge, so the accountant cannot disappear from this equation. Soon, however, many of the makers of such software will cease activity because their products will become anachronistic to the real needs of entrepreneurs. That's why online bookkeeping services are the future. Thus,

the entrepreneur does not need any advanced accounting knowledge or a permanent employee or collaborator in the financial-accounting department. And, classical accountancy firms, unfortunately, do not have the ability to provide in real time and useful all the support, advice and documents that entrepreneur's need.

Mainly, integration of Cloud technology into AIS involves:

- The ability to generate optimal reports that can be viewed quickly and easily, thus being always informed about the performance of the organization;
- The accuracy of the data as the generated documents are subject to over-verification by a high-level expert;
- Online access to all documents generated within the organization;
- Rapid processing of documents (invoices, receipts, etc.) that can be loaded instantly into the Cloud platform with the dedicated application;
- The ability to issue documents anywhere, anytime;
- The highest data security standards provided by advanced encryption algorithms.

The technological advances in the accounting area are at an accelerated pace and the innovations are growing every day, thus improving the service provided to customers. Accounting has begun to work with more precise numbers and apparently the errors have become smaller and smaller and the results can have multiple uses. With the continuous use of technological resources and information systems, accountants have become essential for tracking and monitoring activities, improving the quality of services provided. In order for the accounting information system to be considered useful, it must serve the company in its operational and management needs, transmitting information to all sectors and connecting them to the company's processes.

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