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(Editors)

## **CULTURAL DYNAMICS OF VALUES**



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# The Use of Information and Communication Technologies in Business as a Value-Creating Tool: Analysis of the Case of SMEs in Romania

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**Abstract:** *The last decade has been characterised by an amplified concern of enterprises related to their digitalisation. The events that have marked these years (pandemic, war, crises) have proven that the survival of enterprises on the market can be sustained if they implement and use information and communication technologies (ICT). The problem is more pronounced in small and medium enterprises (SMEs). Moreover, value creation is one of the goals of any business. Thus, the question is whether implementing ICT significantly determines creating value in business. Following these, the main objective of our paper is to realise an empirical analysis to test if the implementation of ICTs in enterprises can be considered a significant determinant for the creation of value by enterprises. We chose to focus on SMEs due to their particularities and the fact that they face more constraints than large enterprises. We use empirical methods to test the evolution of the indicators expressing the value added at factor costs generated by SMEs, and the indicators that measure the use of ICT in SMEs. The results highlight that using ICT in business activity enhances the added value generated by SMEs, and can be considered a value-generating tool. Our results can be useful for SMEs, offering ways to increase their value-added, and for decision-makers who want to support the SME sector.*

**Keywords:** *SMEs; Information and Communication Technologies; Value-added; Romania.*

**JEL Classification:** C33, G32, L25.

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## Introduction

Starting from the recent challenges induced by the major changes that have taken place at the level of the world's economies in recent years (due to the pandemic, wars, and natural calamities) we observe a change in the way of doing business at the level of all enterprises, regardless of their size. In this context, digitalisation is one of the biggest issues small and medium-sized enterprises are dealing with nowadays. Internationally, the COVID-19 crisis has increased the importance of SME digitalisation and served as an accelerator. Many businesses have moved their operations online and implemented digital solutions to stay operational during lockdown periods. Various surveys show that 70% of SMEs worldwide have intensified the use of digital technologies due to the manifestation of the COVID-19 crisis<sup>1</sup>.

Since 2014, the European Commission has been monitoring the progress made by Member States in the digital field through the Digital Economy and Society Index (DESI) reports. Between 2014 and 2022, the Digital Economy and Society Index (DESI) synthesised indicators of Europe's digital performance and tracked the progress made by EU countries.

At the end of 2022, the EU Council adopted the 2030 policy program entitled "The Road to the Digital Decade", which is considered essential for the EU's digital transformation. This program sets out the concrete digital objectives that the EU and its Member States aim to achieve by the end of the decade in four major areas<sup>2</sup>: strengthening digital skills and digital education; securing and sustainable digital infrastructures; the digital transformation of enterprises; and digitalisation of public services.

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<sup>1</sup> OECD, *The Digital Transformation of SMEs*, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris, 2021. Available at: <https://doi.org/10.1787/bdb9256a-en>

<sup>2</sup> European Council, *Path to the digital decade*. Press release, 2022. Available at: <https://www.consilium.europa.eu/en/press/press-releases/2022/12/08/path-to-the-digital-decade-council-adopts-key-policy-programme-for-eu-s-digital-transformation/>



According to the 2024 Country Report on the Digital Decade<sup>3</sup> regarding digital skills, although our country has made progress, it remains far below the EU average. Thus only 28% of people have at least basic digital skills, well below the EU average of 54% and below the EU target of 80%. In terms of digital infrastructure, this is the area where Romania has the best performance, being among the EU leaders.

Our country records poor results regarding business digitalisation, being below the EU average for all indicators that quantify business digitalisation. For example, 53% of SMEs have a basic level of digitalisation, compared to the EU average of 69% and the EU-wide target of 90% in 2030. Our country also performs poorly in general and in the field of digitalisation of public services. For example, the document mentioned above shows that only 24% of internet users use e-government services, compared to the EU average of 74%. Regarding digital public services for citizens, Romania recorded a score of 48 compared to the EU average of 77. Similarly, the score for digital public services for businesses is 45, below the EU average of 84. In this context, the European Commission recommends Romania intensify its efforts to digitalise public services, especially through the rapid and efficient implementation of the planned measures, including the PNRR (National Recovery and Resilience Plan).

For this study, we have chosen to focus our attention on SMEs because they face more obstacles and difficulties in general than large companies. Small and medium-sized businesses (SMEs) are essential to raising the economy's productivity level, however, Romania has much fewer SMEs per person than the EU average (58 SMEs per 1,000 people), with only 29 SMEs per 1,000 people<sup>4</sup>. In the meantime, SMEs represent 99.7% of all businesses in Romania, yet they are about 40% less productive than huge corporations. Furthermore, only roughly 30% of Romania's overall exports are made up of SMEs.

