

HOSPITALITY GUESTS INTEREST IN USING DIGITAL TOOLS IN COMMON AREAS OF ACCOMMODATION FACILITIES

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Abstract: Nowadays, digital technologies play an increasingly important role in the tourism industry, including accommodation facilities. Modern hotels, guesthouses and recreational complexes are introducing digital tools not only within the accommodation, but also in common areas to increase guest comfort, streamline operations and improve the overall experience of the stay. However, not every guest prefers the choice of digital advancement of the industry, and therefore there is room to find out the interest in using digital tools to set future of modern business strategies in accommodation facilities. The integration of these automated solutions highlights a growing need to understand shifting consumer behavior in shared hotel spaces. The main objective of this paper is to analytically evaluate the interest of hospitality guests in using digital innovation tools in common areas in accommodation services, when having their stay in them. Specifically, the investigation focuses on modern interactive features including chatbots, voice virtual assistants, mobile reservation applications, smart lighting control, and QR codes for services or navigation. Quantitative research using questionnaire as the main research method targeted to Slovak public- tourism participants as the main research sample, utilizing a finalized dataset of 201 relevant respondents. Evaluation of the results using several methods as Kruskal-Wallis test showed their current attitudes towards the use of actually available digital tools. The non-parametric testing demonstrated statistically significant differences in preferences based on key demographic variables. The findings point to the visible orientation to digital services preference and slow transformation at tourism market facing the digital era, providing valuable insights for strategic hospitality management and tailored technological implementation.

Keywords: digitalization in accommodation services, digital tools, digital preferences

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INTRODUCTION

The digital era has brought many changes, possibilities and opportunities to the tourism market. These have been applied in service businesses, which are inherently part of the industry. Several digital tools have also emerged, which are gaining popularity and are becoming increasingly used. This also applies to accommodation facilities, which, especially during the long period of the Covid-19 pandemic, have made a greater effort to search for and bring alternatives so that their activities can be operated and thus avoid the threat of extinction. Their portfolio has expanded and can currently be divided into several categories. In terms of place of use, they can be categorically classified as those that are used in the privacy of a hotel room as well as those that guests can use in the common areas of accommodation facilities.

The most commonly used digital solutions include online check-in and check-out systems, mobile apps for booking and communication, digital information boards, smart devices in rooms, contactless payments and interactive property maps. However, the use of these tools can be influenced by various demographic factors. Age is one of the key ones, younger guests, especially from Generation Z and millennials, tend to prefer technology and expect its presence.

Conversely, older visitors may be more reserved when using it. Gender differences are also evident. Research suggests that men are more likely to try new technological features, while women are more practical and selective in their use. What is the situation like at Slovak market? This was the aim to find out based on the research presented in this paper.

Theoretical background of the digitalization of hospitality and accommodation services

Digital transformation according to Vial (2021) can be perceived as a process where digital technologies create disruptions triggering strategic responses from organizations that seek to alter their value creation paths while managing the structural changes and organizational barriers that affect the positive and negative outcomes of this process. Digital transformation is therefore not only a technological shift but a strategic reconfiguration that influences organizational culture, decision-making

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logic, and long-term competitiveness across the service industries (El Archi et al., 2023). The use of such digital- information and communication technologies (ICTs) in business practices, processes, product development, strategy, and decision making has significantly contributed to change in businesses' patterns and economic growth of various industry sectors including the hospitality and tourism industry (Anser, 2020). At the present stage of the hospitality industry development, it is no longer enough to simply provide a service to best meet the needs of guests. In striving to achieve business excellence, hotel companies recognise the importance of new solutions that affect hotel attractiveness and boost demand (Floričić & Pavia, 2017). Maintaining competitive advantage is only possible by offering a unique product, high quality service, providing an exceptional experience to consumers and using digital technologies both to improve the quality of services provided, and to reduce costs and monitor indicators (Burkaltseva et al., 2023). Hospitality companies have increasingly adopted digitalization strategies to improve customer value and boost their revenues and profits (Nguyen et al., 2024). The uptake and impact of digitalisation in the industry is diverse, with some companies having moved swiftly to embrace new technologies, notably at the customer interface, whilst others have been slower to respond (Buhalis, 2020). Digitalization has a significantly positive impact on a hotel's performance. Moreover, digitalization mediates the impact of entrepreneurial behaviours on performance (Acharya & Mahapatra, 2024). In particular, digitization is a full mediator for the impact of proactiveness on firm growth and innovation on market performance. Additionally, there is a partial complementary mediation effect of digitalization in the case of impact of innovativeness on firm growth. These findings further highlight that digital technologies play a dual role: while they enhance operational efficiency, they also stimulate organizational learning and the development of dynamic capabilities that enable hotels to adapt to rapidly changing market conditions (Anser, 2020). On the other hand, author Ozdemir et al. (2023) state, that digitalization is still in its infancy state in terms of adoption and value creation in the hospitality industry. Yet, there are various opportunities for all stakeholders to benefit from existing and emerging digitalization applications.

