Digital Transformation in Hotel Management: Optimizing Guest Experience in the Industry 4.0 Era

Umar Abdul Jabbar[1], Bayu Ade Prabowo[2], Rafi Athallah Hanafi[3]
Sekolah Tinggi Ilmu Ekonomi Pariwisata Indonesia, Semarang, Indonesia

Article Info	ABSTRACT
	The hotel industry is currently facing a digital transformation driven by technological advancements and changing consumer behavior. This research aims to explore how digital transformation in hotel management can optimize the guest experience in the industry 4.0 era. The research methodology primarily relies on a comprehensive literature review and analysis of industry documents to provide a robust and broad foundation for this study. The findings indicate that integrating technologies such as property management systems (PMS), Internet of Things (IoT), artificial intelligence (AI), and data analytics can enhance operational efficiency, service personalization, and data-driven decision-making in hotel management. However, the implementation of digital transformation also faces challenges, such as significant investments, cybersecurity, and resistance to change. Case studies of hotels that have successfully adopted digital technologies reveal best practices and valuable lessons, including the importance of top management support, strategic alignment, and stakeholder engagement. This article contributes to the literature by integrating the diffusion of innovation (DOI) theory and the technology acceptance model (TAM) to develop a conceptual framework that explains the adoption and success of digital transformation in hotels. The research findings have practical implications for hotel managers in designing and implementing digital transformation initiatives. Although this research primarily relies on secondary data sources, future research can adopt a multi-method research design incorporating primary data to provide further insights into this phenomenon.

Corresponding Author:
Umar Abdul Jabbar,
Email: umar.abduljabbar03@gmail.com

1. INTRODUCTION

The hotel industry has undergone significant changes in recent years, driven by advancements in digital technology and shifts in consumer behavior. The emergence of technologies such as artificial intelligence (AI), the Internet of Things (IoT), and data analytics has opened up new opportunities for hotels to enhance operational efficiency, service personalization, and overall guest experience (Buhalis et al., 2023; Kansakar et al., 2019). Digital transformation in the hotel industry is becoming increasingly critical in the industry 4.0 era, where connectivity, automation, and real-time data exchange are becoming

the norm (Pillai et al., 2021). Hotels that adopt digital technologies can gain a competitive edge by improving guest satisfaction, streamlining operational processes, and optimizing data-driven decision-making (Dang & Nguyen, 2023; Mariani et al., 2018). However, digital transformation also brings challenges, such as significant investments, cybersecurity, and the need for new skills (Kitsios et al., 2023; Lam & Law, 2019). In this context, understanding the strategies, benefits, and challenges of digital transformation becomes crucial for hotel managers to remain competitive in the rapidly changing industry landscape.

In the industry 4.0 era, optimizing the guest experience is becoming increasingly important for the success of hotels. Today's guests expect more personalized, seamless, and interactive experiences, which can be facilitated by digital technologies (Buhalis et al., 2019). By adopting technologies such as AI, IoT, and data analytics, hotels can deliver more personalized services, enhance operational efficiency, and create memorable experiences for guests (Dang & Nguyen, 2023; Kansakar et al., 2019). For example, AI-powered chatbots can provide 24/7 assistance to guests, while data analytics can help hotels understand guest preferences and tailor their services accordingly (Tussyadiah, 2020). Furthermore, IoT technologies can be used to create smarter and more responsive hotel rooms, enhancing guest comfort and satisfaction (Buhalis et al., 2023). Optimizing the guest experience through digital transformation not only increases customer loyalty but can also lead to competitive advantages and revenue growth for hotels (Mariani & Borghi, 2021). In today's highly competitive environment, hotels that can leverage digital technologies to deliver superior guest experiences will be better positioned to attract and retain customers.

This article aims to explore how digital transformation in hotel management can optimize the guest experience in the industry 4.0 era. Specifically, it will investigate the strategies, benefits, and challenges of adopting digital technologies such as AI, IoT, and data analytics in the hospitality context (Buhalis et al., 2019; Dang & Nguyen, 2023). The article will also examine case studies of hotels that have successfully implemented digital technologies to enhance operational efficiency, service personalization, and guest satisfaction (Kitsios et al., 2023; Mariani & Borghi, 2021). By analyzing best practices and lessons from these case studies, the article aims to provide practical insights for hotel managers in designing and implementing digital transformation initiatives at their properties.