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<sup>3</sup> European Commission, *Digital Decade Country Report. Romania*, 2024a. Available at: <https://digital-strategy.ec.europa.eu/en/library/digital-decade-2024-country-reports>

<sup>4</sup> European Commission, *2023 Country Report Romania. Institutional paper 247. June 2023*, 2023. Available at: [https://economy-finance.ec.europa.eu/system/files/2023-06/ip247\\_en.pdf](https://economy-finance.ec.europa.eu/system/files/2023-06/ip247_en.pdf)

Through this paper, we intend to correlate the value added generated by SMEs for the non-financial business sector to the level of SMEs' digitalisation, for the case of Romania. Starting from the fact that through the added value that SMEs generate, they contribute to the GDP and the country's economy in general. The added value generated by SMEs is considered a proxy of their performance. Increased performance will generate positive effects on the economy, that's why we consider this factor an extremely important element that must be taken into account when analysing the activity of SMEs in an economy.

The novelty element of this paper comes from the fact that there is a very limited number of studies in the literature that analyse the effects of the digitalisation of small and medium enterprises on the added value they generate for the economy. Moreover, the data presented above show that the proposed problem is topical but also of great interest both at the national level and especially at the level of the European Union.

To achieve the objective proposed for this paper, we first briefly describe the state of the art regarding SMEs' performance and also digitalisation. Following, we realise the empirical investigation using descriptive, graphical and also statistical methods. We discuss these results and correlate them with those obtained from official reports and other studies from the literature. Our study ends with conclusions.

## **State of the art**

The use of data, digital technology, and connections that result in the creation of new activities or the change of already existing ones is known as digitalisation<sup>5</sup> (OECD, 2019). Digitalisation is also seen as the process of transitioning to a digital business; the use of digital technologies to change a business model and provide new opportunities for obtaining revenue and added value.

According to the European Investment Bank, digitalisation is associated with better firm performance. Digital firms tend to be more

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<sup>5</sup> OECD, *Vectors of Digital Transformation*, 2019. [www.oecd.org/going-digital](http://www.oecd.org/going-digital).

productive than non-digital firms, have better management practices, are more innovative, grow faster and create better-paying jobs<sup>6</sup> (EIB, 2020).

The digitalisation of SMEs has several advantages, including the possibility to innovate, grow and enter new markets; facilitating communication with customers and markets; rapid coverage of customer needs; business continuity in the event of shocks/blockages; increasing profit under the conditions of improving revenues and optimising costs; creation of new jobs; facilitating access to new sources of financing; digital innovations in the sphere of payments; facilitating access to the services of public authorities (e-government). At the same time, digitalisation presents certain risks that come from possible cyber-attacks, digital fraud, money laundering, etc.

As shown by some studies in the literature<sup>7, 8,9,10,11</sup>, the value added and performance of SMEs can benefit from digitalisation. Because it can allow SMEs to streamline operations and production, raise service quality and productivity, improve collaboration and communication inside the organisation, and improve the customer experience<sup>12</sup>. These enhancements can aid SMEs in boosting their performance and value added, as they are

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<sup>6</sup> European Investment Bank, *Who is prepared for the new digital age?: evidence from the EIB investment survey*, Publications Office, 2020. <https://data.europa.eu/doi/10.2867/974122>

<sup>7</sup> T. Mazzarol, "SMEs engagement with e-commerce, e-business and e-marketing", *Small enterprise research* 22(1), 2015, pp. 79-90.

<sup>8</sup> C.M. Chan, S.Y. Teoh, A. Yeow, and Pan, G. "Agility in responding to disruptive digital innovation: Case study of an SME", *Information Systems Journal* 29(2), 2019, pp. 436-455.

<sup>9</sup> Octavia, A., Indrawijaya, S., Sriayudha, Y., and Hasbullah, H., "Impact on E-commerce adoption on entrepreneurial orientation and market orientation in business performance of SMEs", *Asian Economic and Financial Review* 10(5), 516, 2020.

<sup>10</sup> R. Bellakhal, and R. Mouelhi, "Digitalisation and firm performance: Evidence from Tunisian SMEs", *International Journal of Productivity and Quality Management* 39(1), 2023, pp. 42-65.

