

The Integration of TIC in the Accounting Information System of Small and Medium-Sized Enterprises

Marius COMAN

Mihaela-Denisa COMAN

Valahia University of Târgoviște, Romania

cmnmarius@yahoo.com

Abstract

The work coordinates of accountancy in the new information era suppose a renunciation to many traditional instruments and an acceptance of others, imposed by the modern organization, as well as the recognition of accounting information as a necessary input in decision making.

The present study analyses, on the basis of the data gathered from the application of a survey: 1.how small and medium-sized enterprises (SMEs), the most numerous entities in the economy, use the information provided by the accounting information system; and 2.the need to use the existing financial-accounting information more profitably by means of well-founded economic decisions, through the use of IT decision assistance systems.

Keywords: *accounting information system (AIS), information system, statistical analysis, small and medium-sized enterprises (SMEs)*

JEL Classification: M40

1. Introduction

Despite the fact that, during the last 20 years, the accounting information systems (AIS) have developed, a fact reflected by the studies realized so far, on the level of the small and medium-sized enterprises (SMEs), in practice, things are not so good. Most of these enterprises have neither the force nor the necessary skills to invest in the development of AIS that could become a strong point in managerial decision-making.

The present scientific paper is a synthesis of the ideas expressed in a research paper dealing with the relevance of accounting information, which analyzed the multiple facets of the qualitative features of accounting information.

2. Research methods

The basic elements of the questionnaire we used in our study consisted in a set of questions on the firms' AIS, the answers to these questions being available from the research mentioned in our introduction. If we were to rephrase the goals of this study, its main purpose was to determine the impact of the ICT solutions on AIS in SMEs considering a lot of factors such as: the firms' dimensions, their activity domain, their type

of juridical organization. When appreciating the integration of ICT solutions in AIS for SMEs, the following hypothesis were analyzed:

- **Do SME managers base their decisions on the information provided by their financial-accounting information system?**
- **Do SMEs use ICT solutions in their activity?**

2.1 Selecting a representative sample

The selection of the SMEs to be sent an electronic invitation to complete the online questionnaire (using the online Google Docs office suite) was carried out based on a sampling method. The main reason why we use sampling when we examine the individuals of a population is the cost (in time and/or in money), and the secondary reasons could be the fact that a total examination could be destructive and the difficulty of the examination itself. In this case, one tries to extend the results obtained based on the sampling method to the whole population concerned.

When realizing this study, starting from the objective mentioned above, we had in view the enterprises of Targoviste City. On the level of the year 2011, in Targoviste there were 3,439 firms that handed out their short version balance sheet at the Public Finance General Directorate. A statistic characterization of these firms according to their activity sector is presented in table 1.

Table 1.

SME classification according to their activity sector

Activity sector	Percentage
Wholesale and retail trade	38.91%
Constructions	9.57%
Industry, energy	10.03%
Services	40.10%
Agriculture, forestry and fishing	1.40%
General total	100.00%

(Source: our processing of data from the National Trade Register office from Dambovița County)

Due to the fact that we did not have the possibility to realize an ample study of the 3,439 firms from Targoviste City, in order to materialize our approach, we made a selection of the firms with a turnover of more than 100,000 euros by 31.12.2011. We chose this turnover threshold because for the firms situated under this value, the accounting information generated by AIS loses its usefulness and pertinence (the specialists consider that a double-entry accounting system would be too expensive by comparison with the plus of information it generates).

In order to classify the enterprises resulted following the application of this filter, in the three categories (micro, small, medium-sized) we have taken into account the average number of employees, which represents a factor influencing the firms' behaviour concerning the elaboration and the dissemination of their financial-accounting information.

The thresholds we had in view when delimiting the economic entities are: micro-enterprises (0-9 employees); small enterprises (10-49 employees); medium-sized enterprises (50-250 employees).

When defining these three categories, we did not use the turnover as a criterion for the differentiation of the SMEs included in the sample, because, as one can note from table

2, the economic strength of the firms in Targoviste City is low and over 98% of the firms have a turnover lower than the threshold of 2,000,000 euros, which would have placed them all in the category of the microenterprises.

Table 2 .

Differentiation of the firms' turnover according to size

Turnover (thousands lei)	No. of SMEs	Statistic weight	Accumulated frequency
100,910 – 663,546	379	86.9%	86.9%
663,547 – 1,226,181	44	10.1%	97.0%
1,226,182 – 1,788,817	6	1.4%	98.4%
1,788,818 – 2,351,453	2	0.5%	98.9%
2,351,454 – 2,914,089	1	0.2%	99.1%
over 2,914,089	4	0.9%	100.0%
Total firms	436	100%	

(Source: authors' processing)

By applying this criterion, we obtained a number of 436 firms of Targoviste City considered a representative sample for the goal of our research and to which we sent an electronic invitation to answer our online questionnaire. At our invitation to answer the questionnaire, we received an answer from a number of 53 economic entities characterized by the following descriptive aspects:

a. The analysis of the category of enterprises in which the firms that answered our invitation deploy their activity is illustrated in table 3.