Several studies have already paid attention to the topic of digital tools in accommodation services businesses. For instance, Chudnovskiy et al. (2021) analyzed the introduction of digital technologies by small enterprises of the tourism and hospitality sector and reveals the problems arising in the digitalization. Wynn & Lam (2023) were exploring, how digitalisation is impacting the hospitality industry and assesses the evolving role of an information technology strategy in the digitalisation process. Jubaedah et al. (2021) investigated the production of digital assessment tools based on digital application in the public area practices and the measuring of interns' achievement in public area practice using SmartRubrics.

Balatska et al. (2022) did a scientific exploration to analyze an effective marketing strategy for the tourism and hospitality industry based on digital resources. As they mention, the key elements of digitalization are search engine optimization (SEO), social media marketing (SMM), search engine marketing (SEM), influencer marketing, content marketing, and advertising on digital resources. The diversity of digital tools examined across these studies demonstrates that the hospitality industry is transitioning from isolated technological adoption toward more holistic digital ecosystems, where marketing, operations, and customer service increasingly intersect (Beresecká et al., 2023).

Although the majority of existing studies focus on the overall digital transformation of hospitality businesses, much less attention has been paid to the use of digital tools in common areas of accommodation facilities, such as hotel lobbies, reception zones, hallways, or shared recreational spaces (Radović et al., 2025). These areas represent critical touchpoints where guests interact with digital technologies that support navigation, information access, service requests, entertainment, and self-service processes. Understanding guests' interest in using such tools is therefore essential for improving service efficiency, enhancing guest experiences, and guiding hotel investments into the most effective digital solutions (Sariera et al., 2026). In conclusion, we can agree with the opinion of the authors Chen et al. (2025), who state that Digitalization in hospitality and tourism (DHT) is undergoing a profound revolution, yet its actual effect remains overlooked.

Despite these advancements, research still indicates fragmentation in how hotels integrate digital tools into their strategic frameworks (Duignan & Simons 2023). Many organizations adopt technologies tactically rather than strategically, which results in inconsistent digital maturity across the industry (Müller et al., 2025). Digitalization enables the implementation of resilient infrastructure in every application to achieve sustainability. In the context of hospitality, resilient infrastructure based on digital technologies is key to obtaining the best feedback from customers on the provision of quality services. Digital technologies have already proven to improve hospitality services by making intelligent decisions through real-time data. In previous studies, the importance of digital technologies in the hotel sector has been expanded in many theoretical and empirical studies. However, there is a lack of research that would provide a discussion on feedback systems in hospitality with applications of digital technologies (Narayan et al., 2022). Very similar opinion expressed Lopes et al. (2025) who mention, that despite numerous studies on digital tools in tourism and hospitality, few quantitative investigations use an integrated set of these tools to enhance business success. Recognizing the effect on intensification of tourist exchange through the affirmation of innovations and technology contributes to the development of science and practice of the hospitality industry (Dadić et al., 2022). For this reason, this study also aims to cover the gap in research and identify specifics on the Slovak market. Considering the above, further empirical work is needed to examine digital transformation holistically by analyzing not only individual technologies but their integrated use and combined effects on performance, customer satisfaction, and organizational learning (Ivanov & Webster, 2023). The Slovak hospitality market, characterized by varying levels of digital readiness, offers a unique context to explore barriers and drivers of digital adoption. This study therefore aims to contribute to existing literature by identifying how Slovak accommodation providers apply digital tools and how these tools influence their competitiveness and value creation (Beresecká et al., 2023). Given the growing range and application of digital tools to accommodation services businesses, the intention was to find out more details in the context of interest from participants using these services. For this reason, were posed these research questions:

RQ1: Are visitors to accommodation facilities interested in using digital tools?

RQ2: What are the most common digital tools used in common areas of accommodation facilities?

RQ3: Is there a difference in interest of using of selected digital tools according to selected characteristics of the respondents?