<sup>11</sup> P. Pfister, and C. Lehmann, "Digital value creation in German SMEs—a return-on-investment analysis", *Journal of Small Business and Entrepreneurship* 36(4), 2024, pp. 548-573.

<sup>12</sup> J. Kádárová, L. Lachvajderová, and D. Sukopová, "Impact of digitalization on SME performance of the EU27: Panel data analysis", *Sustainability* 15(13), 9973, 2023.

directly tied to the expansion and development of businesses. Using digital technologies, SMEs are more capable of competing in the market, which is essential for growth and ensuring a competitive advantage<sup>13</sup>. The use by SMEs of the traditional source of value creation no longer adapts to the environment that suffers from rapid changes and is no longer as productive as the new digital methods. Digital technologies are more responsive and adaptable compared to traditional methods and can lead to a greater increase in value<sup>14</sup>.

Hassan et al.<sup>15</sup> have emphasised that the absorptive capacity of SMEs ensures effective integration of digital technologies favouring the creation of new values. Singh et al.<sup>16</sup> reasoned that a gradual assimilation of digital technologies into the daily activities of companies is necessary. This gradual assimilation would allow gradual adaptation and the continuous transformation of businesses in correlation with digital technologies<sup>17</sup>.

The results of another study<sup>18</sup> focused on 1045 SMEs, pointed out that the software system implemented by SMEs has a significant contribution to the value-added generated by them to GDP. The computer infrastructure of the SMEs had a weaker effect compared to the software system.

SMEs typically embrace digital transformations to varying degrees based on the context in which they operate. These degrees are divided in three groups. The first category represents SMEs with a high degree of

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<sup>13</sup> K. Prohl-Schwenke, and M. Kleinaltenkamp, "How business customers judge customer success management", *Industrial Marketing Management* 96, 2021, pp. 197-212.

<sup>14</sup> T. Koch, and J. Windsperger, "Seeing through the network: Competitive advantage in the digital economy", *Journal of Organization Design* 6(6), 2017, pp. 1-30.

<sup>15</sup> S.S. Hassan, K. Meisner, K. Krause, L. Bzhalava, and P. Moog, "Is digitalization a source of innovation? Exploring the role of digital diffusion in SME innovation performance", *Small Business Economics* 62(4), 2024, pp. 1469-1491.

<sup>16</sup> A. Singh, P. Klarnar, T. Hess, "How do chief digital officers pursue digital transformation activities? The role of organization design parameters", *Long Range Planning*, 53(3), 2020.

<sup>17</sup> R.F. Zammuto, T.L. Griffith, A. Majchrzak, D.J. Dougherty, and S. Faraj, "Information technology and the changing fabric of organization", *Organization Science* 18(5), 2007, pp. 749-762.

<sup>18</sup> I. Szabó, K. Ternai, A. Prosser, and T. Kovács, "The impact of digitalization on SMEs GDP contribution", *Procedia Computer Science* 239, 2024, pp. 1807-1814.

digital maturity who accelerate the shift to digitalized businesses in response to the obstacles they face. The second category consists of small and medium-sized enterprises (SMEs) with low levels of digital maturity who choose to digitalize just the sales function. The third category consists of SMEs with very low levels of digital literacy but still have the support of social capital. They overcome these obstacles by partnering with people who have exceptional digital capabilities.

Starting from the results previously obtained in the literature that were briefly discussed above, but also from the objectives proposed in this research, we formulate hypothesis H1. We intend to validate this hypothesis through empirical analysis.

Hypothesis 1: SMEs that use digital technologies have increased performance and generate increased value added to the economy

## Data and method

For conducting the empirical analyses, we use the data provided by the European Commission, the Eurostat database (European Commission, 2024b) and the White Paper of Romanian SMEs<sup>19</sup>. Achieving the proposed objectives and testing the hypotheses will be achieved by using descriptive, graphic and correlation methods. The dependent variable is defined as the value-added generated by SMEs. The value added generated by SMEs is calculated as the difference between production and intermediate consumption. Total intermediate consumption is valued at purchasers' prices. The production is valued at basic prices or factor costs.

As independent variables, we use a series of indicators that measure the degree of digitisation of companies. Initially, we perform descriptive and graphical analyses through which we analyse the evolution of these indicators and even make comparisons between them. Then we test the correlations between the indicators to prove whether the increase in the degree of digitalisation could generate an increase in the added value of SMEs.

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<sup>19</sup> O. Nicolescu (coord.), *Carta albă a IMM-urilor din România 2023, Raport de cercetare nr. 21 (The white paper of SMEs in Romania 2023, Research report no. 21)*, Pro Universitaria Publishing House, București, 2023.

