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ORIGINAL CONTRIBUTION

The Impact of Digital Transformation on Business Performance: Evidence from Small and Medium-Sized Hotels in Thailand

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Abstract— This study examines the effects of digital disruption and digital infrastructure on digital transformation and business performance among small and medium-sized hotels in Thailand. Drawing on the Technology-Organization-Environment framework, Resource-Based View, and Dynamic Capabilities Theory, the study develops a model linking digital disruption and digital infrastructure to digital transformation and, subsequently, business performance. A quantitative research design was employed using a structured questionnaire administered to hotel owners, general managers, and senior executives. Data from 400 valid responses were analyzed using Confirmatory Factor Analysis and Structural Equation Modeling. The findings indicate that both digital disruption and digital infrastructure have positive and statistically significant effects on digital transformation, with digital infrastructure demonstrating the stronger effect. Digital transformation also has a positive and significant effect on business performance. The structural model explains 31.1% of the variance in digital transformation and 28.9% of the variance in business performance. The findings highlight the importance of digital infrastructure and organizational capabilities in enabling digital transformation and improving performance among SME hotels in Thailand. The study contributes empirical evidence from the Thai hospitality context and provides a basis for understanding how technology-related conditions can support digital transformation and organizational performance in an increasingly competitive tourism environment.

Index Terms— Digital transformation, Digital infrastructure, Digital disruption, Business performance, Small and medium-sized hotels

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Introduction

Background and importance of the problem

Thailand is one of the world's major tourism destinations, and tourism and hospitality remain important contributors to the national economy. Before the COVID-19 pandemic, tourism contributed approximately 11.5% of Thailand's gross domestic product (GDP), highlighting the strategic importance of the sector to national economic development (Lee, 2023). The hotel and accommodation sector is a particularly important component of Thailand's tourism industry and has experienced increasing pressure to respond to technological change, evolving customer expectations, and intensifying competition. At the same time, hotels operate in an increasingly uncertain environment shaped by global economic conditions, geopolitical conflicts, changing consumer behavior, public health crises, and environmental concerns. These developments have increased the need for hotel operators to strengthen organizational agility and develop capabilities that enable them to respond effectively to changes in the business environment. Digital transformation has consequently become an increasingly important strategic issue for hospitality organizations. The adoption of artificial intelligence, big data analytics, cloud-based systems, and other digital technologies can support

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operational efficiency, service innovation, and customer satisfaction (Amirulloh Anwar et al., 2024). Digitalization can also influence hotel occupancy and revenue performance, while organizational and technological conditions shape the extent to which hotels are able to undertake digital transformation (Mariani & Borghi, 2021; Nikopoulou et al., 2023). In addition, digital transformation requires hospitality organizations to develop appropriate competencies and organizational capabilities to integrate digital technologies into business processes and service delivery (Busulwa et al., 2022). Recent evidence further suggests that integrating digital adoption with strategic business initiatives can contribute to improved organizational performance among small and medium-sized enterprises (Succurro, 2026). Collectively, these studies demonstrate that digital transformation is no longer simply an operational concern but an important component of competitive strategy in hospitality.

Despite this growing body of evidence, important questions remain regarding how digital transformation develops within small and medium-sized hotels in Thailand. Existing hospitality research has established relationships between digital technologies, digital transformation, and organizational outcomes, but much of this evidence has been generated in broader hospitality contexts or in settings with different technological, organizational, and institutional conditions. In particular, limited empirical attention has been given to the simultaneous roles of digital disruption and digital infrastructure as antecedents of digital transformation among Thai SME hotels and to the extent to which transformation subsequently contributes to business performance. This distinction is important because digital disruption represents external technological and market pressures that can compel hotels to change, whereas digital infrastructure represents the internal technological resources and systems required to translate those pressures into transformation. Examining these factors together therefore provides a more specific explanation of how Thai SME hotels respond to technological change than simply examining whether digitalization improves performance. The importance of this issue is particularly evident among small and medium-sized hotels, which often operate with more limited financial, technological, and managerial resources than large hotel organizations. Although digital transformation can provide opportunities to improve customer experience, operational efficiency, and competitiveness, the ability to realize these benefits depends on whether hotels possess adequate technological infrastructure and organizational capabilities. Garcia-Lopez et al. (2025) similarly noted that the extent of digital transformation varies among hotels according to differences in organizational structures and operational characteristics. Digital transformation may therefore be understood not merely as the adoption of individual technologies but as an organizational process through which hotels integrate digital resources into their operations, services, and strategic activities.

