

THE USE OF INFORMATION TECHNOLOGY WITHIN ROMANIAN SMES

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ABSTRACT

Nowadays, the use of ICT in enterprises is very important. People are constantly looking for new ways to ease their work, seek to be constantly informed and are open to everything that technology means, to novelties. In SMEs, which represent the majority of companies operating in Romania, the adoption and use of ICT effects positive results such as productivity increase, business efficiency, businesses expansion, competitiveness increase. In this paper we are analyzing the literature regarding the determinant factors that stimulate the adoption and application of ICT in SMEs, and also the impact of ICT on organizations.

KEYWORDS: *competitiveness, determinant factors, ICT, performance, SMEs.*

1. INTRODUCTION

SMEs play a very important role in a country's economy because they represent a very large percentage of all enterprises. In the majority of EU Member States, SMEs account for over 99% of enterprises. Small and medium-sized enterprises are the ones that provide over 67% of jobs and are the ones that provide much of the GDP.

The rapid development of information and communication technology, and their intensive use, gave birth to the beginning of the digital economy. The challenges faced by SMEs throughout their business lives require people's education, experience and motivation to engage in business strategies that will lead to business performance (Pena, 2002).

In SMEs, the main barriers to ICT adoption and use are limited financial resources compared to large enterprises that do not encounter the same problem. The limited resources and high costs of adopting and implementing ICT are those that limit the access to information.

There are a lot of internal and external factors acting upon SMEs which influence the adoption and involvement of the new technologies. If we refer to external factors that influence SMEs, then we are talking about economic factors, social factors, political factors, demographic factors and technological factors.

Regarding the economic factors, according to specialized literature, there is a very close link between the richness of a community and the possibilities for innovation; it was revealed that the developed countries (GDP) had a positive impact on eGovernment. (Rodriguez Dominigues et al., 2011).

Social and cultural factors also influence innovation. The social environment influences the activity of small and medium-sized enterprises, education, citizens' culture, consumer preferences are also essential for social innovations (Dunleavy et al., 2006).

Policymakers have an important influence on SME innovation. Political changes, political competition, political norms, political support, legal issues may be determining factors. Schwester (2009) believes that when you get political support, ICT implementation is successful.

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Demographic factors also influence the capacity of a country to innovate. Specialized literature highlights the fact that the higher the number of inhabitants, the better the adoption and the implementation of innovation (Pina et al., 2010).

Technological factors also mark the level of innovation. Technical, technological disagreements that may arise between SMEs generate economic gaps between businesses, and these will generate economic gaps between countries. It is necessary to invest in the technological infrastructure and the degree of electronic training influences success (Karanasena & Deng, 2012).

The most common barriers to ICT adoption are internal barriers based on internal factors represented by organizational factors (enterprise size, human capital, implementation costs, and return on investment) and individual factors (employee professionalism and skills, training, willingness to apply the innovations).

2. THE IMPACT OF ICT

The National Council of Small and Medium-Sized Private Enterprises in Romania (CNIPMMR) publishes annually the results of large-scale analyzes of SMEs in the White Paper. In the case of SMEs in Romania, the main elements of computer technology used are the computer (73.52%), the email (64.40%), the internet (62.25%), the company's own website (36.31%), transactions and online payments (29.34%) and the use of an intranet network (14.13%).

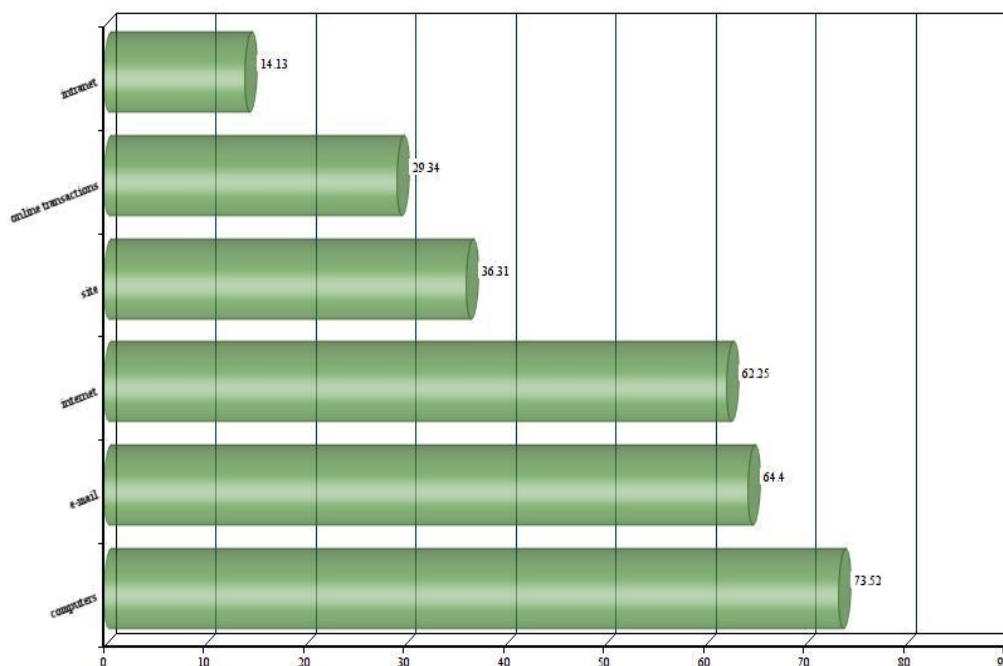


Figure 1. The main elements of computer technology used in Romania

Source: adapted from The National Council of Small and Medium-Sized Private Enterprises in Romania (2018)