MATERIALS AND METHODS

The aim of the paper was to analytically verify the interest in the use of digital technologies by tourism participants in the common areas of accommodation facilities and to identify the preferences of the general public with regard to selected demographic characteristics of the respondents. The main intention was to identify the current most widespread portfolio of digital technology tools offered on the accommodation services market and then, through a questionnaire survey, to determine their perception by tourism participants. Attention was paid to what preferences are expressed depending on the demographic characteristics of the respondents, so that it would subsequently be possible to transfer knowledge for the future structuring of the offer for accommodation facilities and their specific clientele. The main research tool for conducting quantitative research was a questionnaire (Figure 1). Its content was created via the MS Forms platform and also distributed in printed form, especially for older age groups. Data collection took place in February and March 2025 in Slovakia, in a combined form, i.e. in person, electronically via e-mail and social networks, with a preference for online data collection. The survey was conducted on an available sample of Slovak residents of various age groups. A total of 252 respondents aged from 16 to 76 participated. Data collection was anonymous, and the responses obtained were processed and analyzed in order to identify mutual connections and tendencies in the perception of the digitalization of common hotel spaces.

The questionnaire consisted of nine questions divided into two thematic blocks. The first five identification questions focused on the basic characteristics of the respondents (gender, age, education, place of residence), while the other questions focused on the perception and use of digital elements in accommodation facilities. One question used a binomial "yes/no" scale to determine the use of hotel services, thus eliminating respondents who did not use these services.

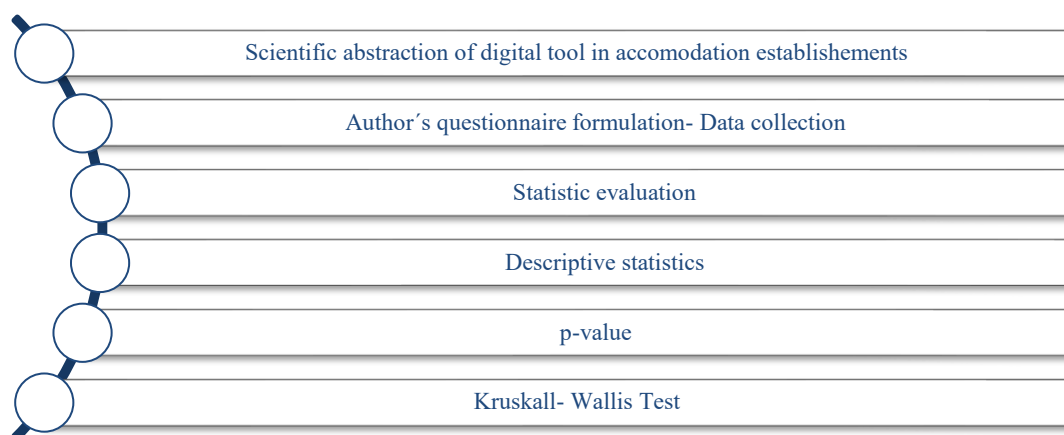


Figure 1. Display of methodological progression (Source: own processing)

According to it, respondents who did not identify with the use of technological tools were selected. Their answers could not be perceived as relevant. The main question used a five-point Likert scale to evaluate seven digital tools related to the digitalization of common areas of accommodation facilities. The questionnaire also contained other questions, but for the purposes of this paper, only those questions that were closely related to the aim of examining the digitalization of common hotel spaces were subsequently analyzed. This approach allowed us to focus on key aspects of respondents' perceptions and preferences while eliminating irrelevant data. The detailed methodological progression and the selection workflow of relevant participants are illustrated in Figure 1. The results were evaluated using a non-parametric test, using p-value and Kruskal-Wallis test to signal differences between groups. They provide a more accurate picture of public attitudes towards digitalization in the common areas segment of accommodation facilities. Based on the theoretical knowledge and professional background, we have formulated a research question that allows us to verify the differences in the perception of digital elements in the common areas of accommodation facilities from the public's perspective, as follows:

H: "Are there differences in the interest in using digital tools in the common areas of accommodation facilities based on selected personality characteristics of the respondents?"

In connection with this, a hypothesis and several sub-hypotheses were also established:

H1: We assume that there are differences in the perception of specific digital tools in the common areas of accommodation facilities with respect to selected characteristics of the respondents.

H1.1: We assume that there are differences in the perception of specific digital tools in the common areas of accommodation facilities with respect to the gender of the respondents.

H1.2: We assume that there are differences in the perception of specific digital tools in the common areas of accommodation facilities with respect to the age of the respondents.