Table 3.

Category to which the enterprises that answered our survey belong

Category of the economic entity	Absolute frequency	Relative frequency
micro enterprise	27	50.9
small enterprise	17	32.1
medium-sized enterprise	9	17.0
Total	53	100.0

(Source: the authors' statistical processing)

b. The analysis of the activity sector in which the respondent firms deploy their activity is illustrated in table 4.

Table 4.

Distribution of the economic entities according to their activity domain

Activity sector	Absolute frequency	Relative frequency
Production	3	5.7
services	18	34.0
constructions	13	24.5
trade	17	32.1
transports	2	3.8

Activity sector	Absolute frequency	Relative frequency
Total	53	100.0

Source: the authors' statistical processing

Analyzing the structure of the sample according to the firms' activity domain, one can notice that most of them belong to the services category (34%), followed closely by those from the trade category (32.1%) and from constructions (24.5%). Low percentages were obtained, as one could have expected, by the firms in the categories production (5.7%) and transports (3.8%). After having started with this preliminary presentation of the general features of the SMEs, we will go on by extending our analysis considering the categories according to which we structured our questionnaire and the hypotheses formulated.

2.2 Analysis of the research hypotheses

The first hypothesis of our research is: **Do SME managers base their decisions on the information provided by their financial-accounting information system?** To the question: **Do you use the information provided by the accounting information system?**, a proportion of 77.4% of the respondents stated that they use the accounting information. At the opposite pole one can find a percentage of 22.6% of the respondents, who chose the answer variant "we do not use the accounting information". The results of the analysis, based on this question, are illustrated in table 5.

Table 5.

The results of the analysis considering whether the accounting information is used when making decisions

Answer	Absolute frequency	Relative frequency
no	12	22.6
yes	41	77.4
Total	53	100.0

(Source: the authors' statistical processing)

A detailed analysis, table 6, focused on the enterprises that declared they do not use their accounting information. One can notice that a proportion of 44.4% of the firms from the microenterprises category declared they do not use their accounting information.

Table 6.

Cross-sectional analysis according to the enterprise category and to the use of its accounting information

Enterprise category		Do you use the information provided by your accounting information system?		Total
		yes	no	
micro enterprise	Count	15	12	27
	%	55.6%	44.4%	100.0%
small enterprise	Count	17	0	17
	%	100.0%	0.0%	100.0%

Enterprise category		Do you use the information provided by your accounting information system?		Total
		yes	no	
medium-sized enterprise	Count	9	0	9
	%	100.0%	0.0%	100.0%
Total	Count	41	12	53
	%	77.4%	22.6%	100.0%

(Source: the authors' statistical processing)

The economic entities of the microenterprise type that do not use their accounting information use as alternative sources of information in order to run their business: information from the market where they carry out their activity, the financial press and last but not least the flair and the intuition of the people running the respective business. The results of the analysis, according to these auxiliary sources, are presented in table 7.

Table 7.

Analysis of the alternative sources of information

Other information sources	Answers		Ratio out of the number of cases
	count	percentage	
Flair and intuition	5	25.0%	41.7%
Market	9	45.0%	75.0%
Financial media and statistic data on the economic branch the firm belongs to	6	30.0%	50.0%
Total	20	100.0%	166.7%

(Source: the authors' statistical processing)

The managers who declared that they use their financial-accounting information consult this information the most frequently every week (43.9%). The analysis of how frequently the financial-accounting information is consulted is illustrated in table 8.

Table 8.

Analysis of how often the financial-accounting information is consulted

Do you use the information provided by your accounting information system?	How often do you consult your financial-accounting information?					Total
	Every day	Every week	A few times a month	Every month	We do not know	
YES	12	18	5	4	2	41
%	29.3%	43.9%	12.2%	9.8%	4.9%	100.0%
Total	12	18	5	4	2	41
%	29.3%	43.9%	12.2%	9.8%	4.9%	100.0%

(Source: the authors' statistical processing)

A deeper analysis, table 9, can be realized by combining the question regarding how often the firm consults its financial-accounting information with the question concerning the managers' training level.

The result of this cross-sectional analysis brings to light the fact that by putting together the graduate and postgraduate leaders, one can see that the majority of these respondents consult the information provided by the accounting information system every day.

One can deduce that a good business management using the accounting information depends on the manager's training, which can allow him to understand, to evaluate and to act so as to make the best decisions.

Table 9.