New entrants (under 5) are the ones that most often use the internet (64.95%), and businesses aged between 10 and 15 use the Internet the least (60.32%). Regarding the company's website, the situation is reversed. Enterprises with the age of 15 have the largest share (42.40%), and the newly

founded (under 5 years) have the lowest share (27.84%) (The National Council of Small and Medium-Sized Private Enterprises in Romania, 2018).

According to The National Council of Small and Medium-Sized Private Enterprises in Romania (CNIPMMR) SMEs use the Internet for communicating with suppliers and customers (66.37%), promoting products and services (53.67%), for information on business environment (48.30%), transactions and electronic payments (46.51% %), communication within the firm (43.83%) and other purpose (0.72).

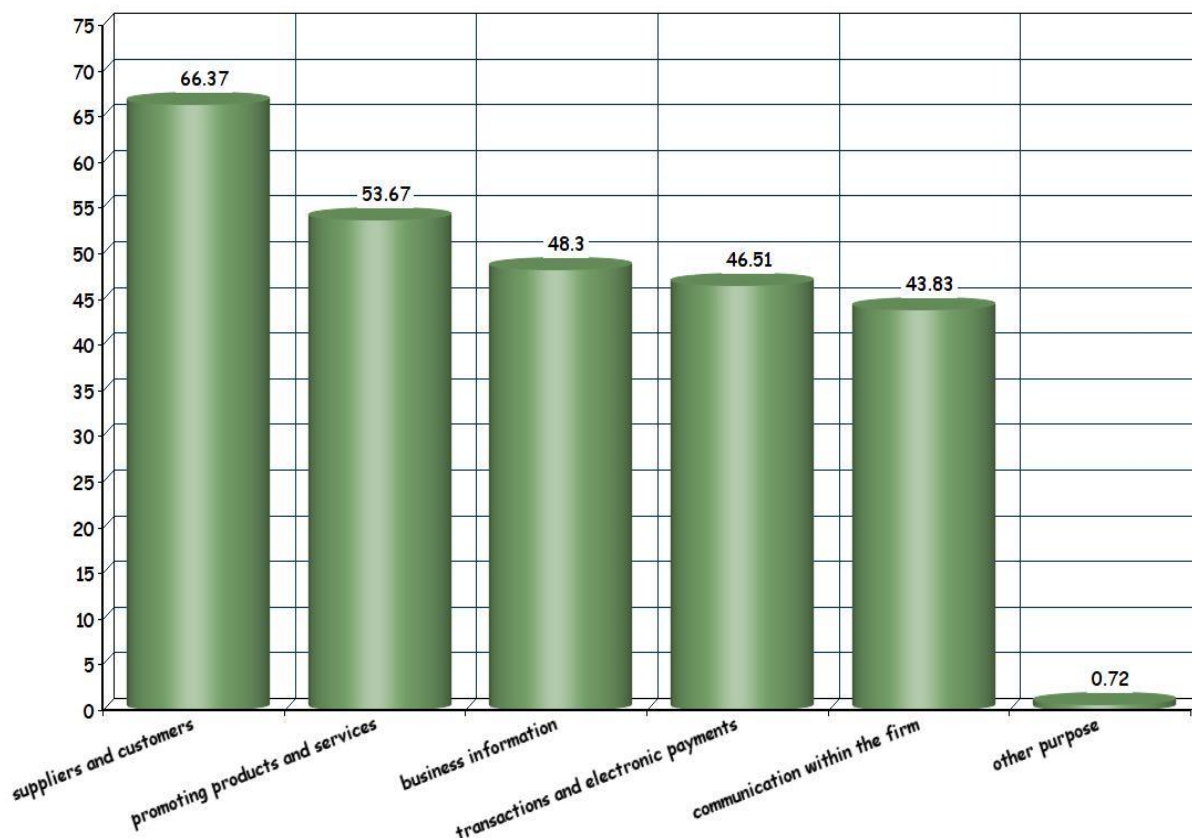


Figure 2. The use of technology in SMEs

Source: adapted from The National Council of Small and Medium-Sized Private Enterprises in Romania (2018)

Based on data obtained from the National Council of Small and Medium Sized Private Enterprises in Romania (CNIPMMR):

The economic agents in the constructions field are those who reach maximum values for using the Internet in order to communicate with suppliers and clients (84.21%) and for promoting their products and services (63.16%).

Transport companies register maximum value in using the Internet to obtain information on the business environment (66.67%) and online transactions or electronic payments (55.56%).

