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THE ROLE OF DIGITAL PLATFORMS AND MOBILE TECHNOLOGIES IN THE TOURISM SECTOR: AN ANALYSIS OF SMALL AND MEDIUM-SIZED TOURISM ENTERPRISES

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Abstract: This article analyzes the role of digital platforms and mobile technologies in the tourism sector, with particular emphasis on their impact on the operations of small and medium-sized tourism enterprises. As a result of the accelerated digitalization of tourism, online booking platforms and mobile applications have significantly transformed the mechanisms for the provision and management of tourism services. The main objective of the study is to assess the advantages offered by digital platforms and mobile technologies for small and medium-sized tourism businesses, the existing challenges, and the possibilities for their implementation based on international experience.

The study employs methods of systematic literature review, comparative analysis, and graphical analysis of statistical data. The functional features, business models, and cross-platform synchronization capabilities of global digital platforms such as Airbnb and Booking.com are analyzed comparatively. The results indicate that digital platforms enable small and medium-sized tourism enterprises to access global markets with minimal investment, while mobile technologies facilitate the automation of booking processes and real-time management. At the same time, challenges such as platform dependency, commission costs, and technological literacy also persist. Overall, the article demonstrates that appropriately selected and strategically implemented digital platforms significantly enhance the competitiveness and sustainable development of small and medium-sized businesses in the tourism sector.

Keywords: Digital platforms; mobile technologies; tourism sector; small and medium-sized enterprises; e-tourism; online reservation systems.

1.Introduction

In recent years, the rapid development of information and communication technologies has led to profound changes in the tourism sector. In particular, digital platforms and mobile technologies have fundamentally transformed the ways in which tourism services are delivered, man-aged, and consumed. In the traditional tourism model, tourists physically visited travel agencies and made decisions based on limited information, whereas in the contemporary period these processes are largely carried out online and in real time. As a result of this transformation, the concepts of digital tourism and electronic tourism (e-tourism) have emerged.

Digital platforms—including online reservation systems, tourism marketplaces, mobile applications, and social media tools—have not only accelerated the flow of information in the tourism sector but have also democratized access to the market. Through these platforms, tourists are able to complete all stages of the travel process, such as trip planning, transportation and accommodation selection, payments, and the review of user feedback, from a single interface with minimal time loss.

The widespread adoption of mobile technologies has further simplified these processes, making tourism services accessible anytime and any-where. In particular, the increasing daily use of smartphones has significantly altered tourism behavior. Through mobile applications, tourists can obtain real-time information on destination selection, route planning, weather conditions, local services, and cultural attractions. This contributes to a more flexible, personalized, and convenient tourism experience. At the same time, digital platforms integrated with artificial intelligence and big data analytics optimize decision-making processes by providing recommendations tailored to users' behavioral patterns.

The impact of digital platforms on the tourism sector is of particular strategic importance for small and medium-sized tourism enterprises.

Under traditional conditions, access to global markets has been challenging for these businesses due to their limited financial and marketing resources. However, platforms such as Airbnb, Booking.com, and Expedia have enabled small entrepreneurs to reach international customer audiences without the need for physical offices, large advertising budgets, or intermediaries. Through digital platforms, an individual host or a small family-run hotel can offer its services on the global market, while mobile technologies allow for the automation of booking and management processes.

At the same time, digital platforms and mobile technologies create not only advantages but also certain challenges and problems. Issues such as the level of technological literacy, platform dependency, commission costs, data security, and privacy are considered risk factors,

particularly for small and medium-sized tourism enterprises. Therefore, the development of digital tourism should be accompanied not only by the adoption of technological innovations but also by appropriate management, regulation, and strategic approaches.

The purpose of this article is to systematically analyze the role of digital platforms and mobile technologies in the tourism sector, to examine their advantages and the problems they generate, and to assess, based on international experience, the opportunities these technologies create for small and medium-sized tourism businesses. The article will analyze the efficiency of digital technologies in the tourism business and their future development prospects on the basis of both theoretical approaches and practical examples.