To select the independent variables, we start from the eleven dimensions and indicators included in the DESI index proposed by the European Commission (2022), presented in Table 1 below. Therefore, we propose to initially analyse the evolution of people in the workforce who have at least basic digital skills, but also those with above basic digital skills. Also from the section referring to Human capital, we consider the evolution of ICT specialists employed in SMEs.

We also analyse a series of indicators that emphasize SMEs with a basic level of digital intensity, like the use of computers by employees, their access to the Internet, and access to email. But also specific indicators of recent years such as remote access and remote meetings or online sales realised by SMEs.

Table 1. DESI indicator components

	DESI dimension	Indicators related to the Path to the Digital Decade Proposal
1	Human capital	At least basic digital skills
		ICT specialists
		Female ICT specialists
2	Connectivity	Fixed very high-capacity network coverage
		5G coverage
3	Integration of digital technology	SMEs with a basic level of digital intensity
		AI
		Cloud
		Big data
4	Digital public services	Digital public services for citizens
		Digital public services or businesses

Source: European Commission (2022)<sup>20</sup>

<sup>20</sup> European Commission, *Digital Economy and Society Index (DESI) 2021, 2022*. Available at: <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2021>

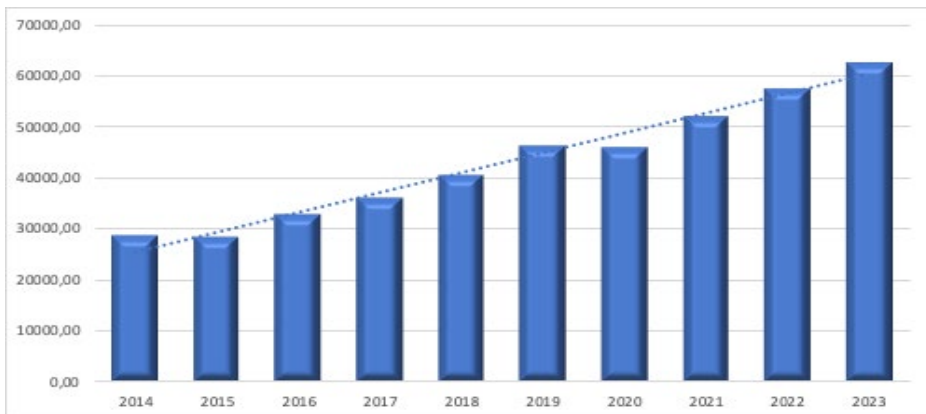
## Results and discussions

During the pandemic's peak in 2020, many businesses closed and workers were laid off. As a result, the non-financial business economy recorded value added at a factor cost of 6.5 trillion euros, with a notable decline of -6 per cent from 2019's value added of 6.9 trillion euros. Value added generated by SMEs was 3.4 trillion euros, registering a lesser decline of 5% from 3.9 trillion euros, in 2019. In 2020, SMEs had a moderate level of resilience, declining in value-added less than large corporations.

Romania's SMEs contributed to the country's GDP by about 78.4 billion euros in 2023. From all the enterprise sizes, micro-sized businesses contributed the most to Romania's economy this year, coming in at about 29.7 billion euros. In Romania, micro-enterprises constituted the greatest proportion of SMEs.

Analysing the data provided by the European Commission, we created Figure 1 and Figure 2 (below). Figure 1 shows that the added value generated by SMEs for the economy had an upward trend in the last ten years, with a slight interruption in 2020.

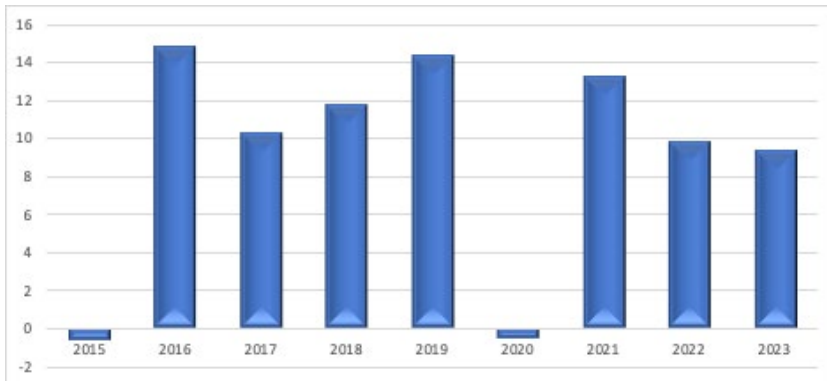
Figure 1. The evolution of the added value generated by SMEs from Romania, 2014-2023, in absolute value



