STUDIA UBB NEGOTIA, LXVIII, 3, 2023, pp. 93-108
(RECOMMENDED CITATION)
DOI:10.24193/subbnegotia.2023.3.04

ANALYSIS OF THE DIGITIZATION LEVEL OF SMALL AND MEDIUM ENTREPRESIS IN TOURISM. IDENTIFYING THE LEVEL OF DIGITIZATION OF BUSINESSES FROM BĂILE FELIX, BIHOR, ROMANIA

Article history: Received: May 12, 2023; Reviewed: June 27, 2023; Accepted: August 4, 2023; Available online: September 30, 2023; Available print: September 30, 2023.

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ABSTRACT. The topic of digital transformation in our country has had a major impact on both society and the economy, with all its sectors being a paradigm for them. At the same time, the digital transformation of our country is one of the most important components of the National Recovery and Resilience Plans. This fact is also due to the position on which Romania is ranked within the hierarchy based on the Digital Economy and Society Index (European Commission, 2021.

Referring to it, we observe a less favorable position of our country, ranking 27th out of the 27 member states of the European Union (European Commision, 2022) with an annual growth lower than the other countries and less convergent. Thus, in order for the European Union to fulfill its objective of the digital decade, Romania must create the ideal context for a significant change in the pace of training and acquisition of basic digital skills.

We therefore observe how the introduction of digital technology has corroborated the way tourism companies assert themselves. Digital technology has become an invaluable business tool widely used in the travel and tourism sector Lee & Wicks (2010). We are talking about an economic-social phenomenon reflected in one of the basic sectors of

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many nations, whose expansion was particularly pronounced in 2019, 2020, as a result of the collapse left in this industry by the COVID19 pandemic. Digital transformation represents a substantial challenge for both organizations and national economies, being a topic that has sparked interest for academic studies and researchers.

Starting from this necessity and carrying out a review of the existing works on the market, it was found that there are no studies related to the digitalization level of tourism businesses in Romania. Thus, the present work evaluates, measures and quantifies the level of digitization of small and medium-sized enterprises in the field of tourism, with Băile Felix resort in Bihor county as a working sample.

Keywords: digitalization, tourism, level of digitalization, small and medium entrepresis, digital tools

JEL Classification: Z32, Z39

Recommended citation: Moza, M., Ban, O., ***Analysis of the digitization level of small and medium entrepresis in tourism. identifying the level of digitization of businesses from Baile Felix, Bihor, Romania***, Studia UBB Negotia, vol. 68, issue 3 (September) 2023, pp. 93-108, doi: 10.24193/subbnegotia.2023.3.04

INTRODUCTION

The industrial world is turning into a digital world in which the business environment (globally and regionally) is beginning to adopt holistic business models. It offers a new "design" of products and services. Digital transformation began to develop in different fields of activity, starting from customer experience, operational processes, business models (Westerman et al., 2014) to employees (Bouee, 2015) and company relations. The benefits of digital transformation are felt at both enterprise and customer levels. He considered this process to be an evolutionary one that leverages digital skills and technology for better market positioning. Thus, the technological transformation that was initially an opportunity, later became a necessity (Kraus et al., 2021).

The Internet connects the tourist to information and puts him in a direct link with the hotel, the travel agency or any other enterprise in the tourism field. Moreover, as a side effect of the introduction of digital into the business environment, we are seeing a change in demand and supply. The demand becomes much more flexible and the offer receives new forms of exposure. The introduction of digital technology has corroborated the way tourism companies assert themselves. Digital is the new normality for the world and in order to develop and overcome this impasse in which it is, the tourism industry must find the best way to capitalize on technological solutions (Barykin et al., 2021). Thus, the imperative to capitalize on the opportunities offered by the digital environment has never been more important.

Innovations in digital technologies are considered the foundation of economic growth. They are also a critical factor of competitiveness. Numerous researches emphasize the fact that the development of enterprises, especially small and medium ones, is carried out simultaneously with the integration of digital technologies and Internet-based techniques. In this way, digital technologies increase the sales and the revenues and improve the interaction with cutosmers. At the same time, they facilitate expansion into other markets.

The digitization of small and medium-sized enterprises is a complex process that requires, in addition to the company's resources, the existence of favorable conditions at the country level Lee & Wicks (2010). Thus, although digitization brings many benefits for businesses (at the level of management, marketing or access to resources), businesses face many barriers and difficulties.

Small and medium-sized tourism enterprises often encounter numerous barriers in the digitalization process. These barriers differ depending on the level and degree of digitization adopted by the company. Among them are the lack of digital skills and competences, the lack of financial funds from the internal source or poor access to funding sources and problematic infrastructure (European Commission, 2021).

The importance of digitization in the context of small and medium enterprises has also attracted the interest of the academic world. The number of studies dealing with this subject is in an increasing trend.

Analyzing scientific databases such as Scopus, respectively ProQuest, Microsoft Research and Google Scholar, we distinguish an increased interest in this topic. This is observable by reference to the large number of existing papers (see Table 1).

Table 1. Number of publications in this field

Databse	Number of papers	Number of publications (articles/journals)	Number of papers existing in the field
Web of Science	3.414	1.667 articles	376 (economics+business) articles
ProQuest	2.313.287	9.849 articles	-
Researchgate	7.308	163 journals	25 (economics+business) journals
Microsoft Research	3.959	2.365 articles	12 (economics) articles
Semantic Scholar	3.560.000	711.710 articles	35.400 (economics+business) articles

Source: Authors' work

However, despite the relevance of the subject, in the sphere of tourism, academic contributions have focused on specific themes. Less attention was paid to digitization from a broader perspective, qualitative contributions and analysis of the level of digitization and implementation patterns. We even notice the lack of overviews of the factors affecting the level of digitization of small and medium-sized enterprises. Carrying out a review of existing studies, we identify that academic contributions have focused on digital solutions and tools used, such as artificial intelligence (Chui et al., 2018; Tussyadiah, 2020; Sarmah et al., 2017), the blockchain (Muheidat et al., 2022; Treiblmaier, 2020; Stylos et al., 2021; Belias et al., 2021), augmented and virtual reality in tourism (Egger & Neuburger, 2022; Cranmer et al., 2020; Correia Loureiro et al., 2020), the Internet of Things (Verma & Shukla 2019; Ordonez et al., 2020; Guo et al., 2022), the use of robots (Haynes, 2020; Ivanov et al., 2022), the proliferation of smart destinations (Jovicic, 2019; Faur & Ban, 2021).

Referring exclusively to the studies carried out in Romania, there were no studies on the market regarding the degree of use of small and medium enterprises in Romanian tourism. However, there are a number of studies related to niche areas/counties of our country (Musteaţă-Pavel et al., 2021, Moza, 2021).

Thus, the limited number of academic contributions on this topic constituted the starting point of the present study. This study aims to contribute to the topic of digitization of small and medium enterprises in tourism. At the same time, it aims to answer the following question: What is the level of digitization of small and medium-sized enterprises active in Romanian tourism? In other words, we will establish as a research problem: Identifying the degree of digitization of small and medium enterprises in Romanian tourism. Thus, this study aims to examine the degree of digitalization starting from the analysis of the specialized literature, the analysis of the tools and the determinants of digitalization, carrying out all the previous steps in order to identify and establish a grid related to the evaluation of the degree of digitalization. Thus, the following 3 objectives will be established in order to provide the possibility to establish the subsequent hypotheses:

H1: Analysis of specialized literature. Obtaining tangible conclusions regarding the existing studies in the field of the level of digitization in tourism,

H2: Identifying the determinants of digitization,

H3: Establishing hypotheses for further research.

The importance of this paper will be noted by the fact that it provides the ideal context for the analysis of the factors that determine the digitization of SMEs. Also, this work is important because it analyzes the degree of digitalization and wants to lead to a complete knowledge of what digitalization means in tourism. The first part of the paper is a literature review. This fulfills the first objective while the second part of the paper aims to establish the indicators of the grid and the hypotheses that will generate the continuation of the present research.

LITERATURE REVIEW

From an academic point of view, digitization is a relevant topic. Moreover, digital transformation is a vast process, a manifestation of a social transformation, reflected at the company level as a technology-based

organizational conversion. Numerous reviews and empirical studies on the topic already exist; The research carried out shows an early stage. After reviewing and analyzing the specialized literature, we can identify five main research subfields within our theme: defining the phenomenon and conceptually delimiting the terms, characterizing the changes determined by the structural changes of companies, how to implement digital transformations in different fields of activity, opportunities driven by it and the adjacent challenges, matrices, mechanisms and relationships between digital transformation, the enterprise and the business environment.

However, what we propose is the review of studies and specialized literature that deal with the issue of the degree of digitization. The speed and extent of digital transformation differs between sectors. Those service and manufacturing companies are more susceptible than the construction sector for example. At the same time, during the United Nations Conferences for Trade and Development, a hierarchy of industries "affected" by digitalization was carried out. These included media and entertainment, retail, technology, healthcare, travel, transport and logistics, communications, professional services, financial services and more (European Commission, 2021). The very fact that industries are undergoing digital transformation at different speeds reflects how businesses understand digital transformation.

In the process of developing the digitization of S.M.E.s in tourism, a key role is represented by public administrations and professional associations. The way in which public administration institutions get involved in the digitization of tourism businesses is also influenced by the well-being of the states and their characteristics. Thus, the various reports identifies five typologies: the social-democratic model, also called the Nordic model, corporatist or continental model, Mediterranean, Eastern European, Anglo-Saxon.

The Nordic S.M.E.s are the ones that register higher levels of digitization indicators compared to other countries. 70% of them register an average level of digitization. Anglo-Saxon small and medium enterprises but also the mediterranean and continental regions also demonstrated an average level of digitization in tourism (50%). The countries of Eastern Europe, (the category where Romania is also included), seem to lag behind, registering a percentage of 44% with an average level of digitization.

Among the few existing studies on this niche, we notice that they are focused on some countries or regions. The small number of studies is also due to the difficulty of accessing relevant statistical data or even their non-existence. Thus, many studies that analyze the degree of digitization are qualitative research. In this sense, one of the first existing studies on this topic belongs to Arora & Rathi (2019). It analyzes the degree of digitization of Indian small and medium enterprises. The results of the studies show that the size of the company is a key factor in the adoption of digital. Moreover, it reflects the fact that digitization is motivated by the desire to increase sales, competitiveness and profitability. Mitrolius & Kitsios (2019) assess the degree of digitization and strategies of small and medium enterprises in Greek tourism. They highlight the 4 factors that evaluate the performance of digital transformation strategies: customers, employees, digital and financial innovation. Velikova (2019) conducts a qualitative survey to determine the level of digitization in the tourism sector in Bulgaria. It finds that digital enhances the value offered to the consumer at product, place and promotion level. There are numerous barriers at the level of small businesses and countless possibilities to improve the situation. Another study on this topic belongs to Lee & Wicks, (2010), which, through several case studies, evaluates the digitization level of SMEs in Malaysia. In this study, the level of digitization implemented in marketing, sales, product development and process improvement is analyzed. At the level of Tunisia, Bellakhal & Mouelhi (2020) suggest that the level of digitization among Tunisian small and medium-sized enterprises (SMEs) is low. Tunisian SMEs lack the necessary resources and capabilities to implement digital technologies. Returning to Europe, the better position is held by Slovenia. This is the leading country when we talk about tourism 4.0 and looking from the perspective of innovations and technologies. In the group of countries V4 (Romania, Czech Republic, Slovakia, Poland) + Serbia, the research belonging to Pantovic et. al shows a degree of digitization at an early stage. The analysis of the level of digitization of small and medium-sized tourism enterprises in Italy is carried out by Raimo et al., (2022). The empirical findings show that the level of digitization is medium, being closely related and influenced by the size of the company, its profitability and financial leverage.

Regarding recent research carried out by the European Commission, significant differences were found in the adoption of digital technologies in tourism businesses across Europe. Thus, there is a very large discrepancy

between northern and southern countries. The first category integrated digital much better at the SME level. Moreover, it is found that SMEs in tourism have a much lower degree of absorption compared to large enterprises in the same sector (European Commission, 2021).

CURRENT TRENDS OF DIGITIZATION IN TOURISM AT THE SME LEVEL

Although we talk about an uneven adoption of digital technology by SMEs in tourism, this transformation has had a profound impact on the field, changing the way services and products are delivered. According to the OECD, using digital in tourism businesses will create an additional value of up to USD 305 billion by 2025, by increasing profitability (OECD, 2021).

The tourism industry is characterized by heterogeneity, being a complex that brings together several industries. At the same time, we are talking about the tourism industry as having an information-intensive nature. In this context, OECD data from 2019 show us that 77% of accommodation and catering SMEs have a website and 70% use social networks. Moreover, the way people shop and travel have a strong position in the need to adopt technologies at the company level. The findings indicated that the number of customers who purchased tourism products online in 2020 is very varied from country to country (Romania 29%, U.K 915).

It is easy to understand how the demand, (which is influenced by numerous variables such as: the presence of consumption habits of generation Z and not only), the level of social, economic and cultural development influences the need to adopt technology in the process of providing tourist services. Thus, expressively but briefly, we will mention that the trends include: the use of online platforms in the planning stage and before it in complementarity with a series of offline sources, the tendency and desire of the client to stay connected, real-time updates, improvement of payment methods and others. According to the specialized literature, the tools used are distinguished: automation technologies, robotics, blockchain, large databases, the Internet of Things, augmented and virtual reality, artificial intelligence.

In this context, UNWTO exposes the previously mentioned in a development report. Tourism-specific data and non-specific data such as card transactions, mobility services or sensors can provide valuable information for stakeholders, managing economic impact but also tourism flows. However, the report also mentions barriers such as confidentiality, data reliability, existing gaps at the organization level, but also the great financial efforts to which SMEs are subjected.

The fact that only 17% of small and medium-sized enterprises in Europe have integrated digital technologies explains that companies are not aware or ignore the benefits brought by digital transformation. Organizations find it difficult to identify needs and develop effective strategies. Statistics belonging to the OECD reveal that small and medium-sized enterprises have adapted digital technology such as cloud computing, big data analysis, e-commerce, social networks and the website.

The European Small and Medium Enterprises Annual Report 2020/2021 illustrates the taxonomy of sectors according to the use of digital technology. Within it, although tourism is not presented as an individual field, accommodation and food services are presented as registering a low level of implementation of digital technologies (European Commission, 2021).

The digitization of Romanian tourism presents itself in various forms. Thus, looking from the perspective of travel agencies, in 2018, following a study presented at the Romanian Digital Conference, the 3rd edition, it was found that, although we live in a world so dependent on the Internet, half of the agencies of tourism subject to the study (45%) do not have an optimized website. Moreover, only 27% of them have implemented a semi-online reservation system (the reservation cannot be completed successfully) and 10% have implemented a fully functional online reservation system. Regarding the social networks on which travel agencies are active, Facebook is the most popular social network among them, but the allocated budgets are in most cases (69%) below 100 euros accordin various media reports.

MODELS OF DIGITIZATION IN TOURISM

The adoption of digital technologies has been achieved unevenly, and thus gaps appear between companies. Thus, if in the case of large companies we are talking about standardization and economies of scale, in the case of SMEs we are talking about limited access to the necessary infrastructure and financial support.

Following a review of business ecosystems, it was found that there are four big archetypes of digital integration in business, also applicable in tourism (OECD, 2021). The first category is represented by vertical integration, where the relationship with the tourist is close, the value chain is integrated and the data is collected and analyzed inside it, thus, the digital integration will be carried out directly to the company, at the level of the entire planning process, offering, after-sales. The second category is multi-faceted ecosystems, where third-party products are offered and integrated. In this context, digitization must be carried out at the level of both structures. The third model is modular businesses. In this model, the products and services are sold through other companies and the links with the tourist are limited. Last but not least, reseller businesses require a certain digitalization process. It is necessary for companies to constantly innovate in offering products and services.

Digital platforms have gained public attention due to innovation. Tourism SMEs must find a place within these ecosystems and adapt. Establishing a strategic approach is essential, taking into account both the tourist search process and booking, preparation, travel, arrival and post-travel engagement. This strategy must provide added value by taking into account the combined activity and interests of the organization, consumers and governments.

At the same time, this process of digital adoption at the SME level is based on a series of theoretical models rooted in the field of ICT, psychology or sociology. These models and theories have been applied in numerous scientific studies to describe and explain how technology is adopted at the organizational level. Thus, a first model is T.O.E (technology-organization-environment), belonging to Tornatzky et al., (1990). The first variable, technology is analyzed from the perspective of the benefits perceived by the customer, the second - the organization is analyzed from the perspective of managers' attitudes towards innovation and the

ability of human resources in this sector, while the third variable refers to external influences. Another widely used model is the theory of diffusion of innovations - D.O.I (Rogers, 2010), which exposes the five factors and aspects that need to be evaluated to analyze the organization's capacity, namely the innovation adoption rate, advantages, compatibility, complexity, probability and observability. The relationship between consumer attitudes, intentions and beliefs gives rise to other models, among which we mention those belonging to Fishbein & Ajzen (1975).

DETERMINANTS OF DIGITIZATION

Digital transformation reaches all sectors of the economy. Recent work from the OECD assesses the intensity and level of digitization of sectors, analyzing the number of technology tools implemented as well as the volume of tangible or intangible ICT investments, existing human capital but also interactions with the market. The conclusions following the analysis of the studies show us that tourism businesses have an enormous, untapped potential when we talk about digital solutions.

It is interesting to understand and observe the variables that define the level of digitization. A low level of digitization involves the use of the following tools: e-mail, website, internet banking, internal e-mail systems, online data storage, online collaborative work, computerized control system, customer satisfaction surveys, video conferencing, management systems. An average level of digitization involves the use of computerized reservation systems, interaction with suppliers in a digital manner, analytical tools, customer relationship management systems, mobile applications, online chat, professional networks.

Such a model is also developed by the European Commission, in order to calculate scores from the perspective of digitization of small and medium-sized enterprises. Thus, the digital index derives from giving a point for meeting the following conditions: more than 50% of the company's employees use computers connected to the Internet in their daily work, the existence of ERP software packages, the Internet connection is a fixed one, web sales accounted for more than 1 % of total turnover and B2C web sales more than 10% of web sales, the Internet of Things is integrated in any form, any type of social network is used, the existence of a digital customer relations network, the existence of a call center or other

customer communication facilities, fall into the category of businesses with e-commerce sales with a turnover of at least 1%, use multiple social media channels (European Comission, 2021).

Such models, grids and structures have been developed in order to identify the degree of digitization, both in the tourism sphere and at the level of other sectors. Stich et al., (2020) proposes an evaluation grid referring to the resources used, information systems, company culture and organizational structure. Helmer et al., (2021) proposes a model based on identified opportunities, the integration of digital at the level of management, development and maintenance.

We observe an analysis of the level of business digitization from two major perspectives, namely: the client-oriented perspective, respectively the digitization of business processes. Thus, we will continue to focus on the digitization of the services offered to customers, calling on basic tools used in communication with the customer: e-mail, website, computerized reservation systems, online data storage, customer satisfaction questionnaires, as well as tools such as IOT applications, gamification, sensors, the use of augmented and virtual reality, robots, artificial intelligence.

DISCUSSIONS AND CONCLUSIONS

As a vast process, digital transformation is a topic that has attracted interest for study from both academia and professionals. However, we can affirm the fact that the studies are still at an early stage. Few studies closely assess the level of digitization of tourism businesses. Existing statistics and studies about them show us wide discrepancies between countries, industries, fields and subfields. The specialized literature, the current trends of digitization and its determinants were analyzed together with the evaluation grids made available by the European Commission, the OECD or others applied in those studies. Although the tourism sphere registers a low level of digitization, both in Romania and throughout Europe, the trend is to rebuild this sector through the use of digital technology. Online platforms allow access to international markets, management and sustainable development. The tools range from using technologies in business processes to technologies that deliver tourism experiences. Thus, as I mentioned previously, according

to the specialized literature, the following are distinguished: automation technologies, robotics, blockchain, large databases, the Internet of Things, augmented and virtual reality, artificial intelligence. Therefore, for the next level of the study, based on these conclusions, we will propose the following hypotheses. H1: The digitalization level of the organizations in the established sample is low. H2: All tourism organizations will register at least 3 variables according to the OECD low level of digitization. H3: Innovation and digital integration in business is a challenge for SMEs.

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