From the point of view of the form of legal organization, LLCs have the greatest values in terms of the use of computers (76.58%), email (66.24%) and online transactions (31.43%), and SA- (68.29%), the company's website (41.46%) and the intranet (24.39%).

The analysis of the main business opportunities for small and medium-sized enterprises in Romania also reveals the use of new technologies (43.47%). In 2018 one of the managerial priorities on

which entrepreneurs' attention and efforts focus is the computerization of activities (13.60%), the main financing needs being investment in equipment or technology (27.37%).

SMEs that do not use IT frequently show the highest value of enterprises that recorded much lower results in 2017 compared to 2016 (60.87%). These firms record the smallest values regarding the use of the Internet for communicating with customers and suppliers (30.43%), promoting their products or services (13.04%), transactions or electronic payments (26.09%), information about business environment (8.70%) and communication within the firm (13.04%).

Businesses with much better results in 2017 than in 2016 have indicated a maximum value regarding the use of computer (100%), email (93.75%), internet (87.50%) and electronic transactions or payments (62.50%).

Based on the data presented, undoubtedly ICT has a strong impact on SMEs. We can classify benefits into four groups: performance, growth, expansion and new products.

Table 1. Literature review on determinant factors

Performance	Efficiency, effectiveness and competitiveness (Hamilton & Asundi, 2008; Johnston et al., 2007; Southwood, 2004; Mahmood & Mann, 2000)
Performance	Innovative business (Zhu et al. 2003; Levy et al., 2001)
Performance	Intangible benefits (Mueller-Falcke, 2002; Weil & Olson, 1989)
Growth	Productivity growth (Black & Lynch, 2001; Matteucci et al., 2005; Bassanini & Scarpetta, 2002; Timmer & van Ark, 2005)
Growth	Strategic growth (Ordanini, 2006; Maguire et al., 2007; Growth Sales increase Qiang et al., 2006; Raymond, 2005)
Expansion	Organization expansion (Matthews, 2007; Bernadas & Verville, 2005)
Expansion	Supply chain improvements (Wen et al., 2009; Bayo-Moriones & Lera, Macpherson et al., 2002)
Expansion	International communication (Raymond et al. 2005)
New products	New products and services (Hollenstein, 2004; Carlsson, 2004; Beccheti et al., 2003), New products, Product quality (Boca & Daraba, 2010)
New products	Customer satisfaction (Yadav & Varadarajan, 2005; Bernadas & Verville, 2005)

Source: adapted from Domenico (2012)

3. RESULTS AND MEASURES

Keeping any company on the market, no matter of its size and field of activity, is decisively conditioned by its orientation towards innovation. For good and very good performance, alignment of organizational and productive processes with ICT tools is very important.

The Ministry of Communications and the European Funds set up a State Aid scheme for small and medium-sized enterprises for the period 2018 - 2020, the maximum amount being approved of 94.12 million euros. This SME Aid scheme supports entrepreneurs who want to develop and cope with the challenges of the digital age.

The eligible activities in this project have been described.

Table 2. Eligible activities under the State Aid scheme

➤ Activities related to the purchase of ICT hardware and other devices;
➤ Datacenter activities;
➤ Activities related to the acquisition and / or development of software applications / licenses required for project implementation, configuration and implementation of databases, migration and integration of various existing data structures, acquisition and implementation of e-signature solutions;
➤ Activities related to industrial research or experimental development;
➤ Activities related to the posting of highly qualified personnel in a newly created position within the beneficiary enterprise;
➤ Process and organizational innovation activities other than those supported by the de minimis aid scheme, including contract research activities;
➤ Market research activities;
➤ Activities necessary for informing and promoting the project;
➤ Activities related to the acquisition of consulting services necessary for project implementation;
➤ Activities related to personnel training;
➤ Acquisition of intermediate or final financial, technical and technical audit services;
➤ Project management specific activities;
➤ Activities related to access to databases and specialized libraries

Source: www.comunicatii.gov.ro

4. CONCLUSIONS

The review of the above literature suggests that ICT can improve the performance of SMEs so that, in order to achieve good business performance, we need to align with the new technology. Connecting to European trends in the use of the Internet is extremely important for reducing costs and improving the quality of results, as well as for communicating effectively with the company's internal and external environment. On a general level, we distinguish a positive evolution of the companies that use information technology in their activity.

Most organizations depend on technology and have applied research perspectives to develop and reduce risks. There is a clear relationship between knowledge management and enterprise performance. At present, the moderation variable, which is nothing but technology, plays a determining role in the performance of SMEs.

The purpose of this study is to investigate the factors that affect the intention to adopt ICT in SMEs in Romania. As the Ministry of Communications and European Funds is becoming increasingly important and priority for the Romanian business environment, understanding the factors that influence the adoption of ICT by SMEs is invaluable. Positive results will not be delayed in this

way, it will substantially increase the IT sector, which will also be felt at GDP level. This remains to be seen in the coming years as an important subject with many reflection themes.

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