

Innovative Management Strategies for Hotel and Restaurant Businesses and Tourism: A Catalyst for Economic Growth

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Abstract: The modern development of the hotel and restaurant business and tourism in the context of digitalisation and globalisation of the economy necessitates the introduction of innovative technologies to improve the competitiveness and sustainable development of the industry. The study's relevance lies in the need for a comprehensive analysis of the impact of digital innovations on the interaction of these industries in the context of rapid changes in market requirements. The study aims to investigate the synergy of the hotel and restaurant business and tourism as a factor of economic development. It seeks to develop innovative approaches to management in these industries. The study uses literature, comparative, and content analysis to assess current trends and management tools. The findings show that integrating artificial intelligence, blockchain technologies, and digitalisation of processes contributes to increasing the efficiency of operations, improving customer experience and ensuring transparency of business processes. The integration of ICT in the hotel and restaurant business makes it possible to address some of the operational challenges, harness resource efficiency, optimise sustainability, and ultimately set apart customer value propositions. The practical significance of the work is to formulate recommendations for enterprises to adapt to global challenges by introducing digital tools and sustainable practices. The proposed approaches can be used to develop business development strategies that will help increase its economic efficiency and regional development.

Keywords: hotel and restaurant business, tourism, digitalisation, innovative technologies, artificial intelligence, blockchain, economic development, sustainable development, competitiveness, management.

Introduction

The development of the hospitality and tourism industry is getting special significance in the contemporary milieu as an essential source of economic and social progress. Hotels, restaurants and other tourist-related facilities make up one of the largest industries and play crucial roles in the economic systems at regional and global levels. Relative to digital transformation and economic internationalisation, the sector is in the process of evolution and optimisation led by the application of the latest technologies, including artificial intelligence, blockchain and business process automation. They generate new potential and new problem-solving issues that necessitate reflection about, or even a transformation of, management practices and the emergence of new tactics. The existing literature review identifies different approaches to analysing digitalisation's effects in the hospitality and tourism industry. Mustafa [1], Dhoundiyal and Mohanty [2] analyse the application of artificial intelligence in creating

customer experience. According to recent works of Gajić et al. [3] and Rejeb et al. [4], there is a strong need for contactless communication and big data analytics for sustainability. Similarly, Adams and Sandarupa [5] also propose incorporating local content knowledge for the purpose of tourism clusters. However, much of the research is focused on some of the dimensions of digitalisation, like automation or marketing, excluding the big picture of how the hospitality and tourism industry is glued within the framework of global change. To date, many scientific sources can be found related to digital innovations. However, the problem of their influence on the economic stability of hospitality businesses remains posterior. It is also important to mention that the potential of applying the principles of blockchain technologies in improving the transparency of the performed activities and incorporating environmental friendliness into the development strategies remains relatively unexplored. The lack of a precise evaluation of such elements hampers the assessment of the promise of digitalisation to facilitate sustainable development.

The interconnection of hotel and restaurant business and tourism as one of the factors of economic growth will be researched in this study, highlighting the contribution of innovative technologies in boosting their performance. The objectives of the study include:

- 1.Studies of contemporary currents use digital technology tools to own hotels, restaurants and tourism-related businesses.
- 2.Analysis of the effects of innovations on competitiveness in enterprises.
- 3.Recognition of constraints and threats that hinder the integration of fresh technologies.
- 4.Working out recommendations on enhancing management effectiveness within this framework.

Thus, the study aims to address the current gaps in the scientific literature and offer potential recommendations that are practical for business and regional development policies.

Literature review

Analysing the results of research and publications presented in this section, we can observe the variety of situations concerning the application of new technologies in tourism and marketing. Aeberhard et al. [6] explore marketing management in the luxury segment, focusing on the uniqueness of services that create added customer value. Mustafa [1] focuses on technology in the hotel sector, highlighting its role in modernising operations. Gajić et al. [3] emphasise the importance of digitalisation in hotels, particularly the introduction of contactless communication for sustainable development. Rejeb et al. [4] apply knowledge path analysis to study the evolution of research in the restaurant industry. Mutum and Ghazali [7] analyse the advantages and disadvantages of marketing strategies, emphasising the importance of a sustainable approach in modern society. Sun [8] applies symmetric analysis to assess consumers' emotional reactions to technology in tourism. Samala et al. [9] analyse the impact of AI and robotics on the tourism sector, highlighting critical aspects. In turn, Samara et al. [10] focus on big data and AI, systematising the literature on their application in the tourism industry.

