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IMPROVING THE DIGITALIZED SYSTEM FOR MANAGING INNOVATIONS IN THE HOSPITALITY INDUSTRY: PERSPECTIVES ON EFFICIENCY AND STRATEGIC DECISION-MAKING

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Abstract: This article examines how digitalized systems can improve innovation management in the hospitality industry with specific focus on efficiency and strategic decision-making. Using a qualitative conceptual approach based on systematic literature review, the study synthesizes key scholarship on hospitality digital transformation, knowledge management, business intelligence, and service innovation. The findings show that digitalized systems improve innovation outcomes when they connect operational information, customer data, and organizational learning rather than operating as isolated technologies. Integrated systems enhance workflow efficiency, support service redesign, and strengthen evidence-based decision-making, but their benefits depend on managerial capability, interoperability, and governance quality. The article concludes that improving digitalized innovation systems in hospitality requires strategic alignment between technology, people, and organizational processes.

Keywords: digital transformation, innovation management, hospitality industry, strategic decision-making, operational efficiency

1. Introduction

The hospitality industry has experienced substantial digital transformation as hotels increasingly adopt reservation systems, mobile platforms, analytics tools, and automated service technologies to improve operations and competitiveness. This transformation affects not only guest services but also the management of innovation and strategic decision-making (Buhalis & Law, 2008; Law et al., 2014; Verhoef et al., 2021). Digitalized systems have become central to how hospitality firms monitor performance, respond to market volatility, and design new service solutions (Mariani et al., 2018; Vial, 2019; Tussyadiah, 2020).

Despite this progress, the literature still gives limited integrated attention to how digitalized systems improve innovation management as a whole. Many studies focus on specific technologies, but fewer explain how operational efficiency and strategic decision-making are strengthened together through digital integration (Gretzel et al., 2020; Ivanov & Webster, 2019; Sigala, 2018). This gap is important because digital adoption alone does not guarantee better innovation outcomes; value depends on learning capacity, managerial interpretation, and coordinated use of information (Cohen & Levinthal, 1990; Hallin & Marnburg, 2008; Jaakkola, 2020).



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This article therefore asks three questions: how do digitalized systems improve innovation management efficiency in hospitality organizations, through what mechanisms do they influence strategic decision-making, and what barriers limit their effectiveness?

Aim of the article. The aim of this article is to examine how digitalized systems can improve the management of innovations in the hospitality industry by enhancing operational efficiency, strengthening organizational learning, and supporting more informed strategic decision-making across hotel organizations.

Research objectives. The objectives of this article are to:

1. Analyse how digitalized systems, such as PMS, CRM, analytics, and automation tools, contribute to innovation management efficiency in hospitality organizations.
2. Examine the mechanisms through which digitalized systems support strategic decision-making, particularly in pricing, service design, and resource allocation.
3. Explore the role of organizational capabilities, including digital skills, governance, and data-use culture, in enabling or constraining the innovation benefits of digitalized systems.
4. Develop a conceptual framework linking digital infrastructure, knowledge integration, and managerial capability with innovation outcomes in the hospitality industry.

Research questions. Based on these objectives, the article addresses the following research questions:

1. How do digitalized systems improve innovation management efficiency in hospitality organizations?
2. Through which mechanisms do digitalized systems influence strategic decision-making in the hospitality industry?
3. What organizational capabilities and conditions enable hospitality firms to realize the innovation benefits of digitalized systems?
4. How can the relationships between digital infrastructure, knowledge integration, managerial capability, and innovation outcomes be conceptualized in a framework for future empirical research?

2. Methods

This study employed a qualitative conceptual design supported by systematic literature review. This approach is suitable for integrating fragmented scholarship and building a coherent explanatory framework for doctoral-level research (Jaakkola, 2020). The source base included peer-reviewed journal articles, institutional reports, and foundational studies in hospitality, tourism, information systems, analytics, and knowledge management. Sources were selected according to academic relevance and contribution to understanding organizational outcomes of digital transformation (Mariani et al., 2018; OECD, 2020; UNWTO, 2021).

The analytical procedure involved identifying themes related to digital infrastructure, service innovation, data use, organizational learning, and strategic decision support. The literature was then synthesized to explain how digitalized systems shape innovation management efficiency and decision quality in hospitality firms. The unit of analysis was the hospitality organization, especially hotels and hotel groups using digital



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tools to support both operations and innovation activities (Neuhofer et al., 2015; Ottenbacher & Gnoth, 2005; Teece, 2018).

3. Results

The analysis indicates that digitalized systems improve innovation management efficiency by reducing fragmentation across operational functions. Integrated systems link reservations, customer data, front-office activity, and service monitoring, enabling faster response times and more coordinated innovation processes (Law et al., 2014; Neuhofer et al., 2015; Mariani et al., 2018). These effects are especially relevant in hospitality because service innovation often depends on continuous adaptation rather than long development cycles (Ottenbacher & Gnoth, 2005).

A second result is that digitalized systems strengthen organizational learning. Data from guest interactions, service feedback, and performance metrics become strategically useful when they are transformed into shared knowledge that informs managerial action (Fuchs et al., 2014; Hallin & Marnburg, 2008; Cohen & Levinthal, 1990). Hospitality firms with stronger digital integration are therefore better positioned to redesign services and improve innovation outcomes.

The findings also show that digitalized systems enhance strategic decision-making by improving forecasting, monitoring, and evidence-based judgment. Analytics tools and digital dashboards help managers identify patterns, assess market changes, and allocate resources more effectively (Davenport & Harris, 2007; Shollo et al., 2022; Teece, 2018). However, these benefits are weakened by poor interoperability, insufficient digital skills, weak governance, and cybersecurity concerns (Ivanov & Webster, 2019; OECD, 2020; UNWTO, 2021).

4. Discussion

The results suggest that digitalized innovation management should be understood as a strategic capability rather than a technical investment alone. Digital systems create value when they are embedded in routines that support learning, coordination, and adaptive managerial judgment (Vial, 2019; Verhoef et al., 2021). This explains why some hospitality firms obtain strong innovation benefits from digital transformation while others experience only limited operational improvements.

The relationship between efficiency and innovation is especially important. When systems reduce delays, improve information visibility, and support coordination, they create better conditions for service redesign and experimentation (Buhalis & Law, 2008; Sigala, 2018; Gretzel et al., 2020). At the same time, strategic decision-making improves because managers have access to richer and more timely information, although the quality of outcomes still depends on human capability and organizational readiness (Davenport & Harris, 2007; Teece, 2018).

These findings support a conceptual understanding in which digital infrastructure, knowledge integration, and managerial capability jointly influence innovation efficiency and strategic decision-making. The evidence also suggests that barriers such as resistance to change, cost, and poor integration reduce the strategic value of digitalized systems in hospitality organizations (UNWTO, 2021; Verhoef et al., 2021).



5. Conclusion

This article examined how digitalized systems improve the management of innovations in the hospitality industry from the perspectives of efficiency and strategic decision-making. The analysis shows that digitalized systems contribute most effectively when they integrate operational data, customer intelligence, and organizational learning into a coherent innovation-management process (Mariani et al., 2018; Vial, 2019).

The study also demonstrates that digital transformation in hospitality is not simply about technology acquisition. Its effectiveness depends on absorptive capacity, managerial competence, governance quality, and the alignment of digital initiatives with strategic goals (Cohen & Levinthal, 1990; Teece, 2018; Verhoef et al., 2021). Future empirical research may test these relationships across different hospitality contexts and compare how digitalized innovation systems operate in firms of different sizes and levels of technological maturity.

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