H1.3: We assume that there are differences in the perception of specific digital tools in the common areas of accommodation facilities due to the education of the respondents. **H1.4:** We assume that there are differences in the perception of specific digital tools in the common areas of accommodation facilities due to the residence of the respondents.

RESULTS AND DISCUSSION

The original sample of the questionnaire survey consisted of 252 respondents. Of the surveyed participants, 47 persons (18.6%) were excluded because they did not use the services of accommodation facilities, so their responses were not included in the analysis. The final sample thus consisted of 201 respondents (Table 1). Final number of relevant respondents was 201. For the purpose of analysis and processing of the obtained data, descriptive statistical methods for continuous variables were used using the Gretl software. The analyzed data concerned the variables gender, age, education and place of residence for a set of 201 respondents (Table 2).

In terms of gender, the gender representation was 52% women (n=105) and 48% men (n=96). When dividing respondents into five age categories that correspond to standard developmental stages of adulthood and are often used in social and psychological studies: adolescence (12–18 years), young adults (19–29 years), middle adults (30–49 years), older adults (50–64 years) and retirees (65+ years), the largest group was made up of younger adults (n=104), followed by middle adults (n=65), older adults (n=21) and adolescence (n=11). An analytical look at the distribution of respondents by residence showed that 51% of respondents live in rural areas and 49% in urban areas. Most participants came from the Prešov (44%) and Košice (38%) regions in the Slovak Republic. In terms of education, respondents with a university degree prevailed (55%), the rest had a secondary education (45%). Overall, these were predominantly young and middle-aged individuals who use modern technological innovations in the tourism market. The values were mostly balanced, and the differences were minimal, which facilitated the subsequent analysis.

As a first step in testing the hypotheses, it was necessary to systematically divide the digital elements of the common areas of accommodation facilities into thematic categories in order to subsequently analyze them in terms of guest perceptions and preferences. The analytical view focused on key elements that are most representative and most frequently used in common areas, such as lobbies, entrance areas or anterooms of accommodation facilities.

Table 1. Respondents distribution according to gender, place of residence and level of education (Source: Own processing)

Variable	Frequency	Cumulative Frequency	Relative frequency %	Cumulative relative frequency %
Gender				
Men	96	96	47.77%	47.77%
Women	105	201	52.23%	100%
Residence				
City	99	99	49.25%	49.25%
Countryside	102	205	50.75%	100%

Table 2. Overview of descriptive statistical indicators of the sample (Source: Own processing)

	Gender	Age	Education level	Place of residence
Average	0.52239	32.070	1.5473	1.5075
Median	1.0000	26.000	2.0000	2.0000
Minimum	0.00000	16.000	1.0000	1.0000
Maximum	1.0000	64.000	2.0000	2.0000

Table 3. Classification of digital technologies in common areas of accommodation facilities by functional area (Source: Own processing)

Functional area	Digital tools
Communication technologies	Chatbots (e.g. for guest questions in the lobby or at the reception)
	Voice virtual assistant (information about services, orientation in premises)
	Mobile application for booking services, tables, meals, drinks (restaurant, lobby bar)
Hallway / Lobby / Entrance areas	QR codes to display menus, facility information, and neighborhood maps
	Keys via mobile app (access to common areas, check-in/out)
	Mobile application for light control (smart lighting in the lobby)
	QR codes to display maps, nearby places, businesses and services

This selection was based on a previous theoretical review that identified these elements as the most significant in terms of guest comfort, operational efficiency and service delivery modernization. The distribution of the selected digital tools according to the relevant functional areas is shown in Table 3, which allows for a systematic analysis of their perceptions among different guest groups. Analysis of sub-hypothesis H1.1 using a non-parametric test showed that significant differences between men and women were recorded for modern digital elements in the common areas of accommodation facilities, such as chatbots, voice virtual assistants, mobile applications for booking services, QR codes for displaying menus or maps, and a mobile application for controlling lighting ($p < 0.05$). On the contrary, for less interactive or traditional elements, such as mechanical robots, keys via a mobile application, or QR codes for basic information, differences by gender were not statistically significant ($p > 0.05$). These results indicate that modern digital tools providing information, orientation, and booking services are perceived differently based on gender, while traditional elements are evaluated similarly by men and women. This finding is important for planning and adapting services in the common areas of accommodation facilities to individual guest needs. These results also confirm that digital tools providing information, orientation and booking services are perceived differently by different groups of guests, which highlights the need for their targeted implementation and adaptation according to visitors' preferences and characteristics. More detailed results are presented in Table 4.