Dhoundiyal and Mohanty [2] examine the role of artificial intelligence (AI) and robotics in transforming tourism 4.0, enabling personalised tourist experiences. Webster and Ivanov [11] focus on demographic changes that catalyse automation in tourism, while Tussyadiah [12] summarises automation research, highlighting the prospects for AI in the sector. Yele et al. [13] stated in their study that blockchain technologies can be applied to food supply chains in the restaurant business by enhancing consumers' trust by creating transparency and security. In the study of Bosch et al. [14], the focus was given to the auditing of minimum wages in the hospitality sector with concern to monitoring and control. Jiménez-Partearroyo et al. [15] analyse business intelligence and business analytics in the tourism industry using the Joya methodology to better examine structures and relations. The work stresses the need for analytical processes to enhance marginality and competitiveness in tourism organisational strategies.

Generating machine learning technologies for tourist services, Parvez [16] notes that innovation is occurring in the hospitality sector. Kaefer [17] examines the key factors for sustainable tourism success, focusing on industry leadership. Uğurlu [18] emphasises the role of technology in tourism marketing, exploring its impact on the effectiveness of marketing campaigns. Adams and Sandarupa [5] examine local knowledge and entrepreneurship in the context of tourism business sustainability, focusing on the Indonesian experience. Irani et al. [19] analyse online reviews of hotel guests using modern information management technologies. Diegues et al. [20] investigate the impact of digital strategies on the business activities of hotels, and Luo [21] focuses on marketing strategies for the luxury hotel segment.

Alola et al. [22] examine the impact of exchange rate fluctuations and monetary policy on hotel and restaurant prices, while Usman et al. [23] analyse the elasticity of demand for inbound tourism in MENA countries, highlighting the impact of internal and external conflicts. Giousmpasoglou and Marinakou [24] examine the modern hotel industry's structural features. Pitoska and Papadopoulos [25] focus on innovative and sustainable rural development through tourism clusters, while Jiménez-Partearroyo et al. [15] analyse business intelligence and intelligence in tourism using the Joya methodology. He et al. [26, 27] investigate aspects of planning and designing new hotels, including room supply analysis.

The literature analysis has shown that, despite a wide range of studies in the hospitality and tourism sector, the integration of artificial intelligence and blockchain technologies to enhance long-term competitiveness remains insufficiently covered [28, 29, 30]. In addition, there is a lack of comprehensive research on the impact of digital innovations on customer experience management in the context of global challenges and rapid changes in consumer behaviour.

Research methods

The research methodology is based on the application of practical and quantitative methods of analysis, which allows for the study of the synergy of the hotel and restaurant business and tourism with a focus on innovative management approaches. The first step involved a secondary data analysis method, which included statistical papers, marketing, and analytical documents. This enabled us to build up knowledge on how tools and technologies, for instance, process automation, conveyancing through blockchain and artificial intelligence, affect work process efficiency and customers' experience. The next stage was comparative analysis, which enabled one to compare the efficiency of innovations in different regions and types of business. This was useful to see what kind of gaps and similarities there can be in management methodologies. Moreover, a case study approach was applied to investigate examples of innovation concerning the hospitality and tourism industry. It allowed the evaluation of the practical applicability of the newest technologies booming at that time and their effect on enterprises' economic performance.

The methods used here ensured complex effects. These methods made it possible to conduct a deep study of the phenomena under consideration, and the results became the basis for developing proposals for improving management efficiency in this direction.

Results

A critique of the relationship between the Hotel and Restaurant industry and Tourism as a factor of economic growth reveals that both relate and are instrumental in the creation of sound economic chains. A hotel-restaurant contributes infrastructure, comfortable stays, food, and other services to tourists, which enhance the place's attractiveness. Consequently, tourism development creates customer demand; therefore, the revenue of the hospitality companies increases.

Another feature of the innovative management model in the hospitality and tourism management system is the digitalisation of processes. The effects of automation, AI, and big data make it possible to deliver individualised services and a far better customer experience. For instance, using innovative applications to book services, chatbots to address customer concerns or analysing customers' travel requirements generates real value propositions. In ceremonies strongly related to food supply and mainly affecting the restaurant sector, integrating blockchain technologies provides transparent control of financial transactions and enhances supply systems. This technology also assists in enhancing customers' confidence and market investors in infrastructure development, which is a key driver generally in the current world.

The incorporation of new technologies into practice is increasingly being associated with sustainability. Sustainability includes cost reduction, environmentally effective measures on energy-saving hotel solutions, and reducing restaurant food waste. Measures such as the above also assist in creating a proper image of the companies and enhancing their position in the market. Another factor that significantly emphasises the interconnection between the hospitality and tourism industries is the creation of unique operating propositions. Thus, groups and specialised routes connected to local complexes of hotels and restaurants generate additional value for tourists, promoting regional economies' development. Customer behaviour analysis is a response that has become particularly valuable in modern management. Marketing can be managed using business intelligence generalisation, and new products and services that clients expect to be delivered are created. This ensures businesses can cope with changing market conditions, enhancing their competitiveness.

Thus, the relation between the hotel and restaurant business and tourism using new, often called management solutions seems to build the framework for:

- increase regional economic development through investment attraction;
- improving the competitiveness of enterprises in the domestic and international markets;
- ensuring sustainable development of industries through environmental and technological solutions.

Therefore, implementing innovations in the management of the hotel and restaurant business and the tourism industry is an important condition for improving their economic efficiency and contribution to the development of the economy. In the modern context, digital technologies, including artificial intelligence, act as a decisive factor in developing the direction of the changes that have occurred in the hospitality sector, including increasing the efficiency of business processes, providing customers with memorable experiences, and searching for competitive advantages in the recognised market.

Digital technology innovations in the hospitality and tourism industry are gradually influencing managerial proactivity in ways that lead to new horizons of process improvement. These advancements are slowly becoming the core strategies to enhance operations and facilitate the delivery of value-added services to customers. The blockchain concept remains a work in progress, steadily enhancing transparency in financial transactions and the amount of trust binding different parties in the market. The transition between these solutions has to be systematic since the present-day conditions and the need for competitiveness demand it. Table 1 shows the hospitality industry's main areas of digital technologies and artificial intelligence.

Table 1. Innovative approaches to management in the hotel and restaurant business and tourism

Direction	Description	Advantages
Digitalisation of processes	Implement automation, AI, and big data analytics to optimise services and increase efficiency.	Personalisation of customer experience, increased service speed, and competitive advantages through forecasting customer needs.
Integration of blockchain technologies	Ensure transparency of financial transactions and improve supply management through a decentralised system.	Increase customer confidence, attract investors, reduce fraud risks, and improve the quality of supply management.
Sustainable development	Use of energy-saving solutions and minimisation of food waste to increase environmental responsibility.	Cost optimisation, strengthening the positive image of enterprises, and compliance with modern environmental requirements.
Development of unique offers	Creation of tourist clusters and routes based on local characteristics to add value to the offer.	Economic development of the regions, increasing tourist attractiveness and supporting local communities.
Analysis of customer behaviour	Using business intelligence to understand customer needs and develop customised offers.	Increasing customer satisfaction, effectively planning marketing campaigns, and developing innovative products and services.

Source: compiled by the author based on [2, 13, 3, 25, 19, 18, 31]

After analysing the main areas of digital technologies and artificial intelligence in the hospitality industry presented in the table, it is important to consider their key benefits. Figure 1 demonstrates how these innovations contribute to increased efficiency, service quality, sustainable development and market opportunities, ensuring the competitiveness of enterprises in the modern environment.

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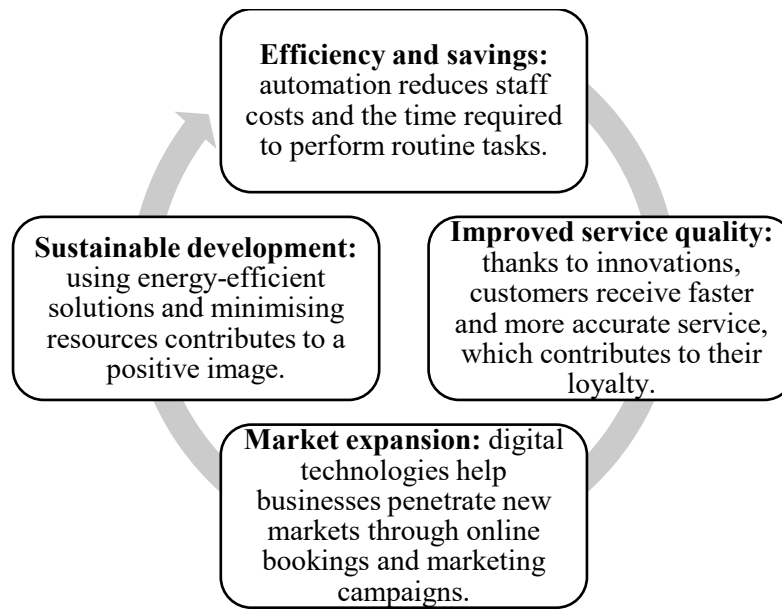


Figure 1. Benefits for competitiveness

Source: compiled by the author based on [2, 3, 19, 1, 9]

The Figure 1 illustrates the key benefits of digitalisation in the hospitality industry. Automation of processes contributes to efficiency and savings by reducing staff costs and time spent on routine tasks. Innovative solutions improve the quality of service by providing faster and more accurate service, which increases customer loyalty. Using digital tools expands the market, helping businesses attract new customers through online bookings and marketing campaigns. Energy-efficient technologies contribute to sustainable development by minimising the use of resources and building a positive image of companies. All of them are linked to each other and form a single complex, which can contribute to increased competitiveness for businesses. Many novice and experienced hosts use digital technologies and artificial intelligence as crucial management elements. Such innovations are not only possible to increase the economic performance of enterprises but also to give a unique experience to customers, which is one of the ways to remain competitive in a constantly changing market environment.

The combination of blockchain technologies in the tourism and hospitality industry has resulted in a surge in the openness of processes and general effective management. Blockchain technologies use decentralised data structure reliability and immunity, enabling the reduction of fraud risk levels. In tourism, identifying financial operations, purchasing services, and maintaining customer databases is critically important. One of the significant concepts he mentioned is the precise relation between financial operations. Real-time tracking of transactions under blockchain between hotels, travel agencies, and customers enables trust among the market players. Besides, the principle of decentralisation and the use of encryption allows for avoiding the leakage of customers' data, including passports and payment information. Another area that benefits from blockchain technology is the restaurant business's supply chain. For instance, in supply chain management, increased visibility of the product movements and the flow fosters customer confidence in service delivery. Such solutions increase the level of customer trust and enhance the perception of business organisations.

One of the primary usages of the blockchain is that smart contracts facilitate transactions between market players. For instance, when paid in travel agencies, smart contracts can instantly validate bookings, thus eliminating the need for user interfaces and cutting on communication expenses. On the same note, customers can independently determine the reliability of the service information, thus increasing their approval and patronage. Nevertheless, the use of blockchain technologies has some disadvantages. The main challenges are high costs tied to modifications of existing systems, the limited availability of skilled staff, and the overall requirement for homogenisation and industry guidelines. Nonetheless, long-term advantages such as fast connection, less cost, and general trust enhancement make blockchain ideal for travel and hospitality businesses. Therefore, the use of blockchain technologies addresses the challenges of creating transparent and optimised business processes that improve the competitiveness of enterprises.

Their use guarantees the client the corresponding protection and, at the same time, lays the foundation for the sustained growth of the sphere (Table 2).

Table 3. The impact of blockchain technologies on the tourism and hospitality industry

Key aspect	Description
Transparency of financial transactions	It also enables real-time record-keeping to track business transactions between hotels, travel agencies, and concerned customers. This cuts spuriously on the flow of probable fraudsters within the markets and strengthens the level of integrity between organisations.
Protection of customer data	Because the blockchain is distributed, relevant data, including passport information and payment data, are encrypted to reduce the probability of an information breach.
Optimising the supply chain	Blockchain is optimising supply chain management in the restaurant industry by enabling the tracking of products through the supply chain and increasing transparency.
Smart contracts	Smart contracts automate transactions, such as confirming bookings with travel agencies after receiving payment, reducing administrative costs and increasing convenience.
Adapting to the market	Blockchain allows businesses to adapt quickly to global challenges, such as by providing contactless services that are essential to maintaining customer trust.
Implementation challenges	The main barriers are the high cost of adapting existing systems, the lack of qualified personnel and the need to standardise regulations. However, the long-term benefits outweigh these difficulties.
Long-term benefits	Blockchain helps reduce costs, speed up transactions, and increase trust, making it a promising technology for the tourism and hospitality industry.

Source: Authors' elaboration based on [13, 10, 25, 19, 3]

The integration of digital technologies not only optimises operational processes but also significantly improves the customer experience in the hospitality industry. Customer satisfaction, including through personalised services and innovative marketing strategies, is an important factor in ensuring loyalty and attracting new visitors. The introduction of such technologies allows for the creation of unique offers that increase companies' competitiveness. Our analysis shows that improving customer experience directly impacts brand image and financial performance. Figure 2 illustrates the key benefits of improving customer experience in the hospitality industry.

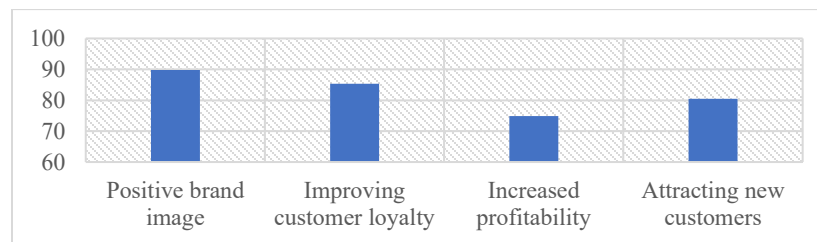


Figure 2. Key benefits of improving customer experience in the hospitality industry

Source: compiled by the author based on [2, 19, 1, 3, 25, 32]

The chart illustrates the key benefits of improving customer experience in the hospitality industry. The highest rate is observed in creating a positive brand image – 89.75% of companies consider this the most important result. Improving customer loyalty is second with 85.30%, which underlines the importance of long-term customer relationships. Increased profitability comes in at 74.85%, demonstrating the positive impact of customer satisfaction on companies' financial performance. Finally, new customer acquisition reaches 80.45%, indicating the ability of high-quality service to attract new audiences. The analysis shows that the difference between the highest score (89.75% for brand image) and the lowest (74.85% for profitability) is 14.90%, highlighting the greater importance of intangible factors such as customer image and loyalty. At the same time, all the scores exceed 70.00%, which confirms the high impact of customer experience on the business's overall success (Figure 3).

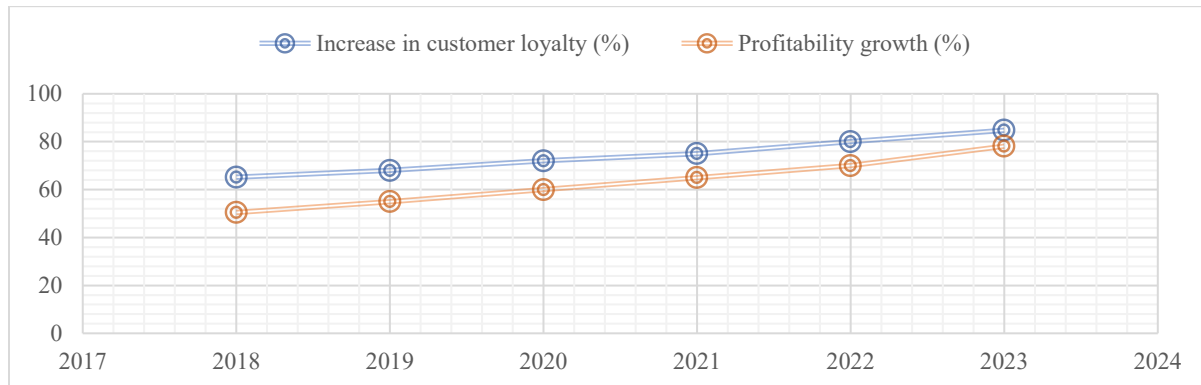


Figure 4. Trends in customer loyalty and profitability growth in 2018-2023.

Source: Authors' elaboration based on [19, 1, 2, 3, 25]

The graph shows the dynamics of improved customer experience's impact on customer loyalty and profitability growth from 2018 to 2023. Customer loyalty shows a steady growth: in 2018, the indicator was 65.20%, and in 2023 it increased to 84.75%, corresponding to an increase of 19.55%. This demonstrates the effectiveness of investments in personalising service and improving service quality. Profitability also showed positive dynamics, increasing from 50.45% in 2018 to 78.10% in 2023. The increase was 27.65%, demonstrating the significant impact of customer satisfaction on the business's financial performance. A comparative analysis indicates that although the absolute number of profitability is comparatively low, the rate of increase is higher than customer loyalty. This confirms our hypothesis that customer experience as a strategic business factor is key to increasing business efficiency and stability in conditions of intense competition.

It is crucial to discuss specific proposals to better organise the innovation of niched technologies in the hotel and restaurant industry to achieve sustainable development goals.

Using energy-efficient technologies forms part of the strategies for enhancing the environmental responsibility of any business. Intelligent resource controls like lighting and air conditioning should be installed on auto control, and the use of water and electricity should be monitored. This is far-reaching because it will cut energy bills and reduce the impact of business on the environment. Technologisation of service processes enhances the quality and convenience of the services. Using mobile apps to make bookings or reservations and contactless customer service, electronic restaurant menus can make service fast. At the same time, it minimises the application of paper resources, which is considered an environmental factor.

The artificial intelligence approach combined with data accumulation can provide new opportunities for increasing management effectiveness. The new tools based on artificial intelligence help us forecast customer needs, tweak marketing strategies, or enhance human resource management. This also assists in fashioning the product offering to reflect user preferences, enhance operations and boost the competitiveness of the business. Another 'pillar' of the concept of sustainable development is the emergence and introduction of 'green' activities. Environmentally friendly colours are used for decoration and packing, proper disposal of foods unsuitable for consumption again, and the sale of foods locally and from

organic food suppliers. Typically, such steps help build up a good image of the company as an environmentally sound organisation and bring in more conscious customers about environmental issues.

Numerous ways show that automation and robotics in the operation of the hospitality industry could significantly enhance the flow of operations. Machines, robots, and information systems like robotic customer service and automated booking are innovative technologies that minimise dynamic request processing time and enhance the reliability of work. Secondly, it serves to minimise staff expenses – which is an efficient way of cutting operating expenses. At the same time, these innovations contribute to improved service quality, increasing customer satisfaction. Table 3 shows an assessment of the impact of automation and robotics on operational processes in the tourism industry.

Table 4. Assessing the impact of automation and robotics on operational processes in the tourism industry

Impact aspect	Description of the impact	Results
Improved efficiency	Automating booking, check-in/check-out, and resource management reduces staff time and effort.	Reduced customer service time, increased productivity and reduced operating costs.
Reducing costs	Using robots and automated systems reduces the need for many staff.	Optimisation of labour costs, especially for routine operations.
Improving the quality of service	AI robots and systems ensure consistently high quality of service, avoiding mistakes typical of the human factor.	Increase customer satisfaction and build long-term loyalty.
Adapting to modern challenges	Introducing contactless technologies (e.g., robot servers or automated receptions) helps improve security.	Ensuring sanitary and epidemiological standards compliance, especially during pandemics or other crises.
Innovative and attractive	Innovative technologies create a unique customer experience and enhance the company's image.	Attracting a new audience and increasing market competitiveness.

Source: Authors' elaboration based on [1, 2, 19, 11, 3]

The key factors for sustainable development of the hotel and restaurant business in the context of regional and global trends are environmental responsibility, digitalisation, integration with local communities, innovative services, global adaptation, staff quality improvement and infrastructure development. Environmental responsibility involves the introduction of energy-saving technologies, reduction of food waste and the use of environmentally friendly materials. The digitalisation of processes, including integrating booking and data analytics platforms, improves operational efficiency and the personalisation of services. Integration with local communities helps to support local producers and promote regional culture, while innovative services such as contactless booking and robot servers meet today's global challenges. Global adaptation, such as multi-currency payments and developing an inclusive environment, ensures we attract international customers. At the same time, investments in staff training and incentive programmes help to improve service quality. Infrastructure development through the modernisation of buildings and transport logistics meets modern comfort and environmental standards. These factors are the basis for the long-term development and competitiveness of the hotel and restaurant business in today's challenging environment.

Discussion

The research findings confirm the importance of synergy between the hotel and restaurant business and tourism as a key driver of economic development. Innovative management approaches, such as introducing artificial intelligence, blockchain technologies and digitalisation of processes, create significant competitive advantages. At the same time, these findings are subject to debate, given the interpretation of other researchers' results. For example, Dhoundiyal and Mohanty [2] emphasise the transformative role of artificial intelligence in tourism, while Bosch et al. [14] highlight the importance of monitoring and control in the hospitality sector to achieve sustainable development. Automating the processes or launching the operations, as well as enhancing customer relations through the personalisation of some services, are highlighted in this study; Mustafa [1] and Irani et al. [19] posit that adopting technology enhances service. With the reference made by Webster and Ivanov [11], the key driver of automation seems to be démographical. According to the present investigation, adopting technologies improves transparency and, therefore, customer trust. Yele et al. [13] stress that blockchain can bring transparency in supply, which matches our methodology, although this work does not analyse the difficulties of technology implementation.

As our findings show, utilising blockchain technologies enhances substantial aspects of the transparency of the financial transaction and management processes. This aligns with Samara et al. [10] but entails further examination of these technology's effects on the future competitiveness of the enterprises. Overall, our conclusions coincide with Kaefer [and Gajić et al. [3], who indicate that the digitalisation process should be seen as a crucial factor of sustainable development. However, the need for focused research remains on how cultural and regional characteristics define success when implementing innovation. Thus, the mutually complementary nature of the hotel and restaurant business and the sphere of tourism unlocks unique opportunities for further establishing stability and development. Future research should concentrate on evaluating the pathological dynamics of digital innovations and culture specifics and regulatory shifts' effects on the competitiveness of these industries.

Conclusion

The work demonstrated that combining hotel and restaurant business and tourism activities based on innovative technologies is critical for efficient economic growth. The adoption of digital technologies, including artificial intelligence and the blockchain, makes operations more efficient and makes the business more transparent. As a key outcome, the work confirms that automation and customisation of customers' experiences are critical to improving enterprises' competitiveness. Introducing modern technologies allows companies to quickly adapt to changing market conditions and consumer expectations. The paper's novelty is to study the integration of blockchain technologies into the travel industry, which increases customer confidence through transparency of financial transactions and supply management. This is a promising topic for further research. The study's practical significance lies in the formulation of recommendations for enterprises in the hotel and restaurant industry, which include the use of environmentally friendly practices, the introduction of digital tools to optimise service and the development of unique customer offers. The study identified limitations, such as the lack of access to specific internal company data and the lack of standardised indicators to assess the impact of digital technologies on customer experience. This requires further study using broader data. The study's results exceeded expectations, demonstrating that combining digital innovations with traditional management models can create a sustainable basis for the development of the hospitality industry, even in the face of global challenges. The main direction for further research is a deeper analysis of cultural and social characteristics that influence innovation effectiveness in different regions. In addition, attention should be paid to the economic feasibility of integrating the latest technologies. It is recommended that enterprises strengthen cooperation with local communities to support regional development, attract local resources, and promote cultural heritage through tourism clusters. Further research should also include an analysis of the long-term impact of innovative technologies on business sustainability, taking into account the current challenges of sustainable development. Thus, the findings underline the importance of integrating innovations into the hospitality and tourism industry, opening up prospects for further expanding the research base and introducing new practices in this area.

References

- [1] Mustafa, E. (2023). Technology in the hotel sector. In A. Hassan & N. A. A. Rahman (Eds.), *Technology application in aviation, tourism and hospitality*. (pp. 95–112). Springer. https://doi.org/10.1007/978-981-19-6619-4_6
- [2] Dhoundiyal, H., & Mohanty, P. (2022). Artificial intelligence and robotics driving tourism 4.0: An exploration. In A. Hassan (Ed.), *Handbook of technology application in tourism in Asia*. (pp. 713–728). Springer. https://doi.org/10.1007/978-981-16-2210-6_57
- [3] Gajić, T., Blešić, I., & Petrović, M. D. (2024). Digitisation in the hotel industry: Sustainability of contactless communication. In F. L. Almeida, J. C. Morais, & J. D. Santos (Eds.), *Digital sustainability: Inclusion and transformation*. (pp. 315–330). Springer. https://doi.org/10.1007/978-3-031-57650-8_21
- [4] Rejeb, A., Abdollahi, A., & Rejeb, K. (2023). Tracing knowledge evolution flows in scholarly restaurant research: A main path analysis. *Quality & Quantity*, 57(4), 2183–2209. <https://doi.org/10.1007/s11355-022-01440-7>
- [5] Adams, K. M., & Sandarupa, D. (2024). Local knowledge, indigenous entrepreneurship, and tourism business resilience: An Indonesian micro-case study. In E. L. Eijdenberg, K. T., P. Wang, & C. Wong (Eds.), *Indigenous entrepreneurship in Southeast Asia*. (pp. 135–156). Springer. https://doi.org/10.1007/978-3-031-54457-6_7

- [6] Aeberhard, M., Antonioli Corigliano, M., Bricchi, S., Kinsman, J., & Kirihaara, K. (2020). Marketing management of luxury providers. In R. Conrady, D. Ruetz, & M. Aeberhard (Eds.), *Luxury tourism*. (pp. 97–114). Springer. https://doi.org/10.1007/978-3-030-59893-8_5
- [7] Mutum, D. S., & Ghazali, E. M. (2023). Benefits and detriments of marketing. In *Consumers, society and marketing*. (pp. 45–62). Springer. https://doi.org/10.1007/978-3-031-39359-4_3
- [8] Sun, G. (2020). Symmetry analysis in analysing cognitive and emotional attitudes for tourism consumers by applying artificial intelligence Python technology. *Symmetry*, 12(4), 606. <https://doi.org/10.3390/SYM12040606>
- [9] Samala, N., Katkam, B. S., Bellamkonda, R. S., & Rodriguez, R. V. (2022). Impact of AI and robotics in the tourism sector: A critical insight. *Journal of Tourism Futures*, 8(1), 73–87. <https://doi.org/10.1108/JTF-07-2019-0065>
- [10] Samara, D., Magnisalis, I., & Peristeras, V. (2020). Artificial intelligence and big data in tourism: A systematic literature review. *Journal of Hospitality and Tourism Technology*, 11(2), 343–367. <https://doi.org/10.1108/JHTT-12-2018-0118>
- [11] Webster, C., & Ivanov, S. (2020). Demographic change as a driver for tourism automation. *Journal of Tourism Futures*, 6(3), 263–270. <https://doi.org/10.1108/JTF-10-2019-0109>
- [12] Tussyadiah, I. (2020). A review of research into automation in tourism: Launching the annals of tourism research curated collection on artificial intelligence and robotics in tourism. *Annals of Tourism Research*, 81, 102883. <https://doi.org/10.1016/j.annals.2020.102883>
- [13] Yele, S., Litoriya, R., & Nair, P. S. (2024). Empowering the restaurant industry: A hyperledger framework for safer and more transparent food supply chains. *International Journal of System Assurance Engineering and Management*, 16, 310–329. <https://doi.org/10.1007/s13198-024-02614-2>
- [14] Bosch, G., Hüttenhoff, F., & Weinkopf, C. (2023). The hotel and restaurant industry. In *The monitoring and enforcement of minimum wages* (pp. 135–156). Springer. https://doi.org/10.1007/978-3-658-39898-9_8
- [15] Jiménez-Partearroyo, M., Medina-López, A., & Rana, S. (2024). Business intelligence and business analytics in tourism: Insights through Gioia methodology. *International Entrepreneurship and Management Journal*, 20(3), 2287–2321. <https://doi.org/10.1007/s11365-024-00973-7>
- [16] Parvez, M. O. (2021). Use of machine learning technology for tourist and organisational services: High-tech innovation in the hospitality industry. *Journal of Tourism Futures*, 7(2), 240–244. <https://doi.org/10.1108/JTF-09-2019-0083>
- [17] Kaefer, F. (2022). Keys to sustainable tourism success. In *Sustainability leadership in tourism*. (pp. 35–50). Springer. https://doi.org/10.1007/978-3-031-05314-6_3
- [18] Uğurlu, K. (2022). Technology in tourism marketing. In A. Hassan Uğurlu (Ed.), *Handbook of technology application in tourism in Asia*. (pp. 57–70). Springer. https://doi.org/10.1007/978-981-16-2210-6_4
- [19] Irani, H. R., Oghazian, F., Mahyari, M. E., & Sobhani, M. E. (2023). Analysis of online reviews created by hotel guests. In A. Mirzazadeh, B. Erdebili, E. Babaee Tirkolaei, G. W. Weber, & A. K. Kar (Eds.), *Science, engineering management and information technology*. (pp. 97–113). Springer. https://doi.org/10.1007/978-3-031-40398-9_6
- [20] Dieguez, T., Ly, N. T., Ferreira, L. P., & da Silva, F. J. G. (2022). Digital customer network strategy influences on hotel business. In J. Machado, F. Soares, J. Trojanowska, & V. Ivanov (Eds.), *Innovations in industrial engineering*. (pp. 455–472). Springer. https://doi.org/10.1007/978-3-030-78170-5_36
- [21] Luo, C. (2023). Research on marketing strategy of luxury hotel. In X. Li, C. Yuan, & J. Kent (Eds.), *Proceedings of the 6th international conference on economic management and green development*. (pp. 154–170). Springer. https://doi.org/10.1007/978-981-19-7826-5_154
- [22] Alola, U. V., Usman, O., & Alola, A. A. (2023). Is the exchange rate impact on restaurant and hotel prices in the US asymmetric? The role of monetary policy uncertainty. *Financial Innovation*, 9(18). <https://doi.org/10.1186/s40854-022-00425-7>

- [23] Usman, O., Alola, A. A., & Ike, G. (2022). Inbound tourism demand elasticities of MENA countries: The role of internal and external conflicts. *International Journal of Emerging Markets*, 18(10), 4690–4706. <https://doi.org/10.1108/IJOEM-04-2021-0650>
- [24] Giousmpasoglou, C., & Marinakou, E. (2024). An overview of the hotel industry. In *The contemporary hotel industry*. (pp. 23–45). Springer. https://doi.org/10.1007/978-3-031-52803-3_2
- [25] Pitoska, E., & Papadopoulos, P. (2024). Tourist clusters and the tourist experience as a tool for smart, sustainable, and integrated development of rural areas: The case of Troodos in Cyprus. In N. Tsounis & A. Vlachvei (Eds.), *Applied economic research and trends*. (pp. 765–783). Springer. https://doi.org/10.1007/978-3-031-49105-4_64
- [26] He, Y., Ye, S., Ding, L., & Wu, A. (2024a). Accommodation supply analysis of hotel. In *Site selection and value evaluation of new hotel projects*. (pp. 105–123). Springer. https://doi.org/10.1007/978-981-97-0228-2_5
- [27] He, Y., Ye, S., Ding, L., & Wu, A. (2024b). Overall design and planning of the proposed hotel. In *Site selection and value evaluation of new hotel projects*. (pp. 215–235). Springer. https://doi.org/10.1007/978-981-97-0228-2_7
- [28] Banyeva, I., Kushniruk, V., Pavliuk, S., Ivanenko, T., & Velychko, O. (2023). Quality Management Strategies in the Hotel and Restaurant Industry: best Practices and Challenges. *Economic Affairs*, 68(3). <https://doi.org/10.46852/0424-2513.3.2023.30>
- [29] Cherven, I., Banyeva, I., Ivanenko, T., Kushniruk, V., & Velychko, O. (2024). Food security strategies in the context of environmental and economic fluctuations in Ukraine. *Economics APK*, 31(6), 59–68. <https://doi.org/10.32317/ekon.apk/6.2024.59>
- [30] Nedzvedskyi, Y., Banyeva, I., Kushniruk, V., Velychko, O., & Cherven, I. (2024). Financial planning and budget management in hospitality and dining establishments: Navigating the financial landscape of the hotel and restaurant sector. *Multidisciplinary Reviews*, 7, 2024spe003. <https://doi.org/10.31893/multirev.2024spe003>
- [31] Martynenko, V. V. (2015). Macroeconomic analysis of socioeconomic development impact on economic security level in Ukraine. *Actual Problems of Economics*, 168(6), 402–409.
- [32] Pugachov, M., Pugachov, V., Shevchenko, O., Banyeva, I., Kushniruk, V., & Shvets, K. (2022). Perspectives for the Tourism and Hospitality Industry in a Globally Competitive Environment. *Economic Affairs*, 67(05), 907–914. <https://doi.org/10.46852/0424-2513.5.2022.26>

