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DIGITAL TRANSFORMATION IN ROMANIAN ONLINE TRAVEL AGENCIES

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ABSTRACT. New technologies have generated profound changes in the conduct of economic and individual activities; companies from all industries were forced to adapt to the multiple solutions, tools, technologies and devices made available to individuals by the IT&C industry; the need to adopt new technologies by companies, generated multiple implications, challenges, but also offered multiple development opportunities for them; digitization, digitalization and finally the digital transformation of companies, has proven to become a necessity for any company, in order to gain a sustainable competitive advantage; in this context, this article studies aspects related to digital transformation, from one of the industries that are the biggest adopters of new technologies, namely, that of tourism; more precisely, were explored the state, adopted solutions, encountered problems and future plans of the Romanian online tourism agencies, in their transition towards a digital transformation; results obtained from the conducted study, can constitute a valuable input both for companies in tourism and in the IT&C industry, as well as for conducting other comparative or more complex studies.

Keywords: digital transformation, digitization, digitalization, tourism, online travel agencies

JEL classification: ***L86, M15 Digital transformation in Romanian online travel agencies***

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Introduction and literature review

In recent years, digital transformation (DT) has proven to be a necessity for companies in various industries; this transformation, through which companies apply new technologies, helps to improve business processes and generate more value for customers. For digital transformation, there are a multitude of definitions covering various fields of activity; one of these shows that the digital transformation is "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies" (Kraus et al., 2021, p:557); this transformation, generically, can be seen as "the transforming abilities of digital technologies for businesses, involves replacing or enhancing the physical offerings of a firm's products and services" (Acquila-Natale et al., 2022, p.441); Digital transformation refers to "changes caused by digital technologies in the business model of companies, which result in changes to products or the structure of the organization or the automation of processes" (Gouveia & Mamede, 2022, p.673). Also, this appears as "a progressive mentality and a continuous use of new technologies in the interaction with customers, organizational processes and even with business models" (Marx et al., 2021, p.2).

From another perspective, the digital transformation at the company level was also defined by "the effects of technological innovation on organizational systems and their environment, including all stakeholders such as employees, customers, suppliers, and competitors" (Van Der Schaft et al., 2022, p. 3).

In specialized literature, two terms are frequently mentioned, namely: digital transformation and digital maturity; thus, it is useful to emphasize some aspects, as there are situations in which these two notions overlap; digital transformation, is considered as "continuous

process of application of new technologies in customer interaction, organisational processes, and business models, covering and involving specific activities from Information Technology, Customer Experience, Product Innovation, Process Digitisation, Culture and Expertise, Organisation, Cooperation, Strategy, and Transformation Management" (Marx et al., 2021, p.2); the difference between digital maturity and digital transformation, "is established by projects organizations of high maturity treat these projects not as IT projects but as transformation projects" (Marx et al., 2021, p.2). DT, was identified as the final stage of a specific evolution going through digitization and digitalization; the first stage, digitization, was considered as "a conversion of analog information into digital information" (Verhoef et al., 2021, p.891); the second stage, digitalization, involved the use of digital technologies and IT tools "as a key enabler to seize new business possibilities by changing existing business processes, such as communication; finally, digital transformation, could be considered as "the most pervasive phase, and describes a company-wide change that leads to the development of new business model" (Verhoef et al., 2021, p.891).

Digitization, was also defined as "as a component of digitalization which, in turn, is subsumed under digital transformation (Saarikko et al., 2020, p.828); at the same time, digital transformation, received the valence of a "sociocultural process of adapting firms to the new organizational forms and skill sets needed to remain viable and relevant in a digital landscape (page:829); (Saarikko et al., 2020, p.829). Digitization, in essence, implies "taking analog information and encoding it into zeroes and ones so that computers can store, process, and transmit such information" (Gong & Ribiere, 2021, p.2), serving as an important support in the "digitalization and digital transformation process"; as a result, the digital transformation includes" a fundamental change of a whole new form, function, or structure with the adoption of digital technologies that create new value (Gong & Ribiere, 2021, p.13).

Digitalization, is considered "as a process of transformation and/or improvement of enterprise activities, business models, business functions, communications, use of online platforms, training and retraining of staff to work in new conditions, etc. based on the widespread use of digital technologies and digitized data" (Morze & Strutynska, 2021, p.4).

Digitalization has also been defined as a set of specific and generally applied technologies as they are" Internet of Things, Automation Cloud, Big Data technologies, Smart Grids and Renewable Energy, Mobility, Unmanned Sites and Remote Operations, and Service, for instance, software-as-a-service (SaaS)" (Heiets et al., 2022, p.2).

Over time, were formed opinions based on which "digitalization and the 4th industrial revolution, DT, will tend to widen the gap between developed and Developing Countries" (Santos et al., 2022, p.1302).

From another perspective, for DT, was defined another set of three evolutionary stages, namely: "digital orientation, digital intensity and digital maturity" (Nasiri et al., 2022, p.275); thus, digital orientation, was considered as "an indicator that shows the ability and determination of companies to move to their digital transformation"; digital intensity, "is an influential factor in digital transformation and can accelerate the digital maturity of companies; this refers to the ability of companies to effectively manage more complex operations, carried out in different working environments"; digital maturity, "is essential in digital transformation strategies, it represents a procedural effort to constantly prepare and adapt to continuous digital transformation" (Nasiri et al., 2022, p.275).

Digital transformation, appears defined as "a multidimensional phenomenon that affects all domains of human activity, namely technology, the economy, politics and society, as well; being considered as the Fourth Industrial Revolution or Industry 4.0" (Kraft et al., 2022, p.471); from this point of view, at the level of SMEs, digital transformation covers "the adoption of digital technologies in managerial work and the use of digital technologies that operational employees utilize in their work, associated with the changing nature of the work to be completed" (Kraft et al., 2022, p.474).

From the perspective of its applicability at the company level, digital transformation is a "practical implementation of digital technologies to improve customer experience and engagement, make operations simpler, strengthen business models or generate new business opportunities" (Fernandez-Vidal et al., 2022, p.30).

It is also useful to emphasize an association made between "sustainability and digital transformation", generating a new concept,

"digital sustainability", which "has the power of unifying the two strategic objectives to drive positive societal and environmental changes rather than just focusing on reducing them" (Guandalini, 2022, p.458).

In digital transformation, it is absolutely necessary to establish a "digital strategy, which can be considered as an ability to structure, manage and design integrating networks that provide complementary capabilities to those of the firm itself" (Ellstroem et al., 2022).

DT, is seen as massive "modification of processes, products, business models as well as human behaviors by digital technologies, which aims at designing the companies' business activities more efficiently and effectively" (Wengler et al., 2021, p.600).

The very important "relationship between digital transformation and economic development, labor productivity, employment, as well as the massive benefits brought by DT for companies and national economies" was also identified and emphasized (Aly, 2022, p.253); from this perspective, in recent years, artificial intelligence has been defined as "an important component and at the same time accelerator of the rapid digital transformation" (Aly, 2022, p.240).

Also, "artificial knowledge", are very important elements for the companies that adopt DT as well as for "transforming digital knowledge into business processes and incorporating digital technologies and novel sustainable solutions to achieve the SDGs"(Di Vaio et al., 2023, p.22) .

For DT, other specific pillars were identified, as well: "IT uplift, digitizing operations, digital marketing, and digital businesses" (El-Moffock, 2023, pp.528-529).

Undertaking the digital transformation for companies brings with it important benefits, including: "better business model, improved management, reduction costs, profit growth, sustainability efforts, higher productivity, enhaced data colection, quality improvements, better customer experience, complying with regulations" (Quix, 2023).

From a completely different perspective, Dell Technologies, presents very relevant aspects related to over 94% of companies that face multiple barriers in digital transformation; among the problems identified, we list: "problems related to data security and confidentiality, insufficient financial resources, the inability to extract and use valuable data/information from data-driven analytics, the lack of economic growth to consider, the

lack of technical skills and the necessary expertise of staff for the use of new technologies and processes, frequent legislative amendments, the immaturity of the digital culture of companies, the lack of strategies and coherent visions in digitization, a weak structure and digital governance, the lack of suitable leadership for DT, a fragmented or siloed computing environment" (Dell DT, 2023) ;in response to these problems in DT, the same company, identifies technological solutions to be adopted by companies, covering two important levels, namely: "basic and emerging technologies; in the first category are included: cybersecurity solutions, data management tools, 5G infrastructure, multi-cloud environment, privacy software, etc.; the category of emerging technologies includes: AI algorithms, robotics, real-time applications, natural user interface, quantum computing, Mix augmented an virtual reality, blockchain, nanotechnology, etc." (Dell DT, 2023).

In tourism, digital transformation, can bring "the opportunity to overcome the limitations of space and time, develop new models and form a new balance of supply-demand" (Ha & Huan, 2023, p.116); In this industry, DT, has been visible in recent years, starting with the development and use of online booking platforms, multiple mobile applications and active and effective social media presences. These digital technologies have generated a different experience for tourists, facilitating specific activities in all phases of a trip (in preparation, during and after its completion); this, however, puts tourism companies in front of a great challenge in maintaining a balance between the need to adopt new technologies and ensuring the confidentiality and security of customer/ tourist data.

In digital transformation of the tourism industry, "DMOs can take on a leadership role in digital transformation and sustainable tourism", being practically demonstrated that "DMOs attempt to transfer knowledge by implementing concepts and ideas within tourism SMEs" (Schoenherr, et al., 2023, p.94)

In the hotel industry, were identified aspects related to "the misalignment of IT operations and business strategies today demands digital transformation in many aspects of its operations" (Sarfraz et al., 2023, p.2); from this point of view, it is emphasized that "the digital transformation supported by the supply chain strategy shapes the

business on a large scale" (p. 5); were also explored "the role of moderators (digital transformation and sustainable practices) and mediators (blockchain adoption) in relation to sustainable supply chain strategy and performance" (Sarfraz et al., 2023, p. 9).

The digital transformation, was also adopted by museums, as being some of the "organizations in the tourism ecosystem that have invested in DT to maintain the interest of tourists and create competitive differences for regions where the economy is based on tourism" (Menezes et al., 2023, p. 203).

UNWTO, emphasizes the fact that the tourism industry pioneered business processes at the global level, starting with online booking solutions in airlines and hotels, permanently maintaining its activities specifically updated with new technologies, solutions and trends brought by the ICT industry; the digitalization and digital transformation of this industry, ensures the continuous growth of competitiveness at the global level for the companies in the fields, as well as the sustainable development of the industry as a well.

The adoption of new technologies such as: "IoT, location-based services, artificial intelligence, augmented and virtual reality, and blockchain technology, have generated a more attractive, efficient, inclusive and economical tourist offer, socially and environmentally sustainable" (UNWTO, 2023).

From the perspective of their applicability and adoption in the tourism industry, the most important trends and solutions used in digital transformation processes include: mobile technology, AI, VR, data-driven analytics and blockchain technology"(Digital, 2023); the practice and case studies of profile companies have also identified the trends in the adoption of digital transformation solutions specific to tourism companies; thus, in the case of "mobile technologies, they were implemented in activities such as check in/out, room service, door lock/unlock; IoT, provided solutions for smart rooms, beacons, voice assistants; Data-driven analytics has solutions in the collection and analysis of customer data, purchase history, identification of tourists' preferences; VR, offers support in activities such as: preview of properties/rooms/etc., virtual world trip, 3D travel stories; chatbots, currently widely used tools, offer support for booking, guest services, timely information; also, DT brings

extremely valuable managerial support through RPA (Robotic process automation) solutions, frequently and specifically used in processing of booking and claims, and in reporting and auditing" of internal processes (Digital trends, 2023).

From a *statistical perspective*, the current level of adoption of DT at the company level was determined by considering a set of three criteria, namely: "importance of digitization and digital strategy, cloud adoption and customer experience systems used"; thus, according to studies carried out by Gartner, "91% of businesses are engaged in some form of digital initiative, and 87% of senior business leaders say digitalization is a priority; 89% of all companies have already adopted a digital-first business strategy or are planning to do so; the global digital transformation market is expected to grow to $1,009.8 billion by 2025; Global Cloud Revenue to Total $474 Billion in 2022, Up from $408 Billion in 2021; 64% of customer service and support leaders will focus on business growth in 2022"(Statis, 2023).

Material and method(s)

In this article, was studied the level of digital transformation in tourism and some of the trends and challenges faced by an important category of tourism companies, namely travel agencies, were identified; the study population was extracted from the list of licensed travel agencies in Romania, according to the Ministry of Economy, Entrepreneurship and Tourism, for 2023 (Min tur, 2023) in this list, comprising 2623 licensed travel agencies, these are structured according to their type, namely: intermediary travel agencies (34%), online intermediaries (13%), organizers (10%) and online organizers (43%); it can be noted that the agencies licensed for online activity are in the minority (23%); it must be specified that ,for the present study, only the licensed agencies for online activities were considered (601 online agencies, both, intermediary and organizers); after analyzing the data related to these travel agencies, only those with viable web presences, having active and usable URLs, were retained for study; it was found that only 403 of them have viable digital presences, representing only 67% of the total number of licensed online

agencies; these constituting the final sample to be studied; an online and mobile survey was conducted among these agencies, for a duration of 10 days, in March 2023 and 10 days in August 2023; 205 valid questionnaires (51%) were collected and used for data analysis; subjects were asked to answer questions related to important aspects regarding digital transformation (DT) in their companies related to:

- the current level of digital technologies' adoption and the perception regarding DT
- the strategies and solutions used in DT
- the challenges encountered in adopting DT
- the benefits obtained from DT
- the company's DT initiatives/perspectives

Results and Discussions

It is useful and necessary to start with a picture of the general structure of the total population (all licensed travel agencies) vs. that of the final sample (the online travel agencies licensed); thus, criteria such as the distribution of licensed tourism agencies, by county and by registration year, were analyzed in order to obtain a parallel vision; the following results were obtained:

- *structure by counties*:
  - all licensed travel agencies:
    - Bucharest was clearly detached, with the largest number of licensed agencies, 801 (Figure 1); with a number of over 100 licensed agencies, the counties of Brasov, Cluj, Constanta and Ilfov appear in the top 4, while the counties of Teleorman, Giurgiu, Mehedinti and Calarasi do not exceed 10 licensed agencies;

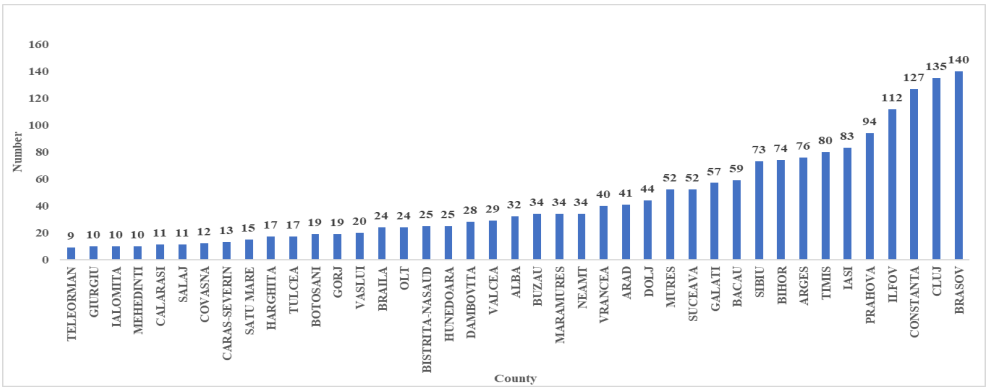

Figure 1. Structure by county – all licensed travel agencies
Source: data extracted from Min tur (2023)

- For the online travel agencies(Figure 2), the same situation is encountered for Bucharest, which is in the top with 250 online agencies; in this case, the same four counties remain at the top, only that their ranking is changed, Ilfov appearing in first place; at the opposite pole, there are counties with one or 2 registered online agencies, such as: Bistrita-Nasaud, Botosani, Calarasi, Mehedinti, Olt;

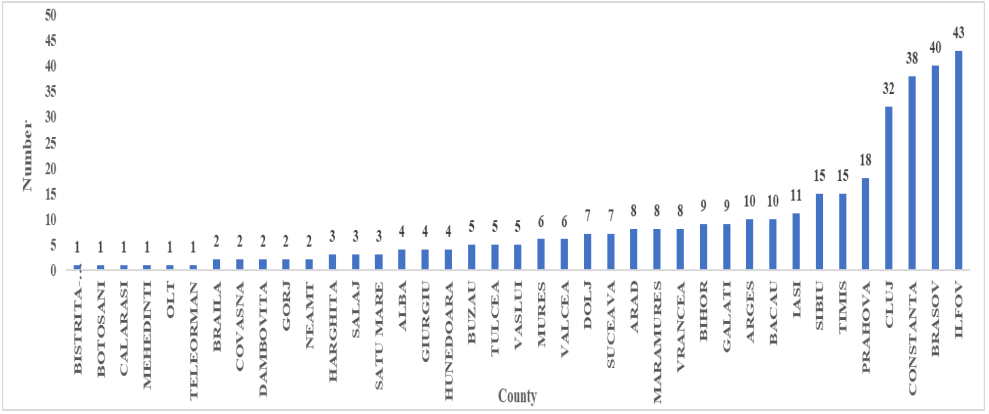

Figure 2. Structure by county – online travel agencies
Source: data extracted from Min tur (2023)

- *structure by license issuance year* (Table 1):
    - in the case of the total travel agencies licensed, a massive increase in licenses is visible in 2019, possibly explained by the initiation of the Covid pandemic crisis; also, a decreasing trend of licensing registrations from 2018 to 2023 can be noticed;

Table 1. Structure by license issuance year – comparative view

Year	Licenses	
	All travel agencies	**Online travel agencies**
2012	**1**	**-**
2018	**299**	**40**
2019	**1225**	**169**
2020	**297**	**104**
2021	**283**	**87**
2022	**289**	**106**
2023	**229**	**95**
	2623	**601**

Source: data extracted from Min tur (2023)

- in the case of online agencies, their structure according to the type of agency was also followed (table 2), being identified the preponderance of intermediary agencies (56%), in the total number of agencies licensed for online activities.

Table 2. Sample structure - online travel agency

Type	Number	%
online intermediary	**335**	**56**
online organizers	266	44

Source: data extracted from Min tur (2023)

The identification of valid web presences of online travel agencies, highlighted, once again, the preponderance of intermediate online agencies (52%)(Table3).

Table 3. Active web presences by type of online travel agencies

Type	webs	%
online intermediary	**209**	**52**
online organizers	194	48

Source: data extracted from Min tur (2023)

Further, from the analysis of the collected data, the following results were obtained:

- first of all, depending on *the size of the companies*, it was found that the studied sample included a majority segment of companies declared to be medium size (60%) (figure 3); at the same time, a very weak representation of large companies (6%); by extrapolation, it could be concluded that at the national level this is the structure of the online travel agencies, depending on their size; the category of medium size companies covers 67.88% online intermediary agencies and the rest online organizers; for small companies, 86.19% are online intermediary agencies, the rest online organizers; in the case of large companies 78.13%, were online intermediaries and the rest online organizers; it thus becomes evident that for the entire sample studied, the segment of intermediate online travel agencies is dominant;

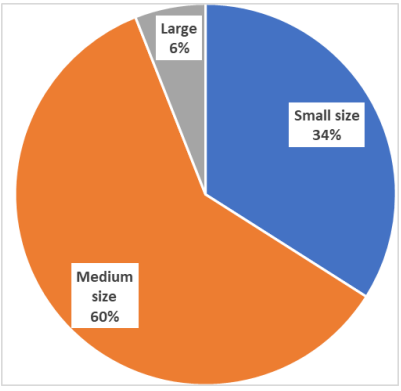

Figure 3. Online travel agencies by company size
Source: author's data

- the *level of digital technologies' adoption* (figure 4) and *the perception of the importance of digital transformation for the company*/tourism agency (figure 5), surprised as the majority profile, the companies declared as pragmatist adopters of new technologies as support in their activities and business processes (49.40%), followed by those declared as conservative adopters (27.80%); aspects related to the relationship between the size of the company, its type and the stage of adoption of new technologies should also be noted; thus in the most richly represented category, pragmatists, 75.16% are represented by medium size online intermediary agencies, 12.35%, are medium size online organizers and the rest, large online intermediaries; as earlier adopters, 93.11% are large intermediary online agencies, the rest, being medium size online organizers; in the skeptic adopter category, 89.32%, there are small online intermediary agencies and the rest, small online organizers; the conservative adopter category, covers 90.09% medium size online organizers agencies;

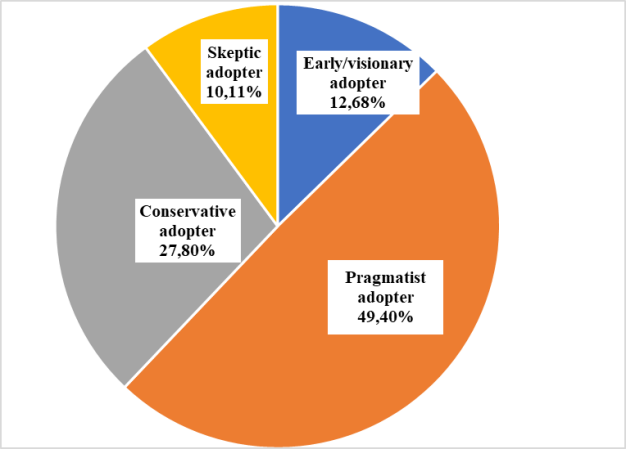

Figure 4. Level of technology adoption
Source: author's data

- from the perspective of perceiving *the importance of digital transformation*, as a logical and necessary consequence of the adoption of new technologies, the largest segment of companies

(62.44%) stood out, indicating that this transformation is very important for them; however, the existence of a significant segment (28.78%) that still considers this aspect somewhat important and not at all important for the evolution of their companies should not be neglected (Figure 5); we emphasize the fact that in the last category there are medium and small size companies only from the online organizer category; DT, was selected as extremely important, only by large online intermediaries;

- regarding *the technologies and the solutions implemented* as part of the company's digital transformation (Table 4), the top three indicated, as being already used, were the commonly used tools, namely: those specific to social media (90.04%), online booking platforms and solutions (88.12%) and cloud computing solutions (38.56%); technologies considered to be newer, innovative, such as AI ML, IoT and Automation tools and processes, are used very little and only by agencies declared to be large companies; these results can also be explained by the fact that the new advanced technologies are on the one hand very expensive and on the other hand their implementation requires an adequate ITC infrastructure and a professional staff with the ability to exploit these technologies; technologies from the AI and ML category, were selected mostly by large online intermediaries (90.56%), the rest, being large online organizers; in the case of data analytics, 77.33% were indicated by large medium size online companies and the rest, being medium size intermediary online agencies; IoT solutions and automation tools, were selected entirely by large online intermediary companies; in the case of VR solutions, 79.23% were large online intermediary companies, 10.67% medium size online organizing companies and the rest ,online intermediaries; a surprising aspect must be emphasized, namely the very low implementation of mobile applications (12.78%), indicated as being implemented by 86.54% medium size online intermediary agencies and the rest, by large online organizer companies; the very low percentage of the use of mobile applications by online agencies, contradicts the upward trends in the use of these products, by tourists;

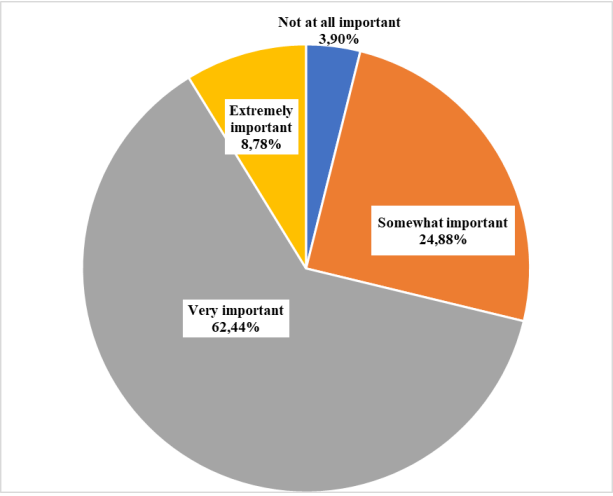

Figure 5. The importance of digital transformation
Source: author's data

Table 4. DT- implemented technologies and solutions

Technologies implemented	**%**
Artificial intelligence (AI) and ML (machine learning)	2.57%
Automation tools and processes	2.07%
Cloud computing	**38.56%**
Data analytics tools	22.11%
Internet of Things (IoT)	2.13%
Mobile applications	12.78%
Online booking platform	**88.12%**
Social media	**90.04%**
Virtual reality technology	3.82%

Source: author's data

- in the identification of the *barriers, problems and general challenges* perceived by the agencies, in their approach to digital transformation (table 5), an important triad was highlighted, consisting of: difficulties in finding the right technology solutions for company

and specific business processes (78.72%), financial/budgetary problems (65.23%) and problems related to resistance to change expressed from three sources (employees, tourists and business partners) (49.07%); the fact that for the agencies the most difficult aspect in DT, is their inability to choose the most suitable solution in digital transformation approach; this aspect denotes, on the one hand the lack of an innovative and a visionary management and, on the other hand is also identified a problem of companies in the IT industry, that develop some specific DT solutions for tourism and that do not make enough efforts to inform and educate tourism companies about the existing and suitable solutions for the company's DT; the lack of sufficient financial resources is a reality to be considered, but given the fact that on the market there are multiple solutions and technologies offered in various ways of distribution, with very different financial plans, the companies' management can identify the right DT solutions according to the company's resources, as well; the problems related to the implementation of new technologies to achieve DT, assume the existence of experienced users, both within the digitally transformed company, as well as among the company's consumers/tourists and business partners; therefore, must be considered some concerns related to the changes brought by DT, in the business environment of travel agencies and the potential problems of incompatibility that can be created if not all partners have the same technologies; also, both, the difficulties in integrating new technologies with existing systems or migrating to new technologies and the lack of knowledge/skills for the use of new technologies within the company and in its business environment, have significant importance; a worrisome aspect, related to cyber security, must also be emphasized, because the least important concern for agencies (29.11%), is the cyber security, in the context in which sensitive and private data of both, tourists and business, are collected.

Table 5. Challenges encountered in adopting DT

Problems/barriers	**%**
Lack of financial resources or budget constraints	**65.23%**
Resistance to change on the part of employees, consumers and business partners	**49.07%**
Difficulties in finding the right technology solutions for company and specific business processes	**78.72%**
Lack of knowledge/skills for the use of new technologies within the company and in its business environment	37.89%
Difficulties in integrating new technologies with existing systems or migrating to new technologies	44.28%
Cybersecurity concerns/issues	29.11%

Source: author's data

- *the benefits of DT*, perceived by the subjects (table 6), were related to the improvement of three aspects, namely: customer satisfaction and loyalty (83.14%), employee productivity and efficiency (68.11%) and decision-making (36.17%); in the last place, the increase in the market share was perceived as a benefit of DT;

Table 6. Digital transformation - perceived benefits

DT benefits	
Increased market share	28.13%
Increased revenue or profitability	33.09%
Improved customer satisfaction and loyalty	**83.14%**
Improved decision-making	**36.17%**
Increased Employee productivity and efficiency	**68.11%**

Source: author's data

- directly connected with the benefits perceived in the adoption of DT, is the *differentiation from the competition* (table 7); in this case, technological solutions dedicated to the improvement of services for tourists (68.12%) are preferred by agencies, closely followed by the use of innovative technologies; thus, a clear link can be observed in the agencies' perception of the benefits brought by DT in the processes and activities dedicated to consumers/

tourists, which demonstrates a good understanding of how to generate competitive advantage through new experiences for tourists, using innovative technologies;

Table 7. DT - differentiation from the competition

DT Solutions	
Personalized travel experiences	44.13%
Enhanced customer service and support	**68.12%**
Innovative use of technology	57.09%

Source: author's data

- for the *perspective initiatives* of the agencies regarding DT (table8), the first solution indicated was partnering with other companies (68.33%), this being specific to small agencies and achievable in several directions, involving suppliers, consumers, etc.; in the case of partnering with suppliers, solutions can be oriented to attract developers of new technologies and specific DT solutions; also, the search, identification and exploration of new technologies (56.06%), was an initiative mostly identified by medium size online agencies; the development and training of some qualified personnel in the use of new technologies (56.06%), was the common solution chosen by agents from the category of medium and large companies; the future solutions related to the increase of the financed contribution in DT, was almost uniformly identified by the small segment of the agencies in the category of large companies (93.15%), the rest being medium size companies;

Table 8. DT perspectives

Plans for future DT initiatives	
Further investment in existing technologies	40.25%
Exploration of new technologies	**56.06%**
Increase in staff training and development	**47.37%**
Partnering with other companies	**68.33%**

Source: author's data

Results and discussions

From the analysis of the collected data, two different profiles were identified depending on the size of the companies, for large and medium size companies; small companies, have declared themselves skeptical adopters and do not consider DT as important for their development; so that currently it is not important to create a profile for them; but these small companies can constitute a very important and attractive target segment for IT companies and technology developers, to convert them into potential future users of DT solutions.

For the agencies in the category of large companies, although very poorly represented in the studied sample, a profile is outlined; it is about an online intermediary agency, declared as early adopter of new technologies, perceives DT as extremely important for the company's evolution, has implemented and uses all technologies commonly used, as well as those in the category of innovative AI, ML, VR, IoT; considers as the main problems in the adoption of DT problems in difficulties in integrating new technologies with existing systems or migrating to new technologies and cybersecurity concerns/issues; the main benefits considered to be brought by DT, are the increase in revenue or profitability, the market share and the improvement of decision-making; the use of innovative technologies, is the only DT solution indicated for competitive differentiation; in perspective, plan investments in already existing technologies and the exploration of new ones, as well.

In the general profile of the agencies, declared as medium-sized companies, there is also an online intermediary agency, a pragmatist adopter of new technologies, considering DT as very important for the future development of the company, using, only, very common DT technologies and solutions, identifying as major problems in adoption DT the lack of financial resources, of knowledge/skills for the use of new technologies within the company and in its business environment and the difficulties in integrating new technologies with existing systems or migrating to new technologies; believes that DT can generate benefits by increasing consumer satisfaction and employee productivity and efficiency; in achieving a competitive advantage through DT, indicates as important, the customization of travel experiences and the improvement of customer

services and support; in the future plans for the adoption of DT, pursues the exploration of new technologies and the increase in staff training and development.

The obtained results reveal a more active presence of agencies in the category of online intermediaries, compared to online organizers; also, the online intermediary agencies are much more open in adopting new technologies and much more prepared for DT, already using more digital solutions and technologies than the organizers, ones; were identified some aspects that are not at all considered by the agencies, such as the problems related to the confidentiality and security of the collected data, both from tourists and business, the incomplete understanding of the competitional environment in the tourism industry and ignoring solutions offered by the new technologies in generating competitive advantages; then, small companies and those with difficulties in budget allocations for the adoption of new technologies for DT, the level of information regarding the multiple existing solutions on the IT market is insufficient; thus may be due to faulty management having no perspective of sustainable development; we consider that our results, can be useful both, for tourism companies/tourism agencies as well as for companies providing new technologies and DT solutions.

Limitations

We consider that the study has some limitations related, on the one hand, to the size of the studied sample and its representativeness, as well as to the consideration for study of only the online agencies having viable digital presences; but the results already obtained can be used as important input for studies carried out on larger and more complex populations.

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