Digital platforms and mobile technologies have become integral and strategic components of the modern tourism sector. Particularly for small and medium-sized tourism enterprises, these technologies expand market access and significantly eliminate traditional business constraints. The research findings demonstrate that the growth of reservations conducted through mobile technologies and the increasing use of digital platforms have led to structural changes in the tourism sector [1,2].

Based on the analysis results, global platforms such as Airbnb and Booking.com enable small businesses to reach international customer audiences with minimal investment. Cross-platform synchronization, automated reservation systems, and mobile management capabilities not only enhance operational efficiency but also significantly reduce risks, particularly overbooking and vacancy rates. This, in turn, strengthens the financial sustainability and competitiveness of tourism SMEs.

At the same time, the study shows that digital transformation is not limited solely to technological advantages. Issues such as platform dependency, commission costs, levels of technological literacy, and data security pose potential risks for small and medium-sized enterprises. From this perspective, the effective use of digital platforms requires a strategic approach and appropriate management mechanisms [3].

2.Experimental Section

This study is theoretical-analytical and descriptive in nature and focuses on examining the impact of digital platforms and mobile technologies on the tourism sector, particularly on small and medium-sized enterprises (SMEs). The research is based on a mixed-method approach and, alongside qualitative analysis, also includes the examination of quantitative statistical data. The main objective of the study is to systematically conceptualize, from a scientific perspective, the impact of digital platforms and mobile technologies on SMEs' access

to markets, the ways in which these technologies optimize business processes, and the key trends observed in international practice.

In preparing the article, a range of research methods was employed. One of the primary methodological approaches used in this study was a systematic literature review. The purpose of the literature review was to collect, synthesize, and critically analyze existing scientific knowledge regarding the impact of digital platforms and mobile technologies on the tourism sector, with particular emphasis on small and medium-sized tourism businesses. The systematic literature review followed several stages. One of the initial stages involved the identification of a search strategy, during which key concepts and terms relevant to the research topic were defined [4].

The subsequent stage consisted of source selection and filtering, where-by priority was given to sources with high scientific credibility. Particular emphasis was placed on articles published in peer-reviewed academic journals, prioritizing studies that addressed small and medium-sized tourism enterprises (SMEs), as well as research conducted in recent years, mainly between 2015 and 2024. At this stage, studies that were not directly related to the research topic or that focused solely on technical aspects were excluded from the review.

Following this, attention was given to the thematic categorization of the literature. The selected sources were systematically analyzed and grouped into thematic categories. This categorization also contributed to the formation of the overall structure of the study. The thematic approach enabled a systematic and coherent examination of the different aspects of the research topic [5].

Subsequently, a critical analysis and comparative approach was applied. The literature review was not limited to summarizing existing studies but also incorporated a critical perspective. In particular, it was observed that some studies predominantly focused on large tourism companies, while small and medium-sized enterprises received comparatively less attention, highlighting the need for further research in this area.

The conducted systematic literature review served several key purposes. These included establishing the theoretical and conceptual framework of the study, identifying the main trends generated by digital platforms and mobile technologies in tourism, systematizing the challenges and opportunities relevant to small and medium-sized tourism businesses, and providing a basis for comparing international experience with the current situation. Thus, the literature review constituted the methodological foundation of the study and served as a scientific basis for the subsequent analysis and discussion sections.

3.Result and discussion

In the second part of the research, a comparative analysis method was employed to assess the impact of digital platforms and mobile technologies on the tourism sector, particularly on small and medium-sized tourism enterprises. This method makes it possible to compare the functional features, business models, and practical impact mechanisms of different digital platforms. Within the framework of the comparative analysis, primary attention was focused on the globally widespread plat-forms Airbnb and Booking.com. As these platforms represent different business models in the tourism sector, their comparison provides a clearer understanding of the real impact of digital transformation on small and medium-sized enterprises [6-8].