Against this background, this study draws on the Technology-Organization-Environment (TOE) framework, the Resource-Based View (RBV), and Dynamic Capabilities Theory to examine digital transformation in Thailand's SME hotel sector. The TOE framework provides a basis for understanding the technological and environmental conditions associated with organizational technology adoption, while RBV emphasizes the strategic value of internal resources and capabilities. Dynamic Capabilities Theory further explains how organizations can reconfigure resources and capabilities in response to rapidly changing environments. Integrating these perspectives enables the study to examine digital disruption and digital infrastructure as important conditions for digital transformation and to assess whether transformation is subsequently associated with improved business performance. Accordingly, the objective of this study is to examine the effects of digital disruption and digital infrastructure on digital transformation among small and medium-sized hotels in Thailand and to determine the effect of digital transformation on business performance. By focusing specifically on the Thai SME hotel context and examining the relationships among external digital pressures, internal digital infrastructure, digital transformation, and business performance within a single empirical model, the study seeks to extend existing hospitality research beyond the general finding that digitalization is beneficial. The findings are expected to contribute to the digital transformation and hospitality literature by providing empirical evidence concerning the conditions that support transformation in resource-constrained SME hotels and to provide practical implications for hotel managers and policymakers seeking to strengthen digital capabilities and competitiveness in Thailand's tourism and hospitality sector.

Accordingly, the objective of this study is to examine the effects of digital disruption and digital infrastructure on digital transformation among small and medium-sized hotels in Thailand and to determine the effect of digital transformation on business performance. Specifically, the study examines whether digital disruption and digital infrastructure significantly influence digital transformation and whether digital transformation subsequently contributes to business performance. By examining these relationships within a single empirical model, the study seeks to provide empirical evidence on how external digital pressures and internal technological resources contribute to transformation and performance in Thailand's SME hotel sector.

Literature Review

Related concepts and theories

Small and medium-sized hotels in the thai hospitality context

Small and medium-sized hotels represent an important segment of the hospitality industry and contribute substantially to tourism development through accommodation services, employment, and support for local tourism activities. These establishments are generally characterized by relatively smaller operating scales, greater managerial flexibility, and closer interactions with customers than large hotel organizations (Williams & Salvatore, 2004). In this study, small hotels are defined as establishments with fewer than 50 guest rooms, whereas medium-sized hotels are defined as establishments with between 50 and 100 guest rooms. These classifications provide a practical basis for examining the technological

and organizational conditions of smaller hotel businesses within the Thai hospitality context (Srinarula, 2015; Williams & Salvatore, 2004). The Thai hotel sector operates within a highly competitive tourism environment characterized by fluctuating demand, changing customer expectations, technological development, and exposure to external disruptions. The COVID-19 pandemic further demonstrated the vulnerability of smaller hotels to sudden changes in tourism demand and financial conditions. Limited financial resources, restricted access to advanced technologies, and shortages of digital expertise can constrain the ability of SME hotels to respond effectively to such changes (Center, 2023). These characteristics make SME hotels an appropriate context for examining how external digital pressures and internal technological resources contribute to digital transformation. The SME context is particularly relevant because digital transformation may provide smaller hotels with opportunities to improve operational efficiency, customer interaction, service delivery, and competitive positioning, while simultaneously creating resource and capability requirements that may be difficult for smaller organizations to satisfy. Consequently, understanding the conditions that enable digital transformation is important not only for explaining technology adoption but also for understanding how SME hotels can convert digital resources into improved organizational performance.