The scope of this article encompasses various digital technologies relevant to the hotel industry, as well as the theoretical and practical implications of adopting these technologies. However, it is important to note that, due to time and resource constraints, this research primarily relies on secondary data sources, including a review of academic literature and an

analysis of industry documents (Snyder, 2019). While this approach allows for a broad synthesis of knowledge, future research could benefit from incorporating primary data, such as surveys and interviews with industry practitioners, to provide richer and more nuanced insights (Creswell & Creswell, 2018). Nevertheless, this article is expected to contribute to the literature on digital transformation in hospitality and provide guidance for industry practitioners and researchers interested in further exploring this topic.

To guide the exploration of digital transformation in hotel management and its impact on the guest experience, this article poses the following research questions:

1. How do hotels integrate digital technologies such as AI, IoT, and data analytics into their operations to enhance efficiency and service personalization? (Buhalis et al., 2023; Dang & Nguyen, 2023)

2. What are the key benefits and challenges faced by hotels in adopting digital technologies to optimize the guest experience? (Kansakar et al., 2019; Kitsios et al., 2023)

3. How can case studies of hotels that have successfully implemented digital technologies provide insights into best practices and lessons for digital transformation in the hospitality industry? (Mariani & Borghi, 2021; Tussyadiah, 2020)

Based on an initial literature review, this article hypothesizes that hotels that effectively integrate digital technologies into their operations will experience increased operational efficiency, service personalization, and guest satisfaction, leading to competitive advantages and revenue growth (Buhalis et al., 2019; Dang & Nguyen, 2023). However, the success of digital transformation in hotel management will depend on hotels' ability to overcome challenges such as capital investments, cybersecurity, and resistance to change (Kansakar et al., 2019; Kitsios et al., 2023).

It is important to note that, as this research primarily relies on secondary data sources, the ability to fully answer the research questions and test the hypothesis may be limited. The literature review and analysis of industry documents can provide valuable insights into this phenomenon, but primary data from surveys and interviews with industry practitioners would be necessary to fully validate the findings and develop a more nuanced understanding (Snyder, 2019). Therefore, the research questions and hypothesis presented here should be viewed as guides for initial exploration and a foundation for further research.

2. RESEARCH METHOD

Given the time and resource constraints, this article adopts a qualitative research design that primarily relies on secondary data sources, including a comprehensive literature review and an analysis of industry documents (Snyder, 2019). The literature review is conducted to identify and synthesize relevant research on digital transformation in the hospitality industry, focusing on the adoption of digital technologies, benefits, challenges, and best practices (Tranfield et al., 2003). Literature searches are performed on leading academic databases, such as Scopus, Web of Science, and Google Scholar, using relevant keywords such as "digital transformation," "hospitality industry," "guest experience," and "industry 4.0" (Dang & Nguyen, 2023; Kitsios et al., 2023).

In addition to academic publications, this article also draws upon industry reports, white papers, and case studies published by industry associations, consulting firms, and leading technology providers (Yin, 2018). These documents provide valuable insights into real-world trends, best practices, and experiences in implementing digital technologies within the hospitality context (Mariani & Borghi, 2021; Tussyadiah, 2020).

While this research design allows for a broad synthesis of knowledge and valuable insights, it is important to acknowledge its limitations. Relying on secondary data sources can limit the depth and nuance of the analysis, as researchers cannot directly investigate the phenomenon through interactions with participants or direct observations (Saunders et al., 2019). Additionally, secondary data may not fully answer the specific research questions or test the hypotheses posed in this article (Johnston, 2014).

To address these limitations, future research on digital transformation in the hospitality industry should consider adopting a multi-method research design that combines primary and secondary data analysis (Creswell & Creswell, 2018). For example, conducting surveys and interviews with hotel managers, staff, and guests can provide richer and more contextual insights to complement the findings from the literature review and document analysis (Dang & Nguyen, 2023).