The selection of platforms was justified by several factors. Notably, both Airbnb and Booking.com hold significant shares in the global market, are widely adopted by small and medium-sized tourism businesses, offer systems fully integrated with mobile technologies, and provide automated booking and cross-platform synchronization capabilities. These characteristics made it possible to comparatively examine the role of the platforms as promotional and operational tools for small businesses.

Several criteria were established for the comparison. These included the type of business user profile (such as hosts, small hotels, and similar entities), business models and revenue mechanisms, booking and calendar synchronization capabilities, the functionality of mobile applications, commission structures, access to global markets, and the level of suitability for small and medium-sized enterprises. These criteria were identified as key factors that directly influence the daily operations of tourism businesses. The results of the comparative analysis were presented in the form of a structured table, which clearly and visually illustrates the similarities and differences between the platforms.

Table 1. Comparative Analysis of the Airbnb and Booking.com Platform (by the author)

Criteria	Airbnb	Booking.com
Primary Users	Individual hosts, SMEs	Hotels, SMEs
Business Model	Peer-to-peer platform	OTA (Online Travel Agency)
Calendar Synchronization	Yes (iCal/API)	Yes (iCal/API)
Mobile App Availability	Yes	Yes
Commission Structure	Service fee (host & guest)	Commission per booking
Global Reach	190+ countries	220+ countries
Suitability for SMEs	Very high	High

The table clearly demonstrates that Airbnb is more suitable for individual hosts and microbusinesses, whereas Booking.com offers broader opportunities for small hotels and family-run guesthouses. It also shows that both platforms facilitate the synchronization of offerings and simplify management through mobile applications [9].

To ensure a clearer presentation of the comparative analysis results, visual analysis tools were employed. In this context, line graphs and charts were used, indicating an overall upward trend in the rapid adaptation of small businesses to digital platforms and the increasing operational efficiency enabled by mobile technologies. These trends can be observed in the figures presented below.

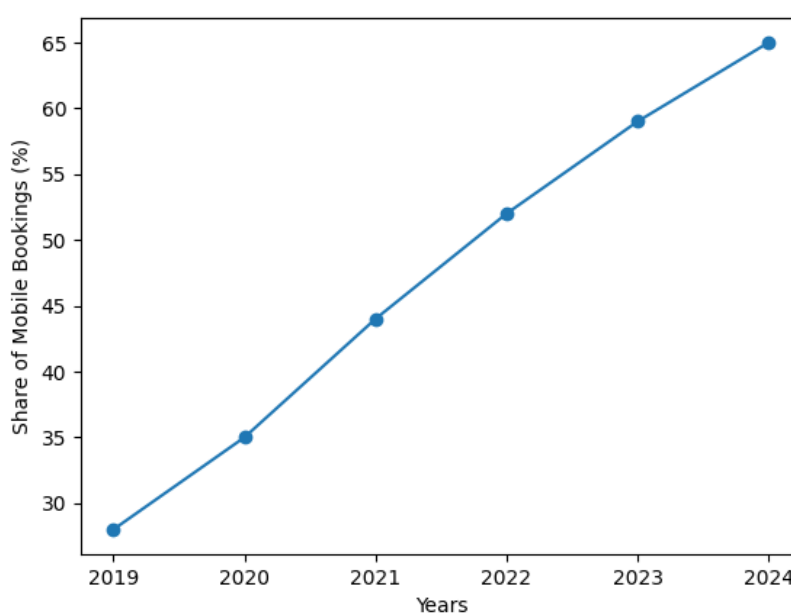


Figure 1. Growth of Mobile-Based Reservations in Tourism SMEs. (by the author)

It illustrates the growth dynamics of reservations made through mobile technologies in small and medium-sized tourism businesses between 2019 and 2024. The graph clearly shows that the share of reservations made via mobile devices has increased steadily over the years. This trend demonstrates that mobile applications play a significant role in enhancing operational efficiency in tourism businesses, enabling real-time communication with customers, and improving the overall accessibility of services [10].