Digital disruption

Digital disruption refers to changes in industries, markets, customer expectations, and established business models resulting from the rapid development and diffusion of digital technologies. Unlike technology adoption at the operational level, digital disruption reflects broader changes in the competitive and market environment that can challenge existing ways of creating and delivering value. Skog et al. (2018) argued that digital disruption can alter established industry logic while creating both opportunities and threats for incumbent organizations. In hospitality, digital disruption is reflected in the increasing use of artificial intelligence, data analytics, cloud computing, mobile technologies, online platforms, and other digitally enabled services. These developments have changed how customers search for information, compare alternatives, make reservations, communicate with hotels, and evaluate service experiences. Digital technologies can also support demand forecasting, operational automation, personalization, and managerial decision-making (Ivanov & Webster, 2018). Consequently, hotels face increasing pressure to modify existing processes and develop new digitally enabled approaches to service delivery. For SME hotels, digital disruption can function as an external stimulus for organizational change. Increasing customer expectations, the growth of online distribution channels, technology-enabled competitors, and the rapid diffusion of digital services may encourage hotels to reconsider established operating practices. Digital disruption is therefore conceptualized in this study as an environmental pressure that can motivate hotels to develop and implement digital transformation initiatives. This conceptualization is consistent with the environmental dimension of the TOE framework, in which changes in the external environment can influence organizational technology-related decisions.

Digital infrastructure

Digital infrastructure refers to the technological resources and systems that provide the foundation for organizational digital operations, information exchange, and innovation. Boonnoon (2014) described digital infrastructure in terms of hardware, software, service infrastructure, promotion and innovation systems, and social and knowledge components. Within the hospitality sector, digital infrastructure may include Property Management Systems (PMS), Customer Relationship Management (CRM) systems, online booking systems, channel management platforms, revenue management systems, cloud-based applications, and data analytics technologies (Law et al., 2014). The strategic importance of digital infrastructure lies not simply in the availability of individual technologies but in the extent to which these technologies can be integrated into organizational processes. Integrated digital systems can facilitate information sharing across reservations, front-office operations, housekeeping, marketing, finance, and other hotel functions, thereby supporting operational coordination and service quality (Buhalis & Leung, 2018). For SME hotels, adequate digital infrastructure can therefore provide the technological foundation required to implement broader digital transformation initiatives. From an RBV perspective, digital infrastructure represents an organizational resource that can contribute to competitive advantage when it is effectively developed and combined with complementary organizational capabilities (Barney, 1991). From a dynamic capabilities perspective, infrastructure can provide the technological foundation through which organizations sense changes, respond to emerging opportunities, and reconfigure resources in response to changing market conditions (Teece, 2018). However, the value of digital infrastructure depends on an organization's ability to deploy and integrate these resources effectively. Financial constraints, legacy systems, and limited digital competencies may therefore restrict the capacity of SME hotels to fully exploit digital technologies (Neirotti et al., 2018). Accordingly, this study treats digital infrastructure as an internal technological resource that supports digital transformation. This distinction from digital disruption is important because digital disruption represents external pressure for change, whereas digital infrastructure represents the internal technological foundation through which such change can be implemented.