Data collection for this article primarily relies on secondary data sources, including a review of academic literature and an analysis of industry documents, to provide a robust and comprehensive foundation for the research (Johnston, 2014). The literature review is conducted on leading academic databases, such as Scopus, Web of Science, and Google Scholar, to identify relevant research on digital transformation in the hospitality industry (Dang & Nguyen, 2023; Kitsios et al., 2023). Keywords used in the search include "digital transformation," "hospitality industry," "guest experience," "industry 4.0," "artificial

intelligence," "Internet of Things," and "data analytics" (Buhalis et al., 2019; Kansakar et al., 2019).

In addition to academic publications, this article also draws upon industry reports, white papers, and case studies published by industry associations, consulting firms, and leading technology providers (Yin, 2018). These documents provide valuable insights into real-world trends, best practices, and experiences in implementing digital technologies within the hospitality context (Mariani & Borghi, 2021; Tussyadiah, 2020).

Although primary data sources, such as surveys and interviews, could provide valuable information, secondary data sources offer a broad coverage and allow for the synthesis of insights from various perspectives (Johnston, 2014). By carefully selecting and critically evaluating secondary data sources, this article aims to provide a robust and comprehensive analysis of digital transformation in hotel management and its impact on the guest experience (Snyder, 2019).

This article employs a qualitative data analysis approach to understand and interpret the findings from the literature review and document analysis (Creswell & Creswell, 2018). The data analysis process begins with coding the secondary data sources using qualitative data analysis software, such as NVivo or ATLAS.ti (Friese, 2019). Initial coding involves identifying key themes, patterns, and concepts that emerge from the data, using an open coding approach (Saldaña, 2021).

Following the initial coding, the emerging themes and concepts are grouped into broader, mutually exclusive categories through an axial coding process (Corbin & Strauss, 2014). These categories are then further analyzed to identify relationships, trends, and emerging insights (Yin, 2018). Thematic analysis is used to interpret and synthesize the findings, allowing for the development of coherent arguments and conclusions (Braun & Clarke, 2021).

To enhance the validity and reliability of the findings, this article employs triangulation techniques, comparing and cross-checking insights derived from various data sources and theoretical perspectives (Fusch et al., 2018). Additionally, researcher reflexivity is practiced throughout the research process to address potential biases and ensure accurate representation of the data (Creswell & Creswell, 2018).

By combining thematic analysis, triangulation, and reflexivity practices, this article aims to generate robust, reliable, and valid findings on digital transformation in hotel management and its impact on the guest experience (Saldaña, 2021; Yin, 2018).

This article adopts a conceptual framework that combines the diffusion of innovation (DOI) theory (Rogers, 2003) and the technology acceptance model (TAM) (Davis, 1989) to understand digital transformation in the hospitality industry. The DOI theory explains how, why, and at what rate new ideas and technologies spread through a social system (Rogers, 2003). This theory provides insights into the factors influencing the adoption of digital technologies in hotel management, such as relative advantage, compatibility, complexity, trialability, and observability (Wang et al., 2016).

On the other hand, the TAM model focuses on the factors influencing individuals' acceptance and use of technology, emphasizing perceived usefulness and ease of use (Davis, 1989). This model has been widely applied in research on technology adoption in the hospitality industry (Buhalis et al., 2019; Kansakar et al., 2019).

By integrating the DOI theory and the TAM model, the proposed conceptual framework allows for a comprehensive examination of the organizational and individual factors influencing digital transformation in hotel management (Dang & Nguyen, 2023). This framework also takes into account the unique characteristics of the hospitality industry, such as the crucial role of human interaction and the emphasis on guest experience (Mariani & Borghi, 2021; Tussyadiah, 2020).

In applying this conceptual framework, this article aims to provide a robust and holistic analysis of the adoption and impact of digital technologies within the hotel management context, while contributing to the development of theory in the fields of digital transformation and hospitality (Kitsios et al., 2023; Wang et al., 2016).

3. RESULTS AND DISCUSSIONS

Implementation of digital technologies in hotel management

The literature review reveals that hotels are increasingly adopting various digital technologies to enhance operational efficiency, service personalization, and guest experience (Buhalis et al., 2019; Kitsios et al., 2023). One of the key technologies being implemented is cloud-based property management systems (PMS), which enable seamless integration between various hotel functions, such as reservations, room management, and billing (Dang & Nguyen, 2023). Modern PMSs are also equipped with data analytics features, allowing hotels to gain valuable insights into guest behavior and preferences (Mariani & Borghi, 2021).

Moreover, hotels are leveraging the Internet of Things (IoT) to create smart hotel rooms and enhance guest comfort (Buhalis et al., 2023). IoT devices and sensors enable

customized temperature control, lighting, and electronic devices while providing hotels with valuable data on usage patterns and guest preferences (Kansakar et al., 2019). Some hotels have also adopted smartphone-based smart keys, allowing guests to bypass the traditional check-in process and directly access their rooms (Wang et al., 2016).

Artificial intelligence (AI) and machine learning are increasingly being applied in hotel management to enhance customer service and decision-making (Tussyadiah, 2020). AI-powered chatbots are used to provide 24/7 customer support and personalized recommendations (Dang & Nguyen, 2023). Machine learning algorithms are employed to predict room demand, optimize pricing, and improve revenue management (Mariani & Borghi, 2021).

While the adoption of digital technologies promises various benefits, their implementation also brings challenges. Hotels need to consider data privacy and cybersecurity issues when implementing digital solutions (Buhalis et al., 2019). Additionally, significant financial investments, the need for new skills, and resistance to change among staff and guests can act as barriers to successful adoption (Kansakar et al., 2019; Kitsios et al., 2023).

Theoretical and practical implications of the findings

The findings from the literature review and case study analysis have significant theoretical and practical implications for hotel management research and practice. From a theoretical perspective, this article contributes to the growing literature on digital transformation in the hospitality industry by integrating the diffusion of innovation (DOI) theory and the technology acceptance model (TAM) (Dang & Nguyen, 2023; Wang et al., 2016). The application of the proposed conceptual framework extends our understanding of the factors influencing the adoption of digital technologies in hotels and their impact on the guest experience (Buhalis et al., 2019; Kitsios et al., 2023).

These findings also highlight the need for further research on the role of contextual factors, such as hotel size, star category, and location, in shaping digital transformation strategies (Mariani & Borghi, 2021). Moreover, future research could explore the impact of emerging technologies, such as service robotics, virtual and augmented reality, and blockchain, on the hospitality industry (Tussyadiah, 2020).

From a practical perspective, this article offers valuable insights for hotel managers seeking to implement digital technologies to enhance operations and guest experiences. The case studies highlight best practices, such as adopting a phased approach to technology implementation, involving key stakeholders in the process, and investing in staff training

(Buhalis et al., 2023; Kansakar et al., 2019). These findings also emphasize the importance of addressing data privacy and cybersecurity concerns when adopting digital solutions (Dang & Nguyen, 2023).

Furthermore, this article underscores the potential of digital technologies in enabling hotels to deliver more personalized and seamless experiences to guests, which can lead to increased customer satisfaction, loyalty, and revenue (Mariani & Borghi, 2021). However, hotel managers need to carefully balance the adoption of technology with the human touch, as interpersonal interactions remain a crucial aspect of hospitality (Buhalis et al., 2019).

Research limitations and recommendations for future research

While this article provides valuable insights into digital transformation in hotel management, several limitations should be noted. First, this article primarily relies on secondary data sources, such as literature reviews and industry document analysis (Snyder, 2019). Although this approach allows for a synthesis of existing knowledge, it may not capture the nuances and contextual insights that could be gained through primary data, such as interviews with industry practitioners (Creswell & Creswell, 2018).

Second, the scope of this article is limited to the key digital technologies currently being used in hotel management, such as PMS, IoT, AI, and data analytics (Buhalis et al., 2019; Dang & Nguyen, 2023). However, the rapidly evolving technology landscape suggests that future research should explore the potential of new technologies, such as service robotics, virtual and augmented reality, and blockchain, in transforming hotel operations and guest experiences (Tussyadiah, 2020).