Source: authors own calculation after data from Eurostat

The percentage change in the added value of SMEs from Romania registered increases of over 12%, for the years 2016, 2019 and 2021. Only the years 2015 and 2020 were characterised by reductions in the added value of SMEs from Romania. These decreases can also be attributed to the reduction in the number of SMEs on the market, which happened in 2020, as a result of the pandemic. It is interesting that the year 2021, although with a lower number of active SMEs, recorded increases in their added value. The companies that remained on the market, to ensure their survival, had to find new ways to carry out their activity.

Figure 2. The percentage change in added value generated by SMEs from Romania, 2014-2023

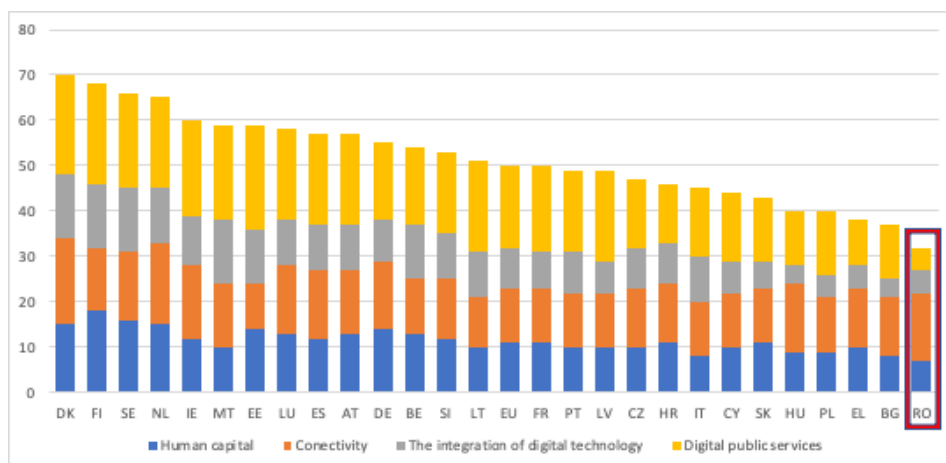


Source: authors own calculation after data from Eurostat

Since many activities have moved to the online environment, the companies that had a certain degree of digitalisation before the pandemic, or those that managed to reach at least the basic level of digitalisation in the short term, managed to adapt to the changes, to survive, and even generate profit. These results show us the important role of information and communication technologies (ICT) for companies, especially SMEs.



Figure 3. Digital Economy and Society Index (DESI) 2021 ranking



Source: European Commission (2022)<sup>21</sup>

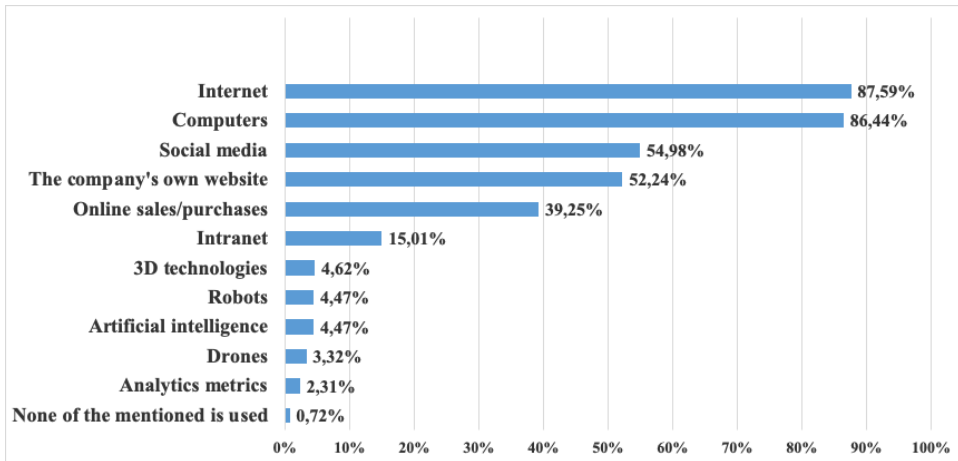
Romanian Small and Medium-sized enterprises have a lower degree of digitalisation than the majority of other European countries, including the closest similar nations, based on EU-established metrics. Romania came in the last place out of 27 countries in the 2021 Digital Economy and Society Index (see Figure 3), which is an annual evaluation of the digitalisation of EU nations. The index assesses digitalisation in four areas: connectivity, digital public services, human capital, and the incorporation of digital technology into business operations. Although for connectivity, Romania recorded a level comparable to other EU countries, the very poor rankings in the other three domains brought it to the bottom of the ranking.

Based on the analysis carried out by the National Council of Small and Medium Private Enterprises in Romania, in the first half of 2023, by investigating 758 SMEs, the main elements of IT technology used in SMEs are (see Figure 4): the internet (87.59% of SMEs use the internet), computers (86.44%), social media (54.98%), the company's website (52.24%) and online

<sup>21</sup> European Commission, *Digital Economy and Society Index (DESI) 2021, 2022*. Available at: <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2021>

transactions (39.25 %). The above basic digital technologies are used by below 5% of the SMEs.

Figure 4: Areas of Internet use/intranet and digitalisation within SMEs



Source: Nicolescu (2023, pp. 354)<sup>22</sup>

Regarding the use of the Internet and/or the intranet within SMEs, it presents several advantages, which would contribute to the growth and competitiveness of these firms, including:

- access to global markets because SMEs have the opportunity to interact with a wider audience;
- promoting products and services on different social networks, but also through e-mail campaigns;
- the possibility of obtaining information about the business environment;
- the possibility of selling products or services online, etc.

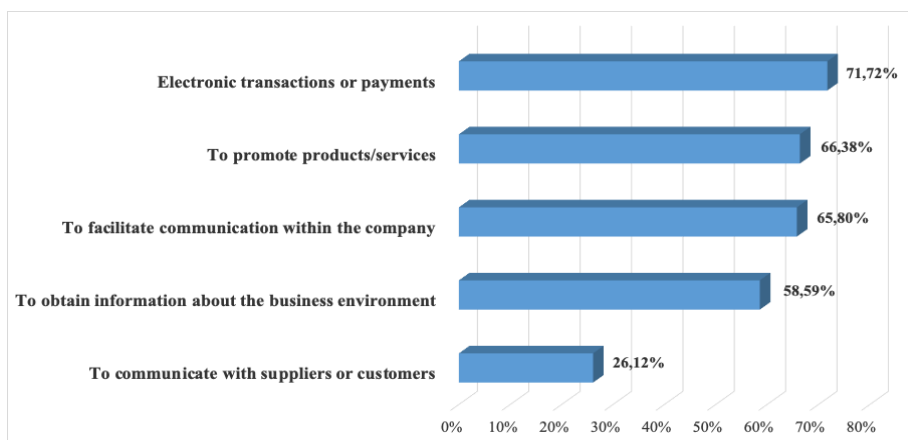
The survey carried out by the National Council of Small and Medium Private Enterprises in Romania shows that SMEs in Romania use

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<sup>22</sup> O. Nicolescu, (coord.) *Carta albă a IMM-urilor din România 2023, Raport de cercetare nr. 21 (The white paper of SMEs in Romania 2023, Research report no. 21)*, Pro Universitaria Publishing House, București, 2023, p. 354.

the Internet and/or the intranet, mainly, for: electronic transactions or payments (71.72%), promoting products/services (66.38%), facilitating communication within the company (65.80%), obtaining information about the business environment (58.59%), as well as to communicate with suppliers or customers (26.12%) (see Figure 5).

Figure 5. Areas of the Internet use/intranet and digitalisation within SMEs

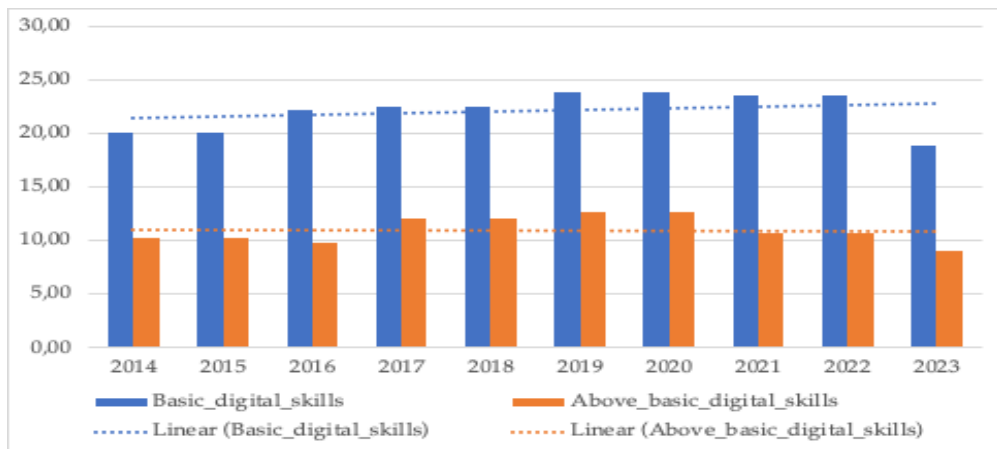


Source: Nicolescu (2023, pp. 358)<sup>23</sup>

On the human capital component, we analyse the percentage of people in the labour force who have basic or above basic digital skills. Figure 6 emphasises that the percentage of employees with basic digital skills in Romania is over 10% higher than that of employees with above basic digital skills. The trend is slightly upward for employees with basic digital skills, which shows that due to digitalisation processes, employees are forced to keep up and develop their knowledge on this side.

<sup>23</sup> O. Nicolescu, (coord.) *Carta albă a IMM-urilor din România 2023, Raport de cercetare nr. 21 (The white paper of SMEs in Romania 2023, Research report no. 21)*, Pro Universitaria Publishing House, București, 2023, p. 358.

Figure 6. Evolution of the percentage of employed people in Romania with basic, respectively above basic digital skills, 2014-2023

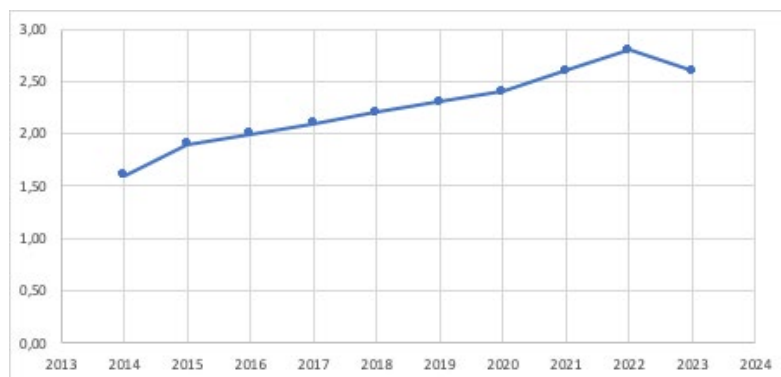


Source: author processing after data from Eurostat

Regarding the above basic digital skills, we notice that the trend is maintained almost linearly, the acquisition of these skills can be done mainly by persons who are partly ICT specialists. As Figure 7 shows, the percentage of ICT specialists employed has increased significantly in the last 10 years. The pandemic accentuated the upward trend, but the year 2023 recorded a slight reduction and a tempering of the advance on this side.

In the context of the pandemic, a series of new indicators that attracted attention were related to integrating information and communication technology (ICT) in business, especially in SMEs. At the EU level, in 2022, half of the companies employing ten or more people and self-employed individuals held remote meetings online.

Figure 7. Evolution of the employed ICT specialists in Romania, 2014-2023



Source: author processing after data from the Eurostat

The percentage of firms using this function varied greatly among the EU members. Sweden (79,4%) and Finland (78,5%) had the highest number of registered shares, followed by Denmark (78,0%), Malta (68,3%), and Ireland (63,6%). At the bottom of the ranking were the countries with the lowest shares: Slovakia (35,2%), Greece (32,9%), Romania (31,2%), Bulgaria (28,2%), and Hungary (29,4%). The percentage of SMEs from Romania which conducted remote meetings via the Internet had values with very small differences compared to that recorded for all companies (29,8 compared with 31,2). This result emphasises that SMEs have shown resilience and quickly adapted to this way of organizing the activity.

The indicators, at the level of 2022, for the case of Romania, are presented in Table 2 below.

Table 2. ICT indicators, Romania SMEs, 2022

Indicator	Value
Percentage of SMEs with persons employed having remote access to the documents of the enterprise (e.g. files, spreadsheets, presentations, charts, photos)	42,5
Percentage of SMEs with persons employed having remote access to the email system of the enterprise	68,6

Percentage of SMEs with persons employed having remote access to the business applications or software of the enterprise (e.g. access to accounting, sales, orders, CRM)	36,2
Percentage of SMEs, which conducted remote meetings via the Internet	29,8

Source: Author processing after data from Eurostat

By providing remote access to three categories of enterprise resources – the email system, documents, and business applications or software – statistical data on remote access seeks to gauge how technologically prepared businesses allow their staff to work from anywhere. Regarding the size of the businesses, at the EU level, 91.0% of large businesses (those with 250 employees or more, or those who are self-employed) provided all three forms of remote access to their staff; this was also the case for 77.2% of medium-sized businesses (those with 50 to 249 employees or self-employed individuals) and 52.4% of small businesses (those with 10 to 49 employees or self-employed individuals). Related to this aspect, 42.4% of SMEs from Romania provided employees remote access to the documents of the enterprise (e.g. files, spreadsheets, presentations, charts, photos). 68.6% of SMEs provided employees remote access to the email system of the enterprise, while only 36.2% provided employees remote access to the business applications or software of the enterprise (e.g. access to accounting, sales, orders, CRM). These data are comparable to those of the European Union countries but still rank Romania in the last places among them. This represents an alarm signal related to the fact that measures are needed to support and help the digitalisation of SMEs.

Seeing the importance of digitalisation for companies, and starting from the fact that SMEs face more difficulties than large enterprises, the decision-makers in Romania tried to align themselves with the measures adopted in other European countries to support the digitization process for SMEs. Thus, from February 2023, SMEs had the opportunity to obtain grants to support them in the adoption of digital technologies, through the I.M.M Digitalization Program, which is part of the National Recovery and Resilience Program from Romania. The value of the non-refundable financial assistance of a project is between 20.000 and 100.000 Euros and

represents 90% of the total eligible expenses for all types of beneficiaries. The remaining 10% represents co-financing that must be provided from own sources, by the beneficiaries.

Thus, a series of steps to support the digitization process has already been taken, but in Romania, there is a need for more targeted policies on SMEs, for clearer information about them, to increase the digital literacy of managers and employees, also for the continuation or even the amplification of financial measures support targeting digitalisation.

To test the relationship that exists between the added value generated by SMEs and the use of information and communication technologies (ICT), we will analyse the Pearson correlation coefficient.

Table 3. Correlation between values added of SMEs and digitalisation, Romania, 2014-2023

Variables	Correlation coefficient
Value added – Basic digital skills	0,18389701
Value added – Above basic digital skills	-0,0835498
Value added – Employers have access to the internet for business purposes (% of total employment in SMEs)	0,8698151
Value added – the percentage of SMEs where employers have access to the internet	0,75679471
Value added- employers using computers (% of total employment in SMEs)	-0,1604297

Source: Authors calculation using data from Eurostat

The obtained results are centralized in Table 3. They show that the added value of SMEs from Romania is highly correlated with the percentage of employers having access to the Internet. The basic digital skills of employees are weakly correlated with the added value generated by SMEs. Above basic digital skills and the use of computers by employees are negatively and weakly correlated with the added value generated by SMEs. The negative results of these two correlation coefficients come from the fact

that the possession by employees of the above basic digital skills implies increased costs on the part of SMEs. If they did not already have these digital skills at the time of employment, the SME has to incur a series of costs for their training, which will generate a reduction in profit in the short term. The relationship with the use of computers by employees is explained in the same way, because it involves computer purchasing by SMEs, involving increased costs. Access to the Internet is relatively inexpensive, a large part of the Romanian population has access to the Internet by smartphone, so it does not affect the costs involved by SMEs.

The results obtained validate the hypothesis we set out to test and show that SMEs that use digital technologies have increased performance and generate increased value added to the economy. The conclusions we can formulate starting from these data are that: for generating increased value SME employees must have access to the Internet for business purposes, but also must have at least basic digital skills.

## **Conclusions**

The digitalisation of SMEs is of significant importance for their competitiveness, resilience and ability to innovate. The results of this study showed the importance of integrating information and communication technologies (ICT) in the business activity of SMEs as a value-creating tool. By testing the correlation between a series of indicators that measure the SMEs' digitalisation degree and their added value, we highlighted the mentioned significant role. Therefore, the use of the Internet in business and the workforce with digital knowledge can help businesses become more prosperous and generate economic growth.

Through the graphic analysis of the evolution of the indicators expressing digitalisation but also those referring to the added value, we observed their trend and highlighted the fact that the COVID-19 pandemic had a significant role for them, determining an increase in the attention given to digitalisation. Because, it turned out that on the market, in the conditions imposed by the restrictions, the SMEs that had a certain degree of digitalisation or were able to adopt it quickly survived.

In conclusion, SMEs need support measures, which have to be adapted to their level of digitalisation and their size.



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