

The impact of coronavirus (Covid-19) pandemic: Digital transformation changes in tourism

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Abstract

The paper aims to examine the digital transformation changes in tourism within the process Covid-19 pandemic. The research data were collected qualitatively from 12 managers working in accommodation businesses in Istanbul, Turkey. According to the findings, it is seen that the managers emphasized that digital applications will gain importance in both accommodation businesses and tour operators due to the Covid-19 pandemic. The results also showed that digitality will be the main factor in new accommodation investments and that they will focus on rapidly realizing their projects in this area to maintain the competitive advantage of destinations. Based on the study results, some suggestions were made to tourism practitioners. It is thought that the results of the study will guide tourism practitioners.

Keywords: Coronavirus (Covid-19), Digitalization, Digital transformation, Tourism.

1. Introduction

The tourism sector is a dynamic sector that can be easily affected by external factors and crises (Ritchie, 2009). The covid-19 pandemic, which started in 2019 and affected the whole world quickly, affected logistics, travel, transportation, accommodation, restaurant, retail, etc. As in many other sectors. Unprecedented travel restrictions and curfews, both within the country and between countries, caused the biggest fluctuation in the global economy until this today. In this direction, tourism activities have also slowed down seriously as of March 2020. Almost all customers who have made hotel and travel reservations around the world canceled or postponed their reservations during this period (Kardeniz et al., 2020).

The covid-19 crisis experienced has changed the business models for the tourism sector worldwide (Bahar & İlal, 2020). In this context, it is foreseen that digitalization is considered as an opportunity and will gain momentum to rethink the sector. In this process, it was inevitable for the sector to become technology-intensive. It has been concluded that 75% of the consumers who benefited from the sector by using digital channels due to the pandemic will continue to use these channels after the pandemic (TURSAB, 2020). According to TURSAB's (Association of Turkish Travel

Agencies) tourism industry digitization roadmap report, using new tools such as "Artificial Intelligence (AI)", "Internet of Things (IoT)", "Augmented Reality (AR)", "Virtual Reality (VR)", "Chatboard" and "Blockchain" are among the new trends of the industry.

Customers can have personalized applications, so they feel more special with AR. In addition, it has become easier for tourism businesses to control and access data with the internet of things. Customer experiences were evaluated simultaneously, providing the opportunity to expand the customer base. Destinations, hotels, etc. to travel with VR provide benefits in promotion and marketing by allowing them to be experienced without going to that point. Travel planning and reservation issues become easier with chat boards. On the other hand, Blockchain allows global access to supply and demand information in the industry. Using all the listed applications in operations reduces unnecessary employee effort, resulting in a reduction in costs (Ernst & Young Global Limited (E&Y), 2020). Investing in digital in the sector is considered an opportunity for the sector to grow again.

In many studies on the subject, it is stated that after the Covid-19 pandemic, "contactless transactions" and "digitalization" in accommodation businesses will increase, and

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accommodation businesses will turn to the domestic market instead of foreign tourists who cannot come from abroad due to bans. It is also stated that new forms of tourism will increase in the smaller businesses offering personalized service (Hao et al., 2020; Kızılcım, 2020; Şanlı et al., 2020; Yazıcı Ayyıldız, 2020; Buluk Eşitti, 2021; Ulema & Akkaşoğlu, 2021). Based on the results of the studies, it is understood that the accommodation businesses will use more digital applications in the coming years, they have started to create infrastructure for this, and the expectations are in this direction. It is also understood that digitalization applications that require large budgets will be among the priorities of the accommodation businesses, and in particular, the tendency is increasing for applications where materials such as “paper” and “pencil”, which require less contact, will be used less. In this context, the paper aims to examine the digital transformation changes in tourism within the process of Covid-19. Firstly, the subject of digitalization and tourism was examined. In the study, then digital age trends during and after the coronavirus (Covid-19) were covered in the tourism sector. The data from 12 managers working in five accommodation businesses in Istanbul, Turkey, were used in the research. Based on the results of this study, some suggestions were made for the tourism practitioners. Thus, it is thought that the results of the study will guide tourism practitioners.

2. Digitalization and tourism

Digitalization is the integration of digital technologies into business life and daily life, and the change and recreation of business models and lifestyles. Digitalization is also defined as one of the main trends that change society and businesses in the short and long term (Tihinen & Kääriäinen, 2016: 1). The digital journey of the world started with the internet that entered our lives in the early 90's. When it is looked at the brands that use advertising channels in the digital world, it is seen that 95% of them are in the global scale. While the whole world is trying to adapt to the digital world, the tourism sector, which has gained an important market share in electronic commerce, is at the beginning of the road in digitalization. The development of information technologies and the digitalization process have affected almost every sector (Buhalis & Law, 2008: 609). However, the results of some researches show that the tourism sector has been one of the sectors that have shown the highest change with the development of information technologies and digitalization (Kaygısız & Bulgan, 2016: 553).

One of the biggest effects of digitalization in the tourism sector is expanding the competitive environment between businesses. This expanding competitive environment directly affects the decision-making processes of potential tourists. Digitalized tourism businesses can be examined separately by their potential customers and subjected to personal evaluations thanks to the feedback of the experiences of tourists who previously received service. In addition, posts shared through social media platforms can also be

effective in the decision-making mechanisms of tourists (Sarı & Kozak, 2005a: 363).

When digitalization was not widespread, tourism and travel businesses trying to provide information through materials such as “photographs” or “brochures” have reduced the need for printed inventory and increased the amount of information provided. The number of people informed, with the spread of the internet. In addition to providing information, the fact that products and services can be sold on the internet and that customers can share their experiences or opinions are among the important factors that the internet brings to the tourism industry (Yeung & Law, 2004: 307-308). Every business in the tourism sector has to adapt to new technologies and trends due to its structure, which needs speed, flexibility, and effective solutions (Beech et al., 2006: 248). In the first years of establishing websites that can make online reservations, the main features of these websites, such as “prices” and “security methods,” were considered. However, with the widespread use of digitalization and internet sites, the features and qualities expected from online booking websites have increased. These features are as follows in summary (Kim & Kim, 2004: 392):

- Ease of access to information
- Communication methods
- Virtual Reality (VR)
- Access to redirects
- Process feasibility
- Clarity of payment information and methods
- Presenting all information about products and services
- Ability to execute the reservation process quickly and stably
- Security applications
- Operations such as “returns” and “cancellations”

As the quality of websites increases, when the feedback of users' is analyzed correctly, it is possible to shape the products and services. Tourism businesses can use the feedback they receive through their websites to update, organize and improve their products and services (Miguéns et al., 2008: 1-2). Reservation and information transactions were the activities that used to be conducted by tourism transactions before the digitalization process. Nowadays, new information technologies have enabled tourism enterprises to perform these operations faster. In this way, the manageability of these enterprises has become easier (Buhalis, 1998: 409).

The digitalization process in the tourism sector has started to manifest itself in three main periods. Central Reservation Systems (CRS), which started to find a place in the tourism sector in the 1970s, is the first step of these three periods. Global Distribution Systems (GDS), which started to be used in the 1980s, became the second step. The last of

the three main streams mentioned is the widespread use of the internet infrastructure in the tourism sector. In this way, most functional and important processes have changed (Sarı & Kozak, 2005a: 250).

The Central Reservation Systems (CRS) were taken in the 1970s. This system is a set of digital networks where services such as “accommodation” and “transportation”, which are still exemplary, are gathered on a common platform and generally used by intermediary organizations. The Global Distribution Systems (GDS) has also been produced as a more comprehensive and diverse type of Central Reservation Systems (CRS) mentioned above (Buhalis, 1998: 412). As internet technology is an international system that establishes virtual networks between millions of computers and now smart devices, it can keep many institutions, organizations, businesses, or individuals in the middle of continuous information and communication (Sarı & Kozak, 2005a: 362). With the development of search engines and internet infrastructure, many tourists have had the opportunity to share their experiences with a wider audience while planning their travel processes on the internet (Buhalis & Law, 2008: 609). It produces useful solutions for users in areas where digital technologies are used. In tourism, it can be said that the information and communication processes established between businesses and their customers have become more comfortable and stable with digitalization.

Changing and developing marketing methods with digitalization have enabled the establishment of effective links between tourism and travel businesses and tourists (Buhalis, 1997: 73). The focus of the tourism sector is human. Therefore, all processes should be carried out by taking tourist psychology into consideration. Tourism products or services are somewhat intangible concepts. The fact that enough information to fill these concepts can be given to tourists is an important element. People generally want to have as much information as possible while planning their travels. It is possible to meet these needs thanks to developing information technologies and their advantages (Zhou, 2004: 7).

The opportunity to obtain sufficient information has also increased the opportunity for tourists to compare and choose between different options. Due to digitalized tourism systems, it is much more possible to compare parameters such as “travel businesses” or “country”, “city”, and “region” with options compared to the old methods. In this way, the need for intermediary institutions or organizations decreases (Sarı & Kozak, 2005b: 254). In addition, the wide range of information provided by the internet allows its users to receive information about destinations free of charge. In this way, tourists and travelers can make their travel plans without the need for anyone (Wynne et al., 2001: 427).

The advantages of information technologies have also increased the competitive environment. It is inevitable that the competition between institutions and organizations will increase because the processes that can be acquired and realized more easily than before, can be used by more

institutions (Buhalis, 1998: 409). In addition, businesses do not only compete to attract potential customers. It is also part of the competitive environment to get information about competing businesses. Moreover, the tourism sector is one of the leading sectors in terms of investing in information technologies. In this way, the adaptation of the tourism sector is high in the digitalization process.

3. Digital age trends in tourism sector

The widespread use of digitalization in tourism has changed many sectoral dynamics and led to new trends. Each period has its trends, and the new trends of the digital age can be called the digital age. One of the trends of the digital age is VR, which is produced in many parts of the world visually or aurally and enables users to experience the places and times that do not exist in the digital environment; it has found a place in the tourism sector, as are many other fields. VR applications, which will enable tourists to obtain sufficient information visually and aurally, as well as written documents about the destinations they have not visited or want to receive information about, can provide tourists with detailed information about the services, architecture, events, traditions and gastronomic riches they will encounter in any destination. Therefore, VR applications are one of the ideal applications that can be used in touristic promotion and marketing processes (Sarı & Kozak, 2005b: 363).

One of the examples of the use of VR in the tourism industry is the virtual guide called “Tuscany+”. “Tuscany+” is a VR application where the Toscana region of Italy is presented in VR and introduced with a digital guide, it is designed to provide a digital touristic experience to users who want to go to the region or get information about the region (Kounavis et al., 2012: 4-6). As the correct and efficient use of VR applications, as in this example, increases, the need of users and tourists for intermediary institutions that provide information in traditional ways will decrease. Because VR applications provide more objective and realistic data to tourists or potential tourists about the destinations they want to get information or visit, compared to the old methods, and cause a digital tourism activity. In addition, it is thought that the touristic experiences presented digitally in VR can replace the experience gained from traditional tourism activities (Sarı & Kozak, 2005b: 363).

Researches have shown that applications such as “VR” are effective in the preferences of users and tourists. Therefore, different experiences of individuals are offered services in which they can live in a digital environment (Dubey et al., 2017: 65-66). For example, virtual museum visits, three-dimensional virtual displays of products, VR visuals of accommodation businesses, and virtual trips have started to be organized. In addition, the development and spread of mobile technologies have made it necessary to move VR to the mobile area (Ilhan & Celtek, 2016: 589). It is thought that content containing visual, auditory, or touch information about the destination or regions that can be visited

without moving, which is offered to consumers through VR, will become more common day by day (Pirnar, 2005: 47).

One another digital age trends is hologram. Hologram technology is the projection of images recorded with a kind of laser light technique onto an environment in three dimensions (Ghuloum, 2010). Hologram technology, which gained popularity, especially in the 2010s, is used for various purposes and attracts attention in large organizations and in front of large crowds. One of example of this can be seen in the hologram show at the 2016 Rio Summer Olympics Closing Ceremony. In addition, a large part of the show in the concerts of Hatsume Miku, a popular singer in Japan, is the visual show presented with holograms (Koikawa, 2016). As seen in the examples, even hologram technology, which is just one of the possibilities offered by developing technology, succeeds in impressing large masses. This shows that when used correctly, hologram technology can also play “a major role in the creation or promotion of touristic activities”.

One of the trends of this age is robot technology. Although this technology is widely used for fabrication processes, it has also started to find a place in the tourism sector. For example, as stated in Cheung et al. (2017: 229), it has been observed that a robot that can serve in accommodation businesses can provide convenience for disabled guests and, at the same time, reduce the workload in the business. When the differences between robot technology and traditional business employees are examined, it is predicted that robots using cloud technology and intelligent learning may be more advantageous in some areas. For example, the knowledge and experience of any robot serving in a hospitality business can easily be acquired by all robots in the business due to cloud technology (Tung & Law, 2017: 2507-2508). Also, robots can be used for different purposes in different sectors.

The general purpose of robot use is mostly focused on providing information to tourists and services in the tourism sector. Job descriptions of robots in the tourism sector are generally service types such as “receptionists”, “waiters”, and “guidance” (Tung & Law, 2017: 2500). Robot technology can continue its activities by establishing interactive processes as well as providing uniform service in the service sector. For example, the robot Pepper, which is planned to be used in the 2020 Summer Olympics, is planned to act and serve according to the feelings and thoughts of the person opposite (Koikawa, 2016: 105-109). This shows that robot technology, which is progressing day by day, is developed with innovations focused on interactivity to increase the quality of the service.

One of the most important elements in robot technology is Augmented Reality (AR) software. The more useful and functional AR software is, the more quality it will provide. For example, due to Saffron’s algorithm developed by Intel, it has shown how effectively AR robots can work in enterprises by predicting the behavior of the customers of the enterprise used in advance (Ivanov & Webster, 2017: 169).

However, although it is thought that robot and automation technologies will be used by tourism enterprises with high financial power in the first period, it is expected that these technologies will become widespread among tourism enterprises (Mil & Dirican, 2018: 2). The trends of the digital age include more than VR, hologram and robot technology. For example, many technologies such as “3D printers”, “digital travel companions”, “smart wearable devices”, “mixed reality applications”, “augmented reality applications” and “all virtual applications” are among the trends brought by the digital age (Soava, 2015: 112). It can be predicted that keeping up with these trends in the tourism sector will become increasingly important for businesses.

4. Tourism during and after the Coronavirus (Covid-19)

The World Tourism Organization (UNWTO) (2020) has announced that the tourism sector is the most affected sector by the Covid-19 pandemic, which the whole world is struggling with on a global scale because of especially with travel restrictions. According to the World Tourism Organization (UNWTO) data, the number of tourists in the international arena was 1 billion 460 million in 2019. At the end of 2020, when the Covid-19 pandemic broke out, the number of tourists is expected to decrease by approximately 30% to 1 billion.

According to the scenarios developed by science and research centers around the world regarding the future of the tourism industry, it predicts that the measures taken within the scope of the pandemic and the psychological effects caused by the pandemic will continue the international travel crisis for at least another year. Reminding that the number of global tourists decreased by 0.4% in the 2003 SARS pandemic and 4% in the 2009 economic crisis, Tavakkoli (2020) has mentioned that Covid-19 will be the biggest crisis of the global tourism sector in the last 20 years. Stating that the Covid-19 pandemic had longer-lasting economic and social effects, Tavakkoli (2020) pointed out that the recovery in international tourism will take time and that new steps should be taken rapidly to avoid further losses in this process.

Success in tourism is based on making tourists feel safe, and the concept of security mostly comes together with health during the pandemic, Tavakkoli (2020) stated that the steps to be followed to manage the current tourism crisis correctly and mentioned whether tourism crises reduce the factors such as “economy” or “employment” which basically threat the safety of tourists. It is defined as the whole. Staying safe depends on being able to act in a planned way in events that may occur suddenly, such as “pandemics”. In this context, determining tourism processes, arranging a failure structure breakdown for each transaction, defining failure points for each defined activity, calculating the number of risk priorities for each failure point, matching the number of risk priorities with pre-determined strategies, prioritizing projected risks, organizing corrective programs and it is important to follow the steps to review the transaction process.