Third, while this article presents case studies of hotels that have successfully implemented digital technologies, the generalizability of the findings may be limited due to differences in hotel size, star category, market segment, and geographical location (Mariani & Borghi, 2021). Future research could investigate how these contextual factors shape digital transformation strategies and outcomes in hotels (Kitsios et al., 2023).

To address these limitations, future research should adopt a multi-method research design that combines primary and secondary data analysis (Creswell & Creswell, 2018). Qualitative studies involving in-depth interviews with hotel managers and guests could provide richer insights into the factors driving or hindering the adoption of digital technologies and their impact on service experiences (Wang et al., 2016). Additionally, large-scale quantitative surveys could help generalize findings and test relationships between key variables (Dang & Nguyen, 2023).

Future research should also investigate the role of emerging technologies in transforming the hospitality industry and their implications for management practices (Buhalis et al., 2019). Moreover, more research is needed on the impact of digital transformation on hotel-level outcomes, such as operational efficiency, guest satisfaction, and financial performance (Mariani & Borghi, 2021). By addressing these limitations and pursuing the suggested research directions, scholars can further advance our understanding of digital transformation in the hospitality industry.

Best practices and lessons learned

The case studies of hotels that have successfully implemented digital technologies highlight several best practices and valuable lessons for digital transformation in hotel management. First, hotels should adopt a strategic and phased approach to technology implementation, prioritizing solutions that align with their business objectives and guest needs (Mariani & Borghi, 2021; Wang et al., 2016). This involves a thorough assessment of existing IT infrastructure, budgets, and human resource capabilities before investing in new technologies (Buhalis et al., 2023).

Second, involving key stakeholders, including top management, frontline staff, and guests, is crucial for the successful adoption of digital technologies (Kansakar et al., 2019). Hotels should proactively seek feedback and input from these stakeholders, communicate the benefits of new technologies, and address any concerns or resistance (Dang & Nguyen, 2023).

Third, investing in staff training and skill development is essential to ensure the effective and efficient use of digital technologies (Kitsios et al., 2023). Hotels should provide ongoing training, support, and incentives for employees to embrace new technologies and integrate them into their daily work routines (Buhalis et al., 2019).

Fourth, hotels should prioritize data security and privacy when implementing digital solutions, ensuring compliance with data protection regulations and implementing robust technical and organizational measures to safeguard sensitive information (Tussyadiah, 2020). Transparency in data collection and usage, as well as providing guests with options to control their personal information, can help build trust and confidence in the hotel's digital transformation initiatives (Buhalis et al., 2023).

Finally, hotels should regularly monitor and evaluate the performance of their digital technologies, using metrics and data analytics to assess their impact on operational efficiency, guest satisfaction, and business outcomes (Mariani & Borghi, 2021). The learnings from

these evaluations should be used to adjust and refine the hotel's digital transformation strategy over time (Dang & Nguyen, 2023).

By adopting these best practices and applying the lessons learned from case studies, hotels can better position themselves for success in their digital transformation journey while delivering enhanced and value-added experiences to their guests.

Success factors and challenges in implementation

The case studies of hotels that have successfully adopted digital technologies reveal several key success factors and challenges in implementing digital transformation. One of the most critical factors for success is support and commitment from top management (Dang & Nguyen, 2023). Hotel leaders must actively champion the vision for digital transformation, allocate the necessary resources, and create a culture that encourages innovation and experimentation (Buhalis et al., 2019).

Strategic alignment between digital transformation initiatives and the hotel's overall business objectives is also crucial for success (Kitsios et al., 2023). Digital technologies should be implemented with clear goals in mind, such as improving operational efficiency, service personalization, or guest engagement, and should be seamlessly integrated into the hotel's existing processes and systems (Kansakar et al., 2019).

Moreover, cross-functional collaboration and stakeholder involvement were identified as significant drivers of success (Mariani & Borghi, 2021). Implementing digital technologies often requires coordination across various departments, including IT, operations, marketing, and human resources. Fostering clear communication, knowledge sharing, and teamwork across the organization is essential for breaking down silos and ensuring a smooth technology rollout (Wang et al., 2016).

However, hotels also face various challenges in their digital transformation journey. One major challenge is resistance to change from staff and guests (Buhalis et al., 2023). Employees may feel threatened by new technologies or lack the skills and confidence to adopt them, while some guests may prefer traditional face-to-face interactions over digital interfaces (Tussyadiah, 2020).

Other challenges include the high upfront investment costs for digital technologies, lack of adequate IT infrastructure and internal expertise, and concerns around data security and privacy (Dang & Nguyen, 2023). Hotels need to carefully evaluate the return on investment of digital solutions, build the necessary IT capabilities, and implement robust cybersecurity safeguards to address these challenges (Kitsios et al., 2023).

The case studies also highlight the importance of a phased approach to implementation, starting with small pilot projects before moving on to larger initiatives (Mariani & Borghi, 2021). This iterative approach allows hotels to learn from early successes and failures, refine their strategies, and gradually build momentum for digital transformation (Buhalis et al., 2019).

By recognizing and proactively addressing these success factors and challenges, hotels can better position themselves to navigate the complexities of digital transformation and realize the full benefits of their technology investments.

4. CONCLUSION

This article provides a comprehensive analysis of digital transformation in the hospitality industry, focusing on the adoption of digital technologies in hotel management and their impact on the guest experience. The literature review and case study analysis reveal that hotels are increasingly implementing technologies such as property management systems (PMS), Internet of Things (IoT), artificial intelligence (AI), and data analytics to enhance operational efficiency, service personalization, and guest engagement (Buhalis et al., 2019; Dang & Nguyen, 2023). This research contributes to the literature by integrating the diffusion of innovation (DOI) theory and the technology acceptance model (TAM) to develop a conceptual framework that explains the factors influencing the adoption and success of digital transformation in hotels (Wang et al., 2016).

The findings from this article address the research questions posed and largely support the proposed hypotheses. Hotels are indeed integrating various digital technologies to improve operations and guest experiences, with benefits such as increased efficiency, personalized services, and data-driven insights (Mariani & Borghi, 2021). However, hotels also face challenges in technology adoption, including resistance to change, high investments, and data security concerns (Kitsios et al., 2023). The success of digital transformation depends on various factors, such as top management support, strategic alignment, and stakeholder engagement (Kansakar et al., 2019).

Based on the findings of this research, several recommendations can be offered to the hospitality industry in adopting digital transformation. First, hotels should develop a clear digital transformation strategy, with prioritized technologies aligned with their business objectives and guest needs (Buhalis et al., 2023). Second, involving key stakeholders, including management, staff, and guests, is crucial for successful technology adoption (Tussyadiah, 2020). Third, hotels should invest in training and support to equip staff with the

necessary skills and confidence to embrace new technologies (Dang & Nguyen, 2023). Finally, addressing concerns around data security and privacy while communicating the benefits of digital technologies to guests will be essential for building trust and acceptance (Buhalis et al., 2019).

Although this article provides valuable insights into digital transformation in the hospitality industry, more research is needed in several areas. Future research should investigate the role of emerging technologies, such as service robotics, virtual and augmented reality, and blockchain, in transforming hotel operations and guest experiences (Tussyadiah, 2020). Empirical studies examining the impact of digital transformation on various hotel performance metrics, including operational efficiency, guest satisfaction, and profitability, would also be valuable (Mariani & Borghi, 2021). Moreover, cross-contextual research examining how contextual factors, such as hotel star rating, location, and market segment, influence digital transformation strategies and outcomes will help generalize the findings (Kitsios et al., 2023). Finally, multi-method research designs combining qualitative and quantitative data analysis can offer rich and robust insights into the phenomenon of digital transformation in the hospitality industry (Dang & Nguyen, 2023).

Once again, I extend my gratitude to all those who have supported my participation in the "International Conference 2024: Global Tourism Science and Vocational Education". I hope that the research I present will make a meaningful contribution to the ongoing discussions on digital transformation in the hospitality industry and inspire further research in this area.

REFERENCES

Braun, V., & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. SAGE Publications Ltd.

Buhalis, D. et al. (2019). Technological disruptions in services: lessons from tourism and hospitality. *Journal of Service Management*, *30*(4), 484–506. https://doi.org/10.1108/JOSM-12-2018-0398

Buhalis, D. et al. (2023). Smart hospitality: from smart cities and smart tourism towards agile business ecosystems in networked destinations. *International Journal of Contemporary Hospitality Management*, *35*(1), 369–393. https://doi.org/10.1108/IJCHM-04-2022-0497

Corbin, J., & Strauss, A. (2014). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (4th ed.)*. SAGE Publications Inc.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th Edition)*. SAGE Publications, Inc.

Dang, T. D., & Nguyen, M. T. (2023). Systematic review and research agenda for the tourism and hospitality sector: co-creation of customer value in the digital age. *Future Business Journal*, *9*(1), 94. https://doi.org/10.1186/s43093-023-00274-5

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319. https://doi.org/10.2307/249008

Friese, S. (2019). *Qualitative data analysis with ATLAS.ti (3rd ed.)*. SAGE Publications Ltd.

Fusch, P. et al. (2018). Denzin's Paradigm Shift: Revisiting Triangulation in Qualitative Research. *Journal of Social Change*, *10*(1). https://doi.org/10.5590/JOSC.2018.10.1.02

Johnston, M. P. (2014). Secondary Data Analysis : A Method of which the Time Has Come. *Qualitative and Quantitative Methods in Libraries (QQML)*, *03*(03), 619–626.

Kansakar, P. et al. (2019). Technology in the Hospitality Industry: Prospects and Challenges. *IEEE Consumer Electronics Magazine*, *8*(3), 60–65. https://doi.org/10.1109/MCE.2019.2892245

Kitsios, F. et al. (2023). *Digital Transformation in Hospitality: Identifying Customer Satisfaction Based on Online Hotel Guests' Ratings* (pp. 173–188). https://doi.org/10.1007/978-3-031-31682-1_9

Lam, C., & Law, R. (2019). Readiness of upscale and luxury-branded hotels for digital

transformation. *International Journal of Hospitality Management*, *79*, 60–69. https://doi.org/10.1016/j.ijhm.2018.12.015

Mariani, M. et al. (2018). Business intelligence and big data in hospitality and tourism: a systematic literature review. *International Journal of Contemporary Hospitality Management*, *30*(12), 3514–3554. https://doi.org/10.1108/IJCHM-07-2017-0461

Mariani, M., & Borghi, M. (2021). Customers' evaluation of mechanical artificial intelligence in hospitality services: a study using online reviews analytics. *International Journal of Contemporary Hospitality Management*, *33*(11), 3956–3976. https://doi.org/10.1108/IJCHM-06-2020-0622

Pillai, S. G. et al. (2021). COVID-19 and hospitality 5.0: Redefining hospitality operations. *International Journal of Hospitality Management*, *94*, 102869. https://doi.org/10.1016/j.ijhm.2021.102869

Rogers, E. M. (2003). *Diffusion of Innovations (5th Ed.)*. Free Press.

Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers (4th ed.)*. SAGE Publications Ltd.

Saunders, M. N. . et al. (2019). *Research Methods for Business Students (8th edition)*. Pearson Education.

Shamim, S. et al. (2017). Examining the Feasibilities of Industry 4.0 for the Hospitality Sector with the Lens of Management Practice. *Energies*, *10*(4), 499. https://doi.org/10.3390/en10040499

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Tranfield, D. et al. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. *British Journal of Management*, *14*(3), 207–222. https://doi.org/10.1111/1467-8551.00375

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

Wang, Y.-S. et al. (2016). Factors affecting hotels' adoption of mobile reservation systems: A technology-organization-environment framework. *Tourism Management*, *53*, 163–172. https://doi.org/10.1016/j.tourman.2015.09.021

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods*. SAGE Publications Inc.