For sub-hypothesis H1.2, which examined differences in the perception and use of digital elements in the common areas of accommodation facilities according to the age of the respondents (Table 5), the Kruskal-Wallis test was applied.

Table 4. Results of testing sub-hypothesis H1.1 (Source: Own processing)

Digital tools	p-value	Kruskal-Wallis test
Chatbots	0.0028	0.4701
Voice virtual assistants	0.0062	0.0039
Mobile app for reservation of service, table, food, drinks	0.0000	0.0102
QR code for displaying menus, hotel photos, business cards	0.0000	0.0075
Keys via mobile app	0.0000	0.0008
Mobile application for light control	0.0000	0.0001
QR codes to display maps, nearby places and businesses	0.0000	0.0106

Table 5. Results of testing sub-hypothesis H1.2 (Source: Own processing)

Digital tools	p-value	Kruskal-Wallis test
Chatbots	0.0031	0.5624
Voice virtual assistants	0.0065	0.5381
Mobile app for reservation of service, table, food, drinks	0.0000	0.7802
QR code for displaying menus, hotel photos, business cards	0.0000	0.4795
Keys via mobile app	0.0000	0.5810
Mobile application for light control	0.0000	0.9127
QR codes to display maps, nearby places and businesses	0.0000	0.5832

The results showed that some modern elements, such as mobile applications for booking services, QR codes for displaying menus or maps, a voice virtual assistant and a mobile application for controlling lighting, showed statistically significant differences between age categories ($p < 0.05$). On the contrary, less interactive or traditional elements, such as mechanical robots or QR codes providing basic information, did not show significant differences by age ($p > 0.05$). The findings indicate that the age of the respondents influences preferences, especially for modern and interactive digital tools providing information, orientation and booking services. This insight is important for planning and adapting the implementation of digital technologies in the common areas of accommodation facilities to best suit different age groups of guests.

For sub-hypothesis H1.3, which examined differences in the perception and use of digital elements in common areas of accommodation facilities according to the education of the respondents, the Kruskal-Wallis test was applied.

The results showed that modern digital elements, such as chatbots, voice virtual assistants, mobile applications for booking services, QR codes for displaying menus or maps, keys via a mobile application and a mobile application for controlling lights, showed statistically significant differences between respondents with secondary and higher education ($p < 0.05$). Less interactive or traditional elements, such as QR codes providing basic information, did not show significant differences according to education ($p > 0.05$). The results indicate that the education of the respondents affects preferences primarily for modern digital tools providing information, orientation and booking services in common areas. The results also confirm that digital elements are perceived differently according to education, which highlights the need for their targeted implementation and adaptation according to the educational structure of visitors.

More detailed results are presented in Table 6. Respondents with higher education may be more accustomed to using advanced digital technologies in daily life, which makes them more receptive to modern digital elements in accommodation facilities. Higher-educated individuals often possess stronger digital literacy, enabling them to navigate and appreciate complex tools such as mobile applications or virtual assistants. In contrast, respondents with secondary education may prefer simpler, more familiar technologies, which explains why traditional or basic digital elements did not show significant differences. These findings suggest that the complexity and novelty of a digital tool influence how differently it is perceived across educational levels. Therefore, accommodation facilities should consider tailoring their digital solutions to match the digital competence and preferences of guests with varying educational backgrounds.

Table 6. Results of testing sub-hypothesis H1.3 (Source: own processing)

Digital tools	p-value	Kruskal-Wallis test
Chatbots	0.0042	0.4651
Voice virtual assistants	0.0068	0.7324
Mobile app for reservation of service, table, food, drinks	0.0001	0.7895
QR code for displaying menus, hotel photos, business cards	0.0003	0.9672
Keys via mobile app	0.0015	0.0058
Mobile application for light control	0.0002	0.4917
QR codes to display maps, nearby places and businesses	0.0004	0.4823

Table 7. Results of testing sub-hypothesis H1.4 (Source: own processing)

Digital tools	p-value	Kruskal-Wallis test
Chatbots	0.0031	0.2487
Voice virtual assistants	0.0070	0.6321
Mobile app for reservation of service, table, food, drinks	0.0001	0.7052
QR code for displaying menus, hotel photos, business cards	0.0005	0.1420
Keys via mobile app	0.0003	0.2105
Mobile application for light control	0.0002	0.9624
QR codes to display maps, nearby places and businesses	0.0004	0.3567

For sub-hypothesis H1.4, which examined differences in the perception and use of digital elements in common areas of accommodation facilities according to the respondents' place of residence (Table 7), a Kruskal-Wallis test was applied.

The results showed that modern digital elements, such as chatbots, voice virtual assistants, mobile applications for booking services, QR codes for displaying menus or maps, keys via mobile application and mobile application for controlling lights, showed statistically significant differences between urban and rural respondents ($p < 0.05$).

Less interactive or traditional elements, such as QR codes providing basic information, did not show significant differences according to place of residence ($p > 0.05$). These findings indicate that the place of residence of respondents influences preferences, especially for modern digital tools providing information, orientation and booking services.

The results also confirm that digital elements in common spaces are perceived differently by type of residence, which emphasizes the need for their targeted implementation and adaptation to the nature of visitors. The sub-hypothesis analysis showed that modern digital elements in common areas of accommodation facilities, such as chatbots, voice virtual assistants, mobile applications for booking services, QR codes and light control, are perceived differently by gender, age, education and place of residence of respondents, and these differences were statistically significant.

Less interactive or traditional elements did not show significant differences, indicating that they are evaluated similarly by different demographic groups. Based on these findings, the main hypothesis is supported, according to which demographic characteristics of visitors affect the perception of modern digital technologies in common areas. The results highlight the need for targeted implementation and adaptation of digital tools to best suit different groups of guests.

Limitations of the study

A study that only considers variables such as gender, age, place of residence, and education when examining the use of digital tools in accommodation services has several important limitations that may affect the comprehensiveness and practical applicability of the results. In particular, it does not take into account motivations, technical skills, digital literacy, or previous experience with technologies, which can fundamentally influence the rate of adoption or rejection of digital solutions. Furthermore, categories such as place of residence (e.g., urban vs. rural) or education may be too general to accurately capture respondents' digital behavior. Limiting itself to demographic data also does not capture cultural, psychological, or socioeconomic factors that often play a key role in the use of digital tools.

Furthermore, the results may be biased if the sample of respondents is not sufficiently representative (e.g., in terms of age, geography, or gender). For a deeper understanding, it would be appropriate to include qualitative data (e.g. attitudes, reasons for rejecting technologies), or actual usage behavior. Without these elements, the interpretation of the results may be simplified and less useful for practical decision-making by hoteliers.

CONCLUSIONS

Digitalization in the hospitality sector is no longer just a trend, but a necessity that is fundamentally changing the way guests interact with the hotel environment. Especially in common areas such as receptions, lobbies, restaurants, wellness centers or conference rooms, digital tools are playing an increasingly important role. Their use increases operational efficiency, service quality and at the same time contributes to higher guest satisfaction. One of the main benefits of digital solutions in common areas is the improvement of the user experience. Technologies such as interactive touch screens, information kiosks, voice assistants, QR codes for displaying menus or mobile applications for ordering services allow guests to quickly and conveniently access information without having to wait for service. This reduces the burden on staff and at the same time increases guest autonomy. Another important aspect is safety and hygiene, which has become a priority during the Covid-19 pandemic. Contactless technologies such as digital keys, app-based check-in/check-out, or voice-controlled lighting and air conditioning minimize physical contact, thereby reducing the risk of spreading infections. This leads to a safer environment for guests and staff in common areas. At the same time, technology increases the attractiveness of a property in the eyes of the modern traveler. Digital tools create an impression of innovation, professionalism, and concern for the guest's comfort. Younger generations who have grown up with technology consider such solutions to be standard. If a hotel does not offer them, it may appear outdated and less competitive.

However, implementing digital tools in common areas does not only benefit guests. Hotel management can use data obtained from digital interactions (e.g., most frequently used services, guest preferences, time patterns), which allows for better planning, service personalization, and operation optimization. This leads to increased efficiency, cost savings, and improved overall facility management. From a sustainability perspective, digital tools also contribute to reducing paper consumption (e.g. digital menus, online guides), which supports the hotel's ecological image and can appeal to environmentally conscious customers. Despite these advantages, it is important to ensure that technology is accessible to all guests. Not everyone is technically savvy or interested in interacting with a digital environment. Therefore, digitalization should be a complement, not a replacement for personal contact. In conclusion, the use of digital tools in hotel common areas is an important element of modern accommodation services. It brings benefits in the areas of comfort, security, efficiency and competitiveness. However, for successful implementation, it is necessary to find a balance between technology and a human approach, and only then can digital solutions truly benefit all guest groups.

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