THE IMPACT OF DIGITALIZATION OF OPERATIONAL PROCESSES ON THE COMPETITIVENESS OF SMES IN THE SERVICE SECTOR IN ROMANIA

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ABSTRACT: *In the context of accelerating digital transformations and increasing competitive pressure, the digitalization of operational processes is becoming a determining factor in the performance and adaptability of small and medium-sized enterprises (SMEs) in the service sector. The study investigates the relationship between the level of digitalization of internal processes (automation of workflows, use of digital management platforms and integration of cloud solutions) and organizational competitiveness, in an economic environment characterized by rapid change and increased consumer demands. The research analyzes the influence of specific factors, such as the degree of automation, the level of digital skills of employees, investments in digital technologies and the use of data analysis tools on the performance of companies. At the same time, perceived barriers are highlighted, including initial implementation costs, lack of qualified personnel, resistance to change and concerns about data security, which may limit the adoption of digital solutions. The empirical analysis is based on data collected through a questionnaire applied to a sample of 270 Romanian respondents, representing SMEs in the service sector (IT, consulting, tourism and financial services). The results indicate that the digitalization of operational processes has a significant positive impact on competitiveness, contributing to increased efficiency, improved service quality and the development of customer relationships. At the same time, limitations related to financial resources and digital skills influence the pace of technology adoption. The study offers relevant implications for the business environment and decision-makers, highlighting the need for policies oriented towards the development of digital skills and supporting SMEs in the digital transformation process, in order to strengthen the competitiveness of the Romanian service sector.*

Keywords: *Digitalization, Operational Processes, Competitiveness, SMEs*

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1. INTRODUCTION

In the context of accelerating digital transformation and intensifying competition in the services market, the digitalization of operational processes has become an essential factor for increasing the performance and competitiveness of small and medium-sized enterprises (SMEs). The development of digital technologies, process automation, the use of cloud solutions and the implementation of digital management platforms are driving organizations to optimize their activities and respond more efficiently to the requirements of a constantly changing economic environment. In this context, digitalization is no longer just a competitive advantage, but a necessity for the sustainable development of SMEs. The integration of digital technologies into operational processes contributes to streamlining activities, reducing costs, improving service quality and optimizing the decision-making process. At the same time, the use of digital tools and data analysis solutions allows organizations to personalize the services offered, develop customer relationships and strengthen their competitive position in the market. However, the digital transformation process is influenced by numerous challenges, such as implementation costs, digital skills shortages, resistance to change and data security concerns. In the case of SMEs, limited financial and human resources can slow down the adoption of digital technologies and the exploitation of their benefits.

In this context, this research aims to analyze the impact of digitalization of operational processes on the competitiveness of SMEs in the service sector in Romania, highlighting the role of process automation, the use of digital management platforms, cloud solutions, digital skills and technology investments on organizational performance. The study also aims to identify the main barriers that influence the digital transformation process and formulate recommendations for accelerating the adoption of digital technologies within SMEs. The article is structured in the following sections: introduction, literature review, research methodology, research results, conclusions and recommendations.

2. LITERATURE REVIEW

Digital transformation is one of the main strategic directions for the development of small and medium-sized enterprises (SMEs), especially in the service sector, where operational efficiency and adaptability directly influence competitiveness. According to Vial (2019) and Verhoef et al. (2021), digital transformation involves not only the implementation of new technologies, but also changing organizational processes, business models and the way value is created. In this context, the digitalization of operational processes, through the use of ERP systems, CRM, cloud solutions and data analysis tools, contributes to the optimization of activities and the improvement of organizational performance (Bharadwaj et al., 2013; Matt et al., 2015).

From the perspective of resource-based theory, competitive advantage is determined by the ability of organizations to capitalize on valuable and difficult-to-imitate resources (Barney, 1991). In this sense, digital infrastructure, employee skills and managerial capabilities represent strategic resources that can generate superior performance (Bharadwaj, 2000). However, the literature highlights that simple investment in technology does not guarantee increased competitiveness, as its integration into the organization's strategy and decision-making processes is necessary.

Numerous studies emphasize the role of automation of operational processes in reducing costs, increasing productivity and improving service quality. The implementation of ERP systems facilitates the integration of information flows and the coordination of organizational activities (Davenport, 1998), and CRM systems contribute to the development of customer relationships and the personalization of services (Chen & Popovich, 2003; Payne

& Frow, 2005; Zhu & Kraemer, 2005). At the same time, cloud solutions offer SMEs flexibility and access to advanced technologies with low initial investments, an aspect confirmed by studies conducted by Marston et al. (2011), Low et al. (2011) and Oliveira et al. (2014).