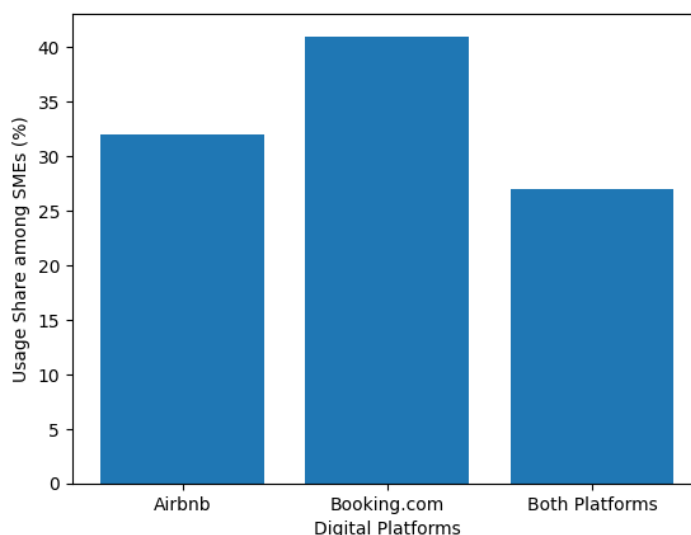


Figure 2. Usage of Digital Platforms by Tourism SMEs. (by the author)

Figure 2 illustrates the structure of digital platform usage among small and medium-sized tourism businesses. The chart shows that a significant proportion of businesses use global platforms such as Booking.com and Airbnb, while a group of entrepreneurs utilize both platforms in parallel. This approach enables the expansion of market coverage, the reduction of booking-related risks, and the optimization of revenues [11].

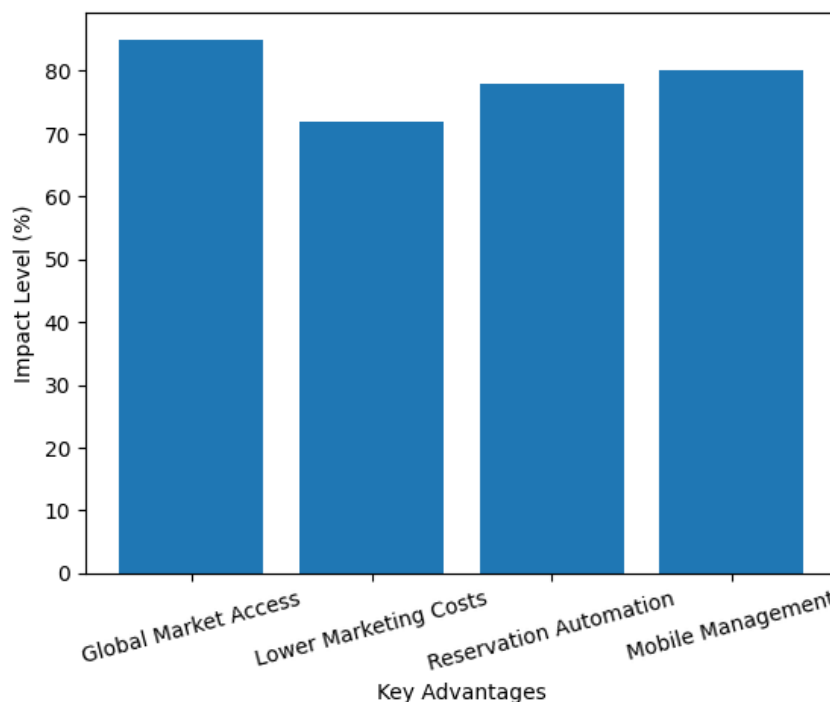


Figure 3. Key Advantages of Digital Platforms for Tourism SMEs. (by the author)

Figure 3 presents the main advantages that digital platforms offer to small and medium-sized tourism businesses. The results indicate that access to global markets and mobile management capabilities are the factors with the highest impact on businesses. In addition, the automation of booking processes and the reduction of marketing costs play a significant role in enhancing the competitiveness of tourism enterprises. These findings confirm that digital platforms function not only as sales channels but also as strategic tools for the effective management of businesses.

4. Conclusion

This section presents the results of the analytical analysis and discusses the impact of digital platforms and mobile technologies on the tourism sector, particularly on small and medium-sized tourism enterprises. The findings are visualized through graphs and charts, and the obtained indicators are interpreted comparatively in relation to existing scientific approaches.

The increase in the use of mobile technologies in tourism businesses, as illustrated in Figure 1, indicates that tourists increasingly prefer mobile applications and smartphone-based platforms. Mobile technologies have evolved into strategic tools for tourism businesses, providing not only an additional sales channel but also enabling real-time management, prompt communication with customers, and flexible decision-making. Especially for small businesses,

mobile technologies enhance operational efficiency by reducing personnel and operational costs.

The structure of digital platform usage and cross-platform strategies, as presented in Figure 2, show that tourism SMEs increasingly favor a multi-platform strategy. Operating simultaneously across multiple plat-forms:

- expands global market coverage,
- increases customer flow, and
- reduces risks related to seasonality or platform dependency.

Cross-platform calendar synchronization serves as the key technological foundation of this strategy and minimizes the risk of overbooking. This is considered a significant advantage, particularly for small businesses with limited resources.

The results presented in Figure 3 regarding the main advantages that digital platforms offer to small and medium-sized enterprises indicate that:

- digital platforms enable small businesses to operate in international markets by overcoming physical boundaries;
- mobile technologies allow business owners to manage reservations and pricing from any location;
- the automation of booking processes reduces operational errors and time losses;
- reduced marketing costs strengthen the financial sustainability of small businesses.

Thus, the findings demonstrate that digital platforms serve not only as sales and marketing tools for tourism SMEs but also function as integrated business management instruments.

The obtained results are consistent with existing scientific studies and confirm the global trends of digital tourism. In particular, the rapid diffusion of mobile technologies and the simplification of digital platform business models have led to structural changes in the tourism sector. The discussion indicates that, for small and medium-sized tourism enterprises, integration into digital platforms has become a necessity rather than a choice. At the same time, this process requires an appropriate technological approach, careful platform selection, and effective man-agement strategies. Otherwise, risks such as platform dependency and commission costs may adversely affect business profitability [12-15].

Overall, the results of the study confirm that digital platforms and mobile technologies are among the key driving forces of sustainable development in the tourism sector, and their adoption by small and medium-sized tourism enterprises has become a necessity rather than an option.

Recommendations

Based on the research findings, the following recommendations are proposed:

- Tourism SMEs should actively utilize the full functional capabilities of digital platforms, including calendar synchronization, automated pricing management, mobile notifications, and related features.
- Business owners should adopt a multi-platform strategy rather than relying on a single platform, prioritizing risk diversification.
- It is recommended to reduce operational costs and improve service quality by leveraging real-time management capabilities through mobile technologies.
- Training programs and awareness-raising initiatives should be implemented to support the digitalization of small and medium-sized tourism enterprises.
- Legal and institutional mechanisms that facilitate the integration of local tourism businesses into global platforms should be established.
- The development of local digital tourism platforms at national and regional levels should be encouraged, and these platforms should be aligned with international standards.
- Particular attention should be paid to data security and privacy issues when using digital platforms.
- Enhancing mobile applications with user-friendly interfaces and multilingual support will increase tourist satisfaction.
- Future research should separately examine the impact of artificial intelligence, big data, and smart tourism solutions on small and medium-sized enterprises.

This study highlights the strategic importance of digital platforms and mobile technologies in the tourism sector, particularly for small and medium-sized businesses, and provides a scientific basis for practical application. Ultimately, a well-planned digital strategy will enable tourism SMEs to achieve a sustainable and competitive position in the global market.

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