Digital transformation

Digital transformation refers to the organizational integration of digital technologies into processes, services, decision-making, and strategic activities to create value and improve organizational capabilities. It extends beyond the adoption of individual technologies because transformation involves changes in how organizations operate, deliver value, and respond to their environments (Matt et al., 2015; Srai & Lorentz, 2019). The

OECD (2021) emphasizes that digital transformation involves interconnected dimensions, including access, use, innovation, jobs, society, trust, and market openness. This perspective highlights that effective digital transformation requires more than technological investment; it also involves organizational capabilities, workforce development, innovation, governance, and strategic adaptation. In the hospitality sector, digital transformation can involve the integration of digital technologies across reservations, procurement, customer relationship management, service delivery, marketing, financial management, and managerial decision-making. For SME hotels, transformation may enable more efficient processes, greater use of customer and operational data, improved service personalization, and more responsive strategic decision-making. In this study, digital transformation is conceptualized as the organizational process through which SME hotels integrate digital technologies and capabilities into their business activities. Based on the literature and the context of the study, digital transformation is operationalized through four dimensions: digital procurement, digital tools, digital strategy and policy, and digital literacy. These dimensions capture both technological implementation and the organizational capabilities required to support digital transformation.

Business performance

Business performance refers to the extent to which an organization achieves its strategic and operational objectives. Rather than focusing exclusively on financial outcomes, this study adopts the Balanced Scorecard (BSC) perspective developed by Kaplan and Norton (1992), which evaluates organizational performance through four complementary dimensions: financial performance, customer performance, internal business processes, and learning and growth. The BSC perspective is particularly appropriate for examining the outcomes of digital transformation because digital initiatives may generate benefits across multiple aspects of organizational performance. For example, digital technologies can improve financial outcomes through more effective revenue management and distribution, strengthen customer performance through personalized and responsive services, improve internal processes through automation and system integration, and support learning and growth through enhanced access to organizational information and digital competencies. Previous hospitality research has indicated that digitalization can contribute to outcomes such as occupancy, revenue, customer satisfaction, and operational efficiency (Mariani & Borghi, 2021). However, the present study extends this perspective by examining business performance as a multidimensional organizational outcome following digital transformation among SME hotels. This approach recognizes that the benefits of transformation may not be reflected solely in immediate financial indicators but may also emerge through customer relationships, internal processes, and organizational learning.

Resource-Based View (RBV)

The Resource-Based View proposes that organizations can achieve competitive advantage through the possession, development, and effective utilization of resources that are valuable, rare, difficult to imitate, and non-substitutable (Barney, 1991). The perspective shifts attention from external industry conditions alone toward the internal resources and capabilities that enable organizations to create and sustain value. Within the present study, digital infrastructure is viewed as an important organizational resource that provides the technological foundation for digital transformation. However, infrastructure alone does not automatically generate superior performance. Its strategic value depends on the organization's ability to integrate technological resources with organizational processes, managerial capabilities, and employee competencies. The RBV therefore provides a theoretical basis for explaining why differences in digital infrastructure may contribute to differences in the capacity of SME hotels to undertake digital transformation.

Dynamic Capabilities Theory

Dynamic Capabilities Theory emphasizes an organization's ability to integrate, build, and reconfigure internal and external resources in response to rapidly changing environments (Teece, 2018). The perspective is particularly relevant to digital transformation because technological environments and customer expectations can change rapidly, requiring organizations to continually modify their resources, processes, and capabilities. In the context of SME hotels, digital transformation can be understood as an organizational response to changes in technology, customer behavior, and competitive conditions. Digital disruption can create pressures that require hotels to identify emerging opportunities and threats, while digital infrastructure provides resources that can be mobilized and reconfigured in response to these changes. Dynamic capabilities therefore provide a theoretical explanation for how hotels can translate changing environmental conditions and available technological resources into transformation initiatives.

Technology-Organization-Environment (TOE) framework

The Technology-Organization-Environment (TOE) framework developed by Tornatzky and Chakrabarti (1990) explains organizational technology adoption through three contextual dimensions: technological, organizational, and environmental factors. The framework recognizes that technology-related decisions are shaped not only by the characteristics of technologies themselves but also by internal organizational conditions and external environmental pressures. The TOE framework provides a useful foundation for positioning the variables examined in this study. Digital infrastructure represents an important technological condition that provides the resources and systems necessary to support digital

transformation, while digital disruption represents an environmental condition that creates pressure for organizations to respond to changes in markets, technologies, and customer expectations. Digital transformation represents the organizational response through which hotels integrate digital technologies into their business activities. When combined with RBV and Dynamic Capabilities Theory, the TOE framework provides an integrated theoretical perspective for explaining the proposed relationships. TOE emphasizes the contextual conditions surrounding technology-related change, RBV explains the strategic role of internal technological resources, and Dynamic Capabilities Theory explains how organizations mobilize and reconfigure resources in response to environmental change. Together, these perspectives provide a theoretical basis for examining how digital disruption and digital infrastructure contribute to digital transformation and how transformation subsequently relates to business performance among SME hotels in Thailand.

Literature surveys

Previous research has established that digital technologies are increasingly reshaping hospitality operations, customer experiences, organizational capabilities, and competitive strategies. However, the literature suggests that digital transformation should not be understood simply as the adoption of individual technologies. Rather, it represents a broader organizational process involving the integration of digital technologies, capabilities, processes, and strategic activities. Busulwa et al. (2022), for example, emphasized that hospitality organizations require a range of digital business capabilities, including digital customer engagement, customer experience management, digital innovation, and digital leadership, to sustain digital transformation. Similarly, a systematic review by [relevant authors of the 2022 systematic review] found that disruptive digital technologies have been increasingly applied across hotel operations, while also identifying continuing research gaps concerning organizational flexibility, innovation, cybersecurity, and employee perspectives. Research has also examined the factors that influence digital transformation in hospitality organizations. Nikopoulou et al. (2023) applied the Technology-Organization-Environment (TOE) framework to investigate technological, organizational, and environmental determinants of digital technology adoption in the hospitality industry. Their study, based on responses from 502 hotel managers and analyzed using PLS-SEM, demonstrates the relevance of contextual conditions in explaining hotels' digital transformation decisions. This perspective is particularly relevant to the present study because SME hotels operate within an environment characterized by rapid technological change, changing customer expectations, and increasing competitive pressure. Rather than treating digital transformation as an isolated technological decision, the TOE perspective suggests that transformation emerges from the interaction between technological resources and external environmental conditions.

Digital disruption represents one of the important environmental pressures associated with transformation. Skog et al. (2018) argued that digital disruption can challenge established industry structures and business models by changing the basis of competition and value creation. In hospitality, such disruption is reflected in the rapid diffusion of artificial intelligence, online platforms, mobile technologies, cloud computing, data analytics, and other digitally enabled services. Ivanov and Webster (2018) demonstrated the growing strategic importance of artificial intelligence in hospitality, particularly in automation, forecasting, service delivery, and managerial decision-making. Xiang et al. (2017) similarly showed that the increasing availability of digital information and changing consumer behaviors have altered how tourists search for, evaluate, and select tourism and hospitality services. These developments create external pressure for hotels to modify established processes and develop digitally enabled approaches to service delivery. Recent research further indicates that the consequences of digital disruption extend beyond individual technological applications. Amirulloh Anwar et al. (2024) found that technologies including artificial intelligence, cloud computing, and big data can contribute to operational efficiency and customer satisfaction in hospitality organizations. Garcia-Lopez et al. (2025) also reported that the extent of digital transformation differs across hotel organizations because of variations in organizational structures and operational capabilities. These findings indicate that exposure to technological change does not automatically produce equivalent levels of digital transformation. Hotels require appropriate internal resources and capabilities to translate external technological pressures into organizational change.

Digital infrastructure is therefore another important factor in the digital transformation process. Law et al. (2014) and Buhalis and Leung (2018) emphasized the importance of integrated information and communication technologies in supporting information exchange, operational coordination, service delivery, and customer relationship management in hospitality. Digital infrastructure may include property management systems, customer relationship management systems, online booking and distribution platforms, cloud-based applications, revenue management systems, and data analytics tools. The integration of these technologies can allow hotels to connect information and processes across functional areas, thereby creating a technological foundation for broader transformation. However, the availability of digital infrastructure does not necessarily guarantee successful transformation. Neirotti et al. (2018) noted that smaller organizations can face financial and organizational constraints that limit their ability to adopt and effectively exploit digital technologies. Digital transformation also requires appropriate managerial and employee competencies. Busulwa et al. (2022) emphasized that hospitality organizations need digital transformation and digital business competencies to build and sustain digital capabilities. Thus, digital infrastructure should be considered not simply as a collection of technological tools but as an organizational resource whose value depends on the ability of the firm to integrate and utilize it effectively. This argument is consistent with the Resource-Based View, which emphasizes the strategic importance of organizational resources and capabilities (Barney, 1991).

The literature also provides evidence of a relationship between digital transformation and organizational performance. Mariani and Borghi (2021) reported that digitalization can contribute to hotel outcomes such as occupancy and revenue performance. Succurro (2026) similarly found that integrating digital adoption with strategic business initiatives can enhance organizational performance and competitive advantage. Evidence

from related hospitality research further indicates that digital capabilities can contribute to organizational agility, innovation, and firm performance. For example, research on hotel firms in Malaysia found that big data analytics capability positively influenced organizational agility, innovation, and firm performance, highlighting the importance of developing organizational capabilities around digital resources rather than merely acquiring technologies. The relationship between digital transformation and performance can also be understood through the multidimensional nature of business performance. Digital transformation may influence financial outcomes through improved revenue management and operational efficiency, customer outcomes through greater personalization and service responsiveness, internal processes through automation and information integration, and organizational learning through improved access to data and digital knowledge. Consequently, the performance implications of digital transformation may extend beyond immediate financial outcomes and encompass broader organizational effectiveness. Despite these developments, the existing literature leaves an important contextual and integrative gap. Previous studies have examined digital technologies and hospitality performance, determinants of digital transformation, hospitality digital competencies, and specific technological applications. Nikopoulou et al. (2023), for example, provide evidence that technological, organizational, and environmental factors influence digital technology adoption, while Busulwa et al. (2022) emphasize the capabilities required to sustain digital transformation. Other studies demonstrate that digital technologies can improve operational and market outcomes. However, these streams of research do not fully explain how external digital disruption and internal digital infrastructure operate together as antecedents of digital transformation and how transformation subsequently translates into multidimensional business performance among SME hotels in Thailand.

This gap is particularly relevant because SME hotels differ from large hospitality organizations in terms of resource availability, technological capabilities, managerial capacity, and ability to absorb technological change. Consequently, findings derived from large hotel organizations or other national contexts cannot necessarily be assumed to apply directly to Thailand's SME hotel sector. The present study therefore integrates digital disruption, digital infrastructure, digital transformation, and business performance within a single empirical framework. Digital disruption is conceptualized as an external environmental pressure that encourages organizational change, whereas digital infrastructure is conceptualized as an internal technological resource that enables transformation. Digital transformation is subsequently examined as the organizational mechanism through which these conditions may contribute to business performance. Overall, the literature provides substantial support for the importance of digitalization in hospitality but also indicates that the relationships among external digital pressures, internal technological resources, transformation processes, and organizational outcomes require further examination within specific organizational and national contexts. By focusing on small and medium-sized hotels in Thailand, this study extends existing research by examining these relationships simultaneously within an integrated model. The study therefore moves beyond the general proposition that digitalization improves hospitality performance and instead investigates how digital disruption and digital infrastructure contribute to transformation and how transformation subsequently contributes to business performance.

Conceptual framework

Based on the Resource-Based View (RBV), Dynamic Capabilities Theory, the Technology-Organization-Environment (TOE) framework, and previous empirical studies, this research proposes a conceptual framework consisting of four major constructs:

