

ORIGINAL RESEARCH ARTICLE

Hospitality in heritage objects in Slovak conditions and its digital innovations

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ABSTRACT

The hospitality industry in the last decade has been undergoing a significant transformation towards digital tools. However, the negative effects of the pandemic did not avoid even the hospitality services provided by historical or heritage objects. The paper discusses initiatives to implement digital elements in accommodation services for heritage objects in Slovak conditions. Its main goal was to find out whether accommodation companies used digital elements before the pandemic, whether the pandemic strengthened their use, and whether the duration of the company's operation has an impact on their implementation. The main methods were questionnaire research and the interview, which enabled the collection of primary data. Subsequently, the results were verified by selected mathematical and statistical methods. The research sample consisted of 136 accommodation companies, operating in Slovakia, regardless of category. Accommodation establishments have started using digital elements even before the pandemic appeared. Their potential future use was not significantly affected by the pandemic. Despite the surveys in which various researchers state that the pandemic intensified their implementation, this thesis was not confirmed in the domestic sample. The use of digital tools goes hand in hand with technical progress. Elements such as the pandemic strengthen their development only marginally.

Keywords: digital innovation; hospitality transformation; digital tools implementation; heritage objects; hospitality services

1. Introduction

The importance of tourism and its services has long been clear. It was demonstrated on many parameters, such as the economies of several countries or the global economy. Beresecká et al.^[1,2], like many other authors, stated that tourism has long been considered one of the most important and promising branches of human economic activity. Hospitality, as a sphere providing one of the three core services of the tourism industry, inherently belongs to the industry.

In the years 2000–2019, the industry recorded almost continuous growth despite several adverse events. On this horizon, since the turn of the millennium, only three declines in demand have been recorded, namely the terrorist attacks in the USA in 2001, the SARS pandemic in 2003, and the global economic crisis in 2009, which caused a 4% drop in tourism demand. In 2020, the coronavirus pandemic spread all over the world, completely paralyzing tourism. The coronavirus manifested itself with various mutations in several shock waves and affects the lives of people all over the world until these days^[3]. The pandemic period was and in part still is characterized by a significant crisis, which causes a decline in the national economy of countries

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around the world. It deeply affects all sectors of the tourism industry. Dzurov Vargová^[4] states that due to its negative impact, it was necessary to take many measures and steps that would not deepen the crisis in this sector and, on the contrary, would only slow it down slightly. Against the consequences of the coronavirus, global initiatives came with measures that should provide individual states with support and help to reduce the effects of the pandemic in the long term.

Theoretical background

In the current tourism crisis, businesses and companies decide how to return to the original situation before the outbreak of the pandemic as Zuzák and Königová^[5] mention. The effects of the pandemic are felt most by entrepreneurs from the category of small and medium-sized enterprises and self-employed people. Small and medium-sized enterprises in the tourism industry strive to respond to rapidly changing demand and meet the requirements of tourism participants^[6]. Innovations play a crucial role in determining today's economic growth patterns. In a fast-globalized world with global competition, countries and enterprises that renew the range of their products and services take the lead^[7]. It is widely acknowledged that innovation has become an important corporate strategy for companies to achieve and sustain competitive advantage^[8]. The digital revolution is radically changing the world we live in. New digital technologies have introduced important innovations in factories, hospitals, hotels, cities, and territories. Industry 4.0 is signaling the end of well-established patterns and is asking scholars, managers, and citizens willing to survive in this ever-changing and increasingly complex environment to observe it through different lenses and new paradigms. The tourism sector, also, is very much involved in digital transformations, increasingly qualifying them with expressions such as Tourism 4.0 or smart tourism^[9].

Tourism, which is one of the most dynamic areas of economic activity, is a very saturated information sphere of activities. In other words, the collection, storage, processing, and transmission of data are the most important and necessary parts of the operation of any tourist enterprise. It is strongly dependent on the speed of transmission and exchange of information, on its relevance and timeliness of reception, and on its adequacy and completeness. In this regard, the successful development of business in the field of tourism presupposes the extensive use of the latest technologies in the creation of a tourism product and its promotion^[10]. The technical-technological environment of the tourism industry brings new knowledge and technologies every year, which help to simplify the processes in the tourism industry. The advantage of this tourism environment is the shortening of time when offering services from other providers, as well as the globalization "shrinks the world"^[11]. In recent years, modern tourism has undergone significant changes, which led to the implementation of information innovations and technologies in the field of tourism. Without the use of modern information technologies^[12], the successful operation of companies on the market would not be possible. The specificity of the creation and implementation of innovative information technologies consists in providing information for tourists, including information on accommodation options, booking places, issuing tickets, invoices, billing, and reference information. In addition, information innovation technologies are an essential attribute of the provision and satisfaction of tourist services; they are responsible for reliable access to the Internet and the availability of various mobile applications for tourism. This is achievable, provided that modern computer technologies for information processing and transmission are widely used in the tourism industry^[13].

The crucial role of innovation is considered a major factor in creating value and enhancing business performance. However, the analysis of innovation has long been limited to technological innovation, and few studies have been devoted to other forms of innovation, including managerial innovation. Authors Hamidi and Benabdeljilil^[14] confirm that the more a company conducts technological innovations, the more it is prone to adopt managerial innovations. This means that the two types of innovation would be rather related and not in

a pyramidal hierarchy. According to Kršák^[15], in the field of tourism, information and communication innovations enable broad-spectrum application in all components as well as business activities. It includes the complex creation and implementation of the marketing mix, respectively, product promotion, quick and effective presentation, comparison and search of tourist destinations, logistic solutions, and a flexible pricing policy. They create, evaluate, and present rich statistics, implement automated monitoring, make it possible to predict the effects of tourism, support the offer of small entrepreneurs, and, last but not least, enable the creation of regional service packages. From a qualitative point of view, they offer information and communication technologies, new information channels, as well as new ways of offering tourism products, which enable quick availability of information about new products. According to Gajdošík et al.^[16], their introduction leads to an increase in the quality of provided tourism services and support of service and service safety.

While mentioning the safety, pandemic crisis that influenced tourism as one of the most touched economic spheres, technological innovation began to acquire much greater importance and dimension. Their application was more than desirable for at least partial maintenance of the industry. Other modern forms also began to develop, which, from a health point of view, were supposed to help reduce the risk of infection transmission between travellers, i.e., participants in the tourism industry.

The hospitality industry has also been significantly affected by the long-lasting crisis. Considering the consequences, it was and still is necessary for accommodation companies to try to innovate their services in various forms. Already in the pre-pandemic period, the tourism industry was making significant efforts to implement digital elements in its services. These were visible in almost all of them. According to many scientific sources, the pilot efforts and their more massive expansion were amplified precisely by the long-lasting pandemic. For this reason, the aim was to initiate research in a sample of the Slovak Republic, whether and how the pandemic affected the use of digital innovations in accommodation services (for example, contactless tools). Innovations can be adopted at a different rate, which has been referred to as diffusion of an innovation^[17,18].

Hospitality in heritage objects is a part of cultural heritage. According to Kadir and Jamaludin^[19], aesthetically well-designed hotel has often become the choice for a travelogue and social media posts. This lifestyle leads to an increase in stays at heritage sites hotels that provide specialized services to guests. Among the many types of accommodation establishments across the world, the ones that are housed in historical premise are most likely to offer a more meaningful experience; hence, they are more appealing to today's tourists. Silvestrelli^[20] specifies that cultural heritage can represent a significant source for tourist destination competitiveness and, at the same time, a great challenge for organizations entitled to safeguard and enhance cultural products within the territory. The conservation of heritage buildings needs to be done meticulously and systematically to protect their historical originality and cultural value^[19]. With the protection of cultural heritage, there was also the term of adaptive reuse. It is better known as a useful intervention to repurpose heritage buildings that are significant for their representation of the distinctive history, identity, and art of a place. Contextually, numerous heritage hotels were seen to be adaptively reused from heritage shophouses in the quest to enliven the heritage site by diversifying local tourism products and catering to contemporary demand in the UNESCO World Heritage Sites^[21]. Almurbat^[22] adds that the hospitality industry and especially hotels can best be designed to preserve a countries' heritage and showcase it to visitors and tourists. The adaptive reuse of historic buildings as heritage hotels ultimately assists in the growth of the country's tourism^[23]. However, even heritage objects cannot afford to be not innovative in this hyper digital era and should apply attractive digital tools to their operations as soon as possible to attract their targeted tourism segment.

In general, there are three areas where the hospitality industry intersects with heritage in the current context, namely, awareness of heritage resources and integration of these in curating creative visitor experiences, incorporating traditional sustainable practices in the operating procedures of hospitality services, and fostering heritage entrepreneurship^[24]. Precisely when incorporating sustainable practices but also creating creative experiences, digital innovations can be an ideal means of making changes while at the same time maintaining potential. Digital technology can serve as an important tool to innovate in all areas of heritage institutions, repositioning firms within the heritage tourism market and leading to emerging forms of consumption^[18]. The presence of a country's objects on various global ratings and lists of sights is currently a symbol of state prestige and significance. However, such lists affect the formation of tourist flows^[25]. While heritage sites may have a proclivity for emphasizing authentic objects, the findings of the author Nam et al. reveal the importance of activities and their associated feelings and experiences. Equally, practitioners working with non-heritage sites should clearly focus on object-related authenticity^[26]. The current tools that can emphasize authenticity are, thanks to the technology of the industry, diverse and bring many advantages. For example, Atzeni et al.^[27] mention that the advantages of digital technologies in heritage objects are not restricted to being low-cost compared to tools such as wearable devices, but also correspond to providing competitive differentiation by obtaining meaningful responses and shaping the overall experience of the site^[27].

In conclusion, it is clear that the Covid-19 pandemic significantly affected the tourism sphere. It reminded its vulnerability, despite its relatively long-term stability. The main aim of the research was to find out whether accommodation establishments in heritage objects in domestic (Slovak) conditions apply digital tools to their operations, in combination with the observation of whether the pandemic situation changed their status towards the implementation digital tools in their services.

RQ: Therefore, the research question was: Has the pandemic situation of Covid-19 changed the interest in the application of managerial innovation in the example of digital tools in accommodation establishment services in Slovak conditions?

RQ1: Does the length of the company's operation have an impact on the initiative to implement digital elements in accommodation services, or alternatively, are newer companies more open to digital technologies?

In order to answer these questions, a schematic diagram of the sequence of steps presented as **Figure 1** below was compiled from a methodological point of view.

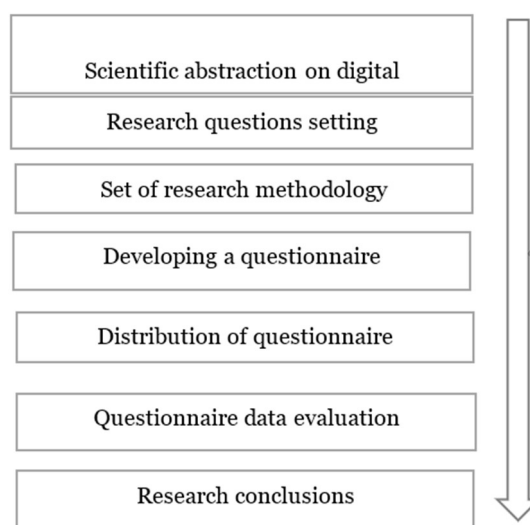


Figure 1. Schematic diagram of the research methodology.

Source: Own processing.

2. Methods

The main aim of the research was to find out whether the pandemics influenced more significant use of digital elements in accommodation facilities and whether the length of the company's operation has an effect on interest in their implementation. To conduct and evaluate the research several research methods were used to fulfil its parts.

The theoretical concept of the paper was established using bibliography abstraction method for analysing the scientific sources, dominantly from the journal evidenced in databased Web of Science and Scopus. Accepting mentioned sources, the rest of the bibliography is based on domestic authors defining current situation conditions, while the research was conducted in Slovak Republic. The sources oriented their attention to tourism sphere and its technological environment, the impact of pandemic situation on the operation of tourism service establishments, as well as managerial innovation and their current need. The analytical part of the paper consisted of a combination of research methods, especially an authorized questionnaire together with interview. It served to address the widest possible sample of respondents, in the example of accommodation facilities. The author's questionnaire consisted of questions focused on the issue of the need to implement managerial innovations using the example of digital technologies (at the example of touchless technologies) in accommodation facilities in the pre-pandemic and post-pandemic period. Several questions were selected for the purpose of this paper. The questionnaire was distributed over the time horizon from September 2022 to December 2022.

From the accessible database of accommodation companies in Slovakia, all companies were contacted via their e-mail addresses. In the first phase, the return on the questionnaires was low. For that reason, the second phase of the strategy was to change the research into a combined version, and thus businesses were approached in person. The third way of approaching corporate accommodation services was through a telephone interview. The online questionnaire was created on the MS Forms platform. A total of 136 people were willing to participate in the research. The time horizon for the implementation of the research in its three forms was September 2022 to December 2022. The research sample consisted of accommodation facilities in Slovakia, regardless of their category. The other method was chi-square test, serving to evaluate possible changes and comparisons between two selected groups of establishments (by the period of operation).

3. Results

As mentioned, 136 accommodation establishments operating in heritage objects on the territory of the Slovak Republic were willing to participate in the research. In terms of the period of activity in the market, the interval ranged from 1961 to 2020. The dominant part of the sample consisted of enterprises established after 2000 (**Table 1**).

Table 1. Establishment of accommodation companies in the market (before and after 2000).

Var	Abundance	Cumulative abundance	Relative abundance	Cumulative relative abundance
Before the year 2000	34	34	40%	40%
After the year 2000	102	136	60%	100%

Source: Own processing.

The capacity of the accommodation establishments participating in the research ranged from 6 to 500 beds. From the above, it can therefore be stated that it was a matter of coverage from all categories of accommodation establishments, i.e., small, medium, and large tourism businesses, with no regard to their category. The average capacity of all accommodation facilities was 62 beds. Accommodation service

establishments were represented throughout the entire territory of the Slovak Republic—all its 8 self-governing regions (Graph 1). The highest number of people willing to participate in the survey were from the Košice self-governing region (32%). Later, it was the Prešov region with a share of 25%. The lowest number of accommodation establishments participated from the Trenčín region (3%) (**Figure 2**).

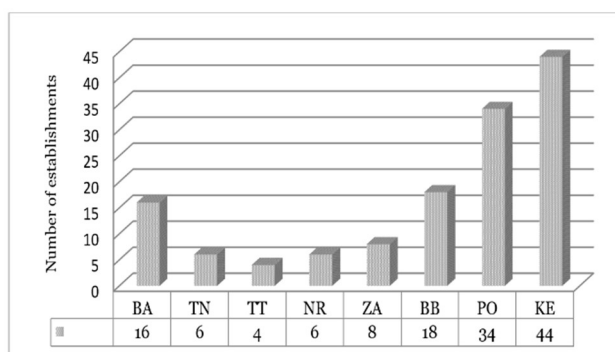


Figure 2. Number of accommodation establishment according to 8 Slovak self-governing regions.

Source: Own processing.

The aim of the research was to find out whether establishments providing accommodation services tend to use digital technologies, at the concrete example of contactless tools in their operation. This interest was monitored for two periods. The first one was whether they used contactless innovations before the arrival of the Covid-19 pandemic and if they were technologically advanced already at that time. The second monitored period is the so-called post-pandemic period. Here, the interest was to monitor, whether the accommodation establishments will apply contactless innovations to their facilities and services. The intention was to find out whether the pandemic years had an impact on a greater interest in their implementation. The secondary purpose was to find out whether the so-called “younger or newer companies, with a year of establishment since 2000, tend to be more inclined to use modern technological innovations compared to older companies”. The assumption was that younger companies, with a shorter period of operation, would make a greater effort to use modern technological innovations.

Table 2 presents the results of the first question, i.e., whether accommodation service companies use new contactless innovations in the process of providing their services at present. As is clear, almost two-thirds of companies (72%) currently use technological conveniences. A little more, and one-third of the companies do not currently use them in their operations.

Table 2. Current application of digital innovations in the functioning of the company.

Var	Abundance	Cumulative abundance	Relative abundance	Cumulative relative abundance
Yes	98	98	72%	72%
No	38	136	27.9%	100%

Source: Own processing.

The second question followed interest in the use of contactless innovations in accommodation services even after the possible complete end of the Covid-19 pandemic. In the case of this question, there was only a slight increase in responses that showed interest (73%) in their further use. The results of the findings for this question are shown in **Table 3** below.

Table 4 shows the results of the use of contactless technologies before the pandemic according to the year of origin of the establishment. Establishments founded before year in 70.5% agreed that they used contactless innovation in their service provision. Less than one-third of establishment did not use any of them.

The same situation appeared in the example of establishments founded after the year 2000. A significant part of them (72.5%) already used modern contactless tools.

Table 3. Intention to use digital innovations after the pandemic.

Var	Abundance	Cumulative abundance	Relative abundance	Cumulative relative abundance
Yes	100	100	73.5%	73.5%
No	36	136	26.5%	100%

Source: Own processing.

Table 4. Use of digital innovations before the pandemic by year of establishment.

Var	No. of establishments	Yes	%	No	%
Before year 2000	34	24	70.5%	10	29.5%
After year 2000	102	74	72.5%	28	27.5%

Source: Own processing.

Comparing to previous general results the situation for the post-pandemic period changed. The establishments founded before year 2000 showed slightly significant decrease in interest in use of contactless technologies in the future, after the possible end of the pandemic. The opposite situation occurred with businesses that were established after 2020. A slight increase in interest was recorded for them (**Table 5**). From this point of view, it can be judged that younger companies tend to make faster modernization progress.

Table 5. Use of digital innovations after the pandemic by year of establishment.

Var	No. of establishments	Yes	%	No	%
Before the year 2000	34	22	64.7%	12	35.3%
After the year 2000	102	78	76.5%	24	23.5%

Source: Own processing.

Mentioned change appeared in concrete in 7 cases. Four establishments did not use the contactless innovation in their operations before the pandemic situation appeared. In the context of the pandemic effects, they plan to use them even if the pandemic situation ends. The opposite case was found in three establishments. Before the time of pandemics, there were negative effects, and during them, they already used contactless technologies to support their operations and fulfil hygiene restrictions. Even though they do not plan to use them any more in case the pandemic ends (**Table 6**). Businesses perceived the set measures (at the national level) as too limiting and would not like to return to them in any way in the future. If they were to decide on the types of innovations in the near future, they would clearly be related to the acceleration of processes and the dissemination of information, such as chats within the company or electronic tools for opening room doors, control elements in rooms, hotel digital applications, etc.

Table 6. Change in previous and future use.

Change	No.
Did not use	4
Used	3

Source: Own processing.

From the point of view of the company's year of foundation, the following changes were made in detail: six companies after 2000 expressed a change, of which four changed their status from no to yes and two from yes to no. 1 company founded before 2000 changed its status from yes to no (**Table 7**).

Table 7. Change in previous and future use according to year of foundation.

Var	No. of establishments	Pre-pandemic status	Post-pandemic status
1	After the year 2000	No	Yes
2	After the year 2000	No	Yes
3	Before the year 2000	Yes	No
4	After the year 2000	No	Yes
5	After the year 2000	Yes	No
6	After the year 2000	No	Yes
7	After the year 2000	Yes	No

Source: Own processing.

As **Table 8** shows, the value of the chi-square test is 0.0743. The p -value is 0.785238. The result is not significant at $p < 0.05$. From the results, it is possible to conclude that there is no significant statistical change: Ad.1: between the period before the pandemic situation appeared (until 2019) and the period of possible post-pandemic in the context of digital innovation in the example of touchless technology implementation in accommodation service establishments. Ad.2: there is also no significant difference in the use of digital innovations (touchless technologies) and the length of the establishments' operation. Even the establishments with a longer tradition use the implementation of technologies even in pre-pandemic period.

Table 8. Chi-square test of situation change in the context of digital innovation tools use.

Var	Before the year 2000	After the year 2000	Row totals
Use of tools	98 (99.00) [0.01]	100 (99.00) [0.01]	198
No use of tools	38 (37.00) [0.03]	36 (37.00) [0.03]	74
Column totals	136	136	272 (Grand total)

Source: Own processing.

4. Conclusion

In conclusion, it is possible to agree with authors McIntosh and Siggs^[28], who already in 2005 expressed that hospitality markets their distinctiveness through unique interior décor, architectural styles, and personalised services. Many hotels sell “experiences” that cannot be replicated elsewhere^[28]. More than just a place to lay one's head, hotels market themselves as providing an experience of being in a unique building or interesting city, culture, or community^[29]. The exceptionality of the place, the exceptionality of the architecture, history, heritage, and the like must all go hand in hand with the progress of the present time. For this reason, it is necessary not to forget the combination of traditional hotel services in combination with modern technological tools, which are of great interest to tourism participants. Technological progress is evident in all spheres of life. New technologies bring a number of advantages that make processes easier or safer. Even before the pandemic, the development of technological innovations was progressing rapidly. Businesses have begun to implement their specific tools. This was again confirmed with contactless tools that facilitated the provision of services. In the example of this research in Slovak conditions and accommodation establishments, the majority of establishments they reflect on the rapidly technologically innovating tourism market and use of its possibilities to maintain their position in a highly competitive environment. It does not matter how long the companies have been operating on the market. The dominant part of them regularly innovates its services in order to achieve the greatest possible success, especially after the difficult years of the pandemic impact and the future challenging times of the energy crisis. There is no other situation also for

tourism establishments and services operating in historical or heritage objects. They should go hand in hand in modern progress and not forget the rule that whoever does not innovate becomes uninteresting.

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Conflict of interest

The author declares no conflict of interest.

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