Recent literature places significant emphasis on the use of data analytics and Business Intelligence tools, which are considered key drivers of organizational performance. Studies by Akter et al. (2016) and Wamba et al. (2017) demonstrate that organizations incorporating data analytics into their decision-making processes achieve higher levels of efficiency and innovation. However, the adoption of these tools among SMEs remains limited, primarily due to financial constraints and a shortage of digital skills.

Another element highlighted in the literature is the role of digital skills and organizational capabilities in the success of digital transformation. Teece (2007) and Warner and Wäger (2019) argue that developing dynamic capabilities allows organizations to respond more quickly to technological changes and capitalize on the opportunities generated by digitalization. At the same time, Eller et al. (2020) and Matarazzo et al. (2021) demonstrate that digitalization contributes to increasing the performance and innovation of SMEs, but the positive effects depend on the involvement of management and the level of digital skills of employees. Although the benefits of digital transformation are widely recognized, the literature also highlights numerous barriers that slow down the digitalization process. High implementation costs, lack of digital skills, resistance to change and cybersecurity concerns are the main obstacles encountered by SMEs (Eller et al., 2020; OECD, 2021). In addition, reports from the European Commission (2024) and the European Investment Bank (2023) show that Romania still registers a low level of adoption of digital technologies compared to the European Union average, which highlights the need to accelerate investments and develop digital skills.

Overall, the literature confirms the existence of a positive relationship between the digitalization of operational processes and the competitiveness of SMEs. However, most studies focus on the general effects of digital transformation, paying less attention to the integrated analysis of process automation, the use of cloud solutions, digital skills and implementation barriers in the service sector. Therefore, the present research contributes to completing this perspective by analyzing how these factors influence the competitiveness of SMEs in Romania.

3. RESEARCH METHODOLOGY

This research analyzes the impact of business process digitalization on the competitiveness of small and medium-sized enterprises (SMEs) in the service sector in Romania, using a quantitative approach based on the questionnaire survey method.

The main objective of the study is to evaluate the influence of business process digitalization on the competitiveness of SMEs, by analyzing the degree of process automation, the use of digital management platforms, cloud solutions, digital skills of employees, investments in digital technologies and the main barriers encountered in the digital transformation process.

The research instrument was a structured questionnaire, consisting of 12 questions, organized in two sections: the first regarding the general characteristics of the enterprises, and the second regarding the level of digitalization of operational processes and its impact on competitiveness. The sample consists of 270 respondents, representatives of SMEs in the Romanian service sector (IT, consulting, tourism and financial services), selected through a non-probabilistic sampling method. The questionnaire was distributed online, through the Google Forms platform, during January–February 2026, and the responses were collected anonymously, respecting the principles of confidentiality. The data were processed using IBM SPSS Statistics and Microsoft Excel, by applying descriptive statistics (frequencies and

percentages) and inferential analyses necessary to verify the relationships between the research variables.

The main limitation of the study is the use of a non-probabilistic sampling method, which may limit the generalizability of the results. However, the diversity of the areas of activity included in the research provides a relevant picture of the level of digitalization of SMEs in the service sector in Romania.

3.1. Research results

In order to analyze the impact of the digitalization of operational processes on the competitiveness of SMEs in the service sector in Romania, the responses of a sample of 270 representatives of small and medium-sized enterprises were analyzed. The results are presented in the form of absolute and relative frequencies, followed by the interpretation of each indicator analyzed.

Table number 1 presents the field of activity of SMEs.

Table 1. Field of activity of the SMEs surveyed

Field of activity	Frequency (N)	Percentage (%)
IT	72	26.7
Consulting	64	23.7
Tourism	58	21.5
Financial Services	46	17.0
Other Services	30	11.1
Total	**270**	**100.0**

Source: authors' processing

The results show that the majority of respondents come from the IT sector (26.7%), followed by consulting (23.7%) and tourism (21.5%). Financial services account for 17% of the sample, while other services activities account for 11.1%. The relatively balanced distribution of respondents provides a representative picture of the main branches of the services sector and allows for the analysis of the impact of digitalization in a variety of organizational contexts (Table 1).

Table number 2 presents the level of digitalization of operational processes.

Table 2. Level of digitalization of operational processes

Category	Frequency (N)	Percentage (%)
Low level	48	17.8
Medium level	134	49.6
High level	88	32.6
Total	**270**	**100.0**

Source: authors' processing

Almost half of the respondents (49.6%) assess their organization’s level of operational process digitalization as moderate, while 32.6% consider it high. Only 17.8% of participants

report a low level of digitalization. These results indicate that the majority of SMEs have initiated the digital transformation process and make significant use of IT solutions for their operational activities.

Table 3 presents the distribution of respondents based on the use of key digital technologies in the operational activities of SMEs in the service sector.

Table 3. Use of digital technologies in operational activity

Technology Used	Frequency (N)	Percentage (%)
ERP Platforms	176	65.2
CRM Platforms	194	71.9
Cloud Solutions	208	77.0
Business Intelligence	124	45.9
Process Automation	168	62.2

Source: authors' processing

An analysis of the technologies employed reveals that cloud solutions are the most frequently implemented (77%), followed by CRM (71.9%) and ERP (65.2%) platforms. Furthermore, over 60% of SMEs use various solutions to automate operational processes, reflecting a focus on optimizing internal activities and reducing execution times. In contrast, Business Intelligence tools are used by fewer than half of the organizations (45.9%), suggesting that advanced data analysis remains an underutilized area.

Table 4 presents the distribution of respondents according to the main barriers encountered in the digitalization of operational processes within the investigated SMEs.

Table 4. Main barriers in the digitalization process

Barriers	Frequency (N)	Percentage (%)
High implementation costs	86	31.9
Lack of digital skills	64	23.7
Resistance to change	42	15.6
Data security issues	48	17.8
Lack of financial resources	30	11.0
Total	**270**	**100.0**

Source: authors' processing

The most important barrier identified by respondents is represented by the high costs of implementing digital technologies (31.9%), followed by the lack of digital skills (23.7%) and concerns about data security (17.8%). Resistance to change is mentioned by 15.6% of respondents, while the lack of financial resources is indicated by 11% of participants.

Table no. 5 presents the main effects of digitalization on the organizational performance of SMEs in the service sector, highlighting the respondents' perception of the benefits generated by the implementation of digital technologies in operational activities.

Table 5. The impact of digitalization on organizational performance

Effects of digitalization	Frequency (N)	Percentage (%)
Increased operational efficiency	82	30.4
Improved service quality	64	23.7
Reduced operational costs	46	17.0
Increased customer satisfaction	50	18.5
Improved decision-making	28	10.4
Total	**270**	**100.0**

Source: authors' processing

The results show that the main benefit of digitalization is increased operational efficiency (30.4%), followed by improved service quality (23.7%), increased customer satisfaction (18.5%) and reduced operational costs (17%). Only 10.4% of respondents consider that the main benefit is improved decision-making, which suggests a still limited use of data analysis tools within SMEs. Table 6 presents the respondents' perception of the impact of digitalization of operational processes on the competitiveness of SMEs in the service sector, highlighting the extent to which digital transformation contributes to strengthening the competitive advantage of organizations.

Table 6. Respondents' perception of the impact of digitalization on the competitiveness of SMEs

Category	Frequency (N)	Percentage (%)
Low impact	20	7.4
Moderate impact	74	27.4
High impact	118	43.7
Very high impact	58	21.5
Total	**270**	**100.0**

Source: authors' processing

The respondents' perception highlights a predominantly positive impact of digitalization on the competitiveness of SMEs. Almost two-thirds of the participants (65.2%) consider that digitalization has a high or very high impact on competitiveness, while only 7.4% consider that its influence is low. These results confirm that the implementation of digital technologies is perceived as an important factor for increasing productivity, improving customer relations and strengthening competitive advantage.

4. CONCLUSIONS

The research findings highlight that the digitalization of operational processes has a positive impact on the competitiveness of SMEs in Romania's service sector. Implementing digital technologies contributes to increased operational efficiency, improved service quality, optimized customer relations, and faster adaptation to changes in the business environment. Furthermore, the use of ERP, CRM, and cloud solutions supports organizational development and the strengthening of competitive advantage.

However, the research indicates that the digitalization process is hindered by several barriers, most notably high implementation costs, a digital skills gap, data security concerns, and resistance to change. These factors underscore the need for an integrated approach that combines technology investments with employee skills development and the adaptation of management strategies. Based on the results, it is recommended to increase investment in digital technologies, develop staff digital skills, and expand the use of data analytics solutions to support decision-making. Additionally, funding programs and public policies aimed at supporting digital transformation can help accelerate SME digitalization and boost their competitiveness.

The study's main limitation lies in the use of a sample of 270 respondents and a non-probability sampling method, which may restrict the generalizability of the findings. Future research could extend the analysis to a larger sample and employ advanced statistical methods to investigate the relationship between the digitalization of operational processes and SME competitiveness.

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