Cross-sectional analysis according to how frequently the information is consulted and to the manager's training level

How frequently do you consult your financial-accounting information?	Training level			Total
	secondary studies	bachelor degree (graduate)	master's degree etc. (postgraduate)	
We do not know	0%	0%	0%	0%
Monthly	25.0%	75.0%	0%	100.0%
A few times a month	0%	60.0%	40.0%	100.0%
Every day	11.1%	72.2%	16.7%	100.0%
Every week	16.7%	75.0%	8.3%	100.0%
Total	12.2%	73.2%	14.6%	100.0%

(Source: the authors' statistical processing)

Reconsidering this idea of the time horizon when the accounting information is made available, another perspective for judging this problem makes use of the ICT solutions used by the SMEs. In this context, the second hypothesis of this study is: **Do SMEs use ICT solutions in their activity?**

As one can observe from table 10, a ratio of 50.7% SMEs use general information tools (the general information systems consist in the applications made available by the state authorities and in applications whose purpose is the realization of the accounting statement (ex. Saga)) to realize their accounting statement, followed by Excel worksheets (29.6%) and specific IT tools (ERP) for the integrated management of their firm.

Table 10.

Frequency of the answers to question

IT tools used	Answers		Ratio from those who answered
	Absolute frequency	Relative frequency	
General information tools used for realizing an IT-based accounting statement	36	50.7%	87.8%
Specific information tools used for an integrated management (ERP) of the information system	10	14.1%	24.4%

IT tools used	Answers		Ratio from those who answered
	Absolute frequency	Relative frequency	
Excel worksheets	21	29.6%	51.2%
We use no IT tools to store the information	4	5.6%	9.8%
Total	71	100.0%	173.2%

(Source: the authors' statistical processing)

Our perspective on these ratios is that the ERP type of systems (based on Enterprise Resource Planning), which implement a structuring of their enterprise based on responsibility centres, are generally used by the firms with a strong financial basis whose managers understood the advantage provided by them. In opposition to this statement, most of the SMEs, as one can see from Table no. 10, have general software, which they use to realize their financial statement, and this only allows them to register the recordings they need for their financial accounting and to obtain the statements specified by the legislation in force. Any further analysis concerning the calculation of the firm's profitability, using a classification of the expenses according to a different criterion than that of their nature, requires the use of electronic worksheets.

The use of electronic worksheets can trigger a redundancy of the information and can generate errors, which may finally determine the leadership to distrust the information coming from the area of cost and works accounting. The solution chosen by most SME managers consists in carrying out manual extra-accounting calculations to determine the profitability of the activity carried out by their firm.

3. Conclusions

The study *The integration of ICT solutions in the accounting information system (AIS) of small and medium-sized enterprises* has examined the elements that can contribute to the validation or the invalidation of the two hypotheses that were formulated.

The relevant aspects from the tables presented, which have contributed to the validation or the invalidation of the two hypotheses are presented below:

- a ratio of 77.4% of the respondents make use of accounting information, while the rest of 22.6% declare that they do not use such information. The enterprises that do not use accounting information are represented by microenterprises (44.4%) which, due to their simple organization, can use auxiliary sources (market, financial media);
- the highest frequency of the use of the accounting information corresponds to the weekly consulting of it (43.9%);
- most accountants, regardless of their profession, use accounting information. Those who use it to a greater extent are the people familiar with its interpretation – managers with economic studies;
- most SMEs do not use ICT systems to run their business or to assist them when making decisions. Those who, however, implemented such systems come mainly from the domains of services (ex. telecommunications) and who have a managerial team characterized by a good specialization and a healthy orientation towards the tendencies of the economic life.

Considering these synthetic elements, we can state that the **first hypothesis** (Do SME managers base their decisions on the information provided by their financial-accounting information system?) **is validated**.

The second hypothesis (Do SMEs use ICT solutions in their activity?) **is only partially validated**, because the SMEs use ICT solutions to run their financial-accounting activity, yet these applications have no special information processing software to facilitate the managers' decision-making process.

References

- Albrecht W. S., Stice J. D., Stice E. K., Skousen K. F., Swain M. R. (2002) *Management Accounting*, 2nd Edition, South Western Thomson Learning, Cincinnati
- Bouquin H., 2004, *Comptabilité de gestion*, Paris: Economica
- Ciuhureanu, A.T., Balteș, N. (2009) *Aspects regarding the accounting Information offer through the financial statements*, Studia Universitatis „Vasile Goldiș din Arad”, Seria Științe economice, nr. 1-1
- Coman M.-D. (2012) *Relevance of accounting information in measurement of the small and medium companies' performance*, Doctorate Thesis, Targoviste, Valahia University
- Radu, V. (2009) *Globalizarea sistemelor informaționale financiar-contabile*, Targoviste: Bibliotheca

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.