3. Methodology

In its most basic explanation, digitalization is the replacement or renewal of existing resources with digital products to achieve maximum efficiency with minimal physical effort. The point is needed to underline over and over again in the definition is this: “Physical effort at the lowest level and efficiency, substitution, and innovation at the highest level”.

The conversion of business processes and information to the digital platform by saving money and time is called “digital transformation with the extensive use of information Technologies”. The effects of digital and technological transformation in the Covid-19 process are very clearly seen in almost every sector. It can be easily argued that “this transformation will be affected much differently than other sectors, given the unique structural characteristics of tourism due to the cooperation of various products and services”. In this context, the paper aims to examine the digital transformation changes in tourism within the process of Covid-19. For this purpose, semi-structured interviews were held with 12 managers of accommodation businesses with mobile applications and smart hotels in Istanbul, Turkey, between March-August 2020. Creswell (1998) expresses qualitative research as a process of interpretation by questioning social life and human-related problems with unique methods. This method uses documents and fragments of participant views to support the findings, and the sample selection is usually determined for a specific purpose rather than randomly.

3.1. Workgroup

The criterion sampling, one of the purposeful sampling methods, was used in determining the participants of the study. In this method, information-rich situations considered to be most suitable for the researcher's purpose are selected as a sample. Information-rich situations are situations in which the researcher will gain a large amount of information about topics that are important for the research purpose. This sampling is also an important measure in increasing the transferability in of qualitative research. In criterion sampling, situations that meet a predetermined set of criteria are studied (Creswell, 1998). For this reason, interviews were held with 12 managers working in five accommodation businesses in Istanbul, Turkey. Managers are coded according to their initials. Five of the 12 accommodation managers participating in the study are women, and six are men. Eight managers participating in the study are in the 28-40 age range, 10 hold an undergraduate degree, and nine have a salary of 6500 TL and above. In general, it is seen that most of the participants in the study are male, highly educated, and middle-aged.

4. Findings

According to the accommodation managers, the digital elements that tourists consider when choosing accommodation businesses are in Table 1. The manager's statements

about the factors that tourists pay attention to in their hotel preferences are highlighted in Table 1. According to the managers, the digital elements that tourists consider in their hotel preferences are the factors that facilitate their getting service. Especially the speed of the internet, the reliability of the systems used when making payments, the speed and convenience during check-in and check-out, and multimedia conference systems are very important factors in tourists' satisfaction. Some of the prominent opinions of the managers regarding the factors that tourists pay attention to in their accommodation business preferences are given below:

“Before purchasing and during, the holiday tourists use digital technologies more intensely than ever before for flights, accommodation, and vacation packages. Again, in this period when consumers are turning to digital technologies with the expectation of contactless experiences, it has become much more important and priority for the tourism sector to strengthen the online experiences offered to the consumer.”

Table 1. Digital elements that tourists consider when choosing a hotel

Highlights	Frequency
Broadband internet connection (LL, ADSL, gSHDSL, Metro Ethernet)	11
Payment systems and security	10
Quick Check-In and Check-Out Systems	8
Multimedia conference systems (audio and / or video)	8
Pay TV, Interactive TV, IPTV Systems, Content Providing	7
Digital imaging and content systems (Digital Signage)	6
Operator services (ISDN, UMTS, VoIP)	6
PC and various purpose server hardware	5
Hotel web page / portal, online reservation systems, hosting	5
Interactive Voice Response Systems (IVR)	4

“The world of computers and the digital arena have revolutionized the heart of tourism. Tourists have become very digital, and new job opportunities have emerged in the tourism industry.”

“As far as I concern, hospitality and leisure activities that we did ten years ago, for example, are out of date. Nowadays, we update our hospitality facilities according to the digital requests of tourists. Due to the digital world, tourists can use mobile phones and tablets to browse the web, find travel information, plan vacations, make reservations, and pay for trip products and services. Digital transformation will be the main pillar that supports the tourism industry.”

Considering the answers to the question “How will they be affected by digital transformation and what should they do in the period of Covid-19 and after this pandemic?”, the managers stated that:

“Internet and social media are indispensable today. During the Covid-19 period and after, tourism businesses should actively use their social media accounts as on their websites and convince tourists that they are safe and hygienic. They consider social distance in the Covid-19 pandemic from

online check-in to contactless door entries in hotels. We also offer tourists a virtual tour of our business and activities. We are developing our VR, especially in the Covid-19 period.”

“Reliable up-to-date data on Covid-19 should be presented to tourists, communication should be made with platforms that offer accommodation recommendations and sales, the status of businesses about Covid-19 and the destinations where the businesses are located should be up-to-date, and instant feedback from tourists should be provided. This will show that both the stakeholders are interested and businesses are active on digital platforms.”

“Accommodation portals are active all over the world, especially during the Covid-19 period most of the people participating in tourism activities prefer to make their hotel reservations online. For this reason, every business should have a website, be able to make reservations through this website, and provide instant feedback to tourists’ questions via the call center. The website must be constantly updated, and the site must be available on mobile phones, tablets, and computers.”

“During the Covid-19 period, we invest nearly 70% of our advertising-marketing budget on digital, and more than half of it is advertisements on social media channels. In this way, we think we will continue in the post-Covid-19 period. The reason we give priority to digital is that tourists want to take a vacation online without having physical contact with anyone. Now, we can plan our tourism activities online, follow the feedback instantly and direct our activities as we wish, due to the reports we receive. The return rate of tourists, the number of clicks, how many people will return to the reservation, digital channels are vital for us as we can plan all of them.”

5. Conclusion and discussion

Digital transformation is the transformation of “commercial activities”, “processes”, “products” and “models” to take full advantage of the possibilities of digital technologies. Digital transformation simply refers to the process of incorporating technology into all areas of the business. People use digital transformation in every part of daily life, from home, market, stationery, and special gift shopping to healthcare.

Digitalization is changing the way how people live, work and travel, and has opened up new opportunities for tourism businesses to compete in global markets. Digitalization is bringing unprecedented opportunities for tourism SMEs (notably micro and small enterprises) to “access new markets”, “develop new tourism products and services”, “adopt new business models and processes”, “upgrade their position in global tourism value chains” and “integrate into digital ecosystems”. The Covid-19 pandemic requires that the tourism sector accelerate its digitalization and make technological innovations. New processes in “transportation”, “mobile applications in hotels”, and “automatic travel insurance” are some of the keys to the tourism of the future.

Based on the study results, it is possible to say that “the accommodation businesses of the future will be a hybrid experience between the physical and the digital, and this will reduce contact as much as possible”. It is also possible to say that “tourists will check-in with an app on their phone, they will inform that room may be sanitized with a button, additional services on apps and instantaneous personalization will be premium experiences that technology will make possible while simultaneously reducing the physical presence of accommodation businesses personnel”.

In the process of digitalization, “content dissemination”, “data collection”, “analysis” and “evaluation software” are as important as “customer databases” and “their management tools” in terms of establishing a multi-channel structure. Based on the results of the study, it can be stated that “nothing that cannot be measured gives an idea, and under the success of omni-channel structures, it is possible to identify all contact points of a customer and to create and interpret data from it”. “Data-based digital marketing” and “measurement tools” also enable the determination of industry variables. While each brand differs with in its services and facilities, what is valid for one brand may not be for the other. Digital tools reveal the difference, namely the “brand variable”, by enabling them to transform data into information. This will facilitate the shaping of the marketing strategy and the calculation of advertising investments.

The results of the study indicate that “the new trend in this field is “Call tracking”, which allows following the calls”. International brands assign different numbers for each country and collect data from here. Then, insights can be obtained from this data on whether each call is the right channel for returning to sales and which channel will be successful. Just like web analytics, call analytics also provides brands with clues to increase sales conversion. According to the Organisation for Economic Co-operation and Development (OECD), the tourism economy has been heavily affected by the Covid-19 outbreak. It shows that, depending on the duration of the crisis, there may be a 60-80% decrease in the international tourism economy in 2020. It is seen that the managers of tourism businesses have stated that “when their travel plans suddenly come to a halt, tourism businesses are turning to VR, which is still very young, even in its infancy, to attract potential visitors, and that this technology, which started as a gap measure, is a tool that can be developed in the long term”. Lastly, after the Covid-19 pandemic, it is predicted that “contactless transactions will come to the fore in the tourism sector, digitalization will become widespread, social distance tours and more isolated holiday preferences will increase”. Based on the study results, it can be stated that “the actors in the industry to adapt their business models to the new normal”.

5.1. Theoretical implications

It is seen that the studies on the subject are quite limited in the literature. According to Okafor et al. (2022)’s study, “developing economies that are more digitized,

accompanied by having a larger tourism sector, allocated more public funds to economic stimulus packages relative to developed economies in the period of Covid-19". This shows that "the pressure to introduce massive stimulus packages is lower when tourism providers are better prepared to use more digital tools during a pandemic, especially in developed economies". In their study which was aimed to determine the impact of the Covid-19 pandemic in the tourism industry, Demir et al. (2021) reached the conclusion of "one of the important changes that Covid-19 has brought to accommodation businesses was the investments made in technology and the tendency towards digitalization". Similarly, Özaltın Türker (2020) emphasized that "the demand for tourism would decrease due to Covid-19 and that economic losses and employment problems would consequently arise, while participation in individual-based tourism activities and the importance of digitalization would increase in tourism". Consistent with the literature, the results of this study showed that "digital applications will gain importance in both accommodation and tour operators due to the Covid-19 pandemic". The results also showed that "the digitality will be the main factor in new accommodation businesses investments and that they will focus on rapidly realizing their projects in digitalization area to maintain the competitive advantage of destinations". Thus, it can be stated that the digitalization in tourism in the Covid-19 period gained importance and will accelerate.

5.2. Practical implications

The tourism sector must be ready for the return of demand, so it is important to review the marketing targets in the new period and take action accordingly. It is recommended to optimize digital marketing strategies and test brand messages and creative works during this period. Searching trends on platforms such as "Google" and "YouTube", third-party research, and monitoring and analyzing data provide valuable insight and advantages to brands striving to understand consumers' needs and behaviors that have changed significantly during this period. The tourism industry should also use the power of online video in brand communication during this period. According to the information on Think with Google (2020), 85% of users in Turkey to get information about tourist-oriented trips by watching videos online. In this case, users on YouTube, the main source preferred by 71% of the monitoring period, showed an increase of 51% in the first half of the year compared to last year in the travel category in Turkey. More than half of the tourists prefer to make their hotel reservations online, with accommodation portals being active worldwide. Every business must have a website and be able to receive reservations through this website and provide instant feedback to reservations via the call center. The website must be constantly updated, and the website must be available on mobile phones, tablets, and computers. The contact information and pictures should be up to date with the platforms offering accommodation suggestions and sales, and instant feedback should be provided to the comments from users.

This will show both that the user is being taken care of and that the accounts are active. Lastly, social media is indispensable today. Just like the websites, social media accounts should be actively used and linked to the website. Tourism businesses need to gradually prepare for a recovery and step up Virtual Reality (VR) marketing efforts to be among the pioneers in this regard.

5.3. Limitations and directions for future research

This study aimed to examine the digital transformation changes in tourism during the Covid-19 process. For this purpose, the research data were obtained through qualitative data collected from 12 managers working in accommodation businesses in Istanbul, Turkey. Due to the dynamic course of the pandemic, the constant change of global developments constitutes the limitation of the research. For this reason, the data and situation assessment included in the research cover a certain date range (March-August 2020). The findings presented in the research reveal the dynamic conditions of the process in the mentioned date range. Another limitation of the research is that all scientists in the world cannot predict the course of the pandemic, and as a result, the proposals for digital change in tourism focus on the radical changes that may occur in the post-pandemic sector. In this context, it is aimed that the study, which is handled in an environment where the debates on when the pandemic will end or whether it will end, will contribute to scientific studies to be carried out in the future.

Author contribution statements

The author contributed all to the research's design and implementation, the analysis of the results, and the writing of the manuscript.

Disclosure statement

The author reported no potential conflict of interest.

Ethics committee approval

All responsibility belongs to the researcher. All parties were involved in the research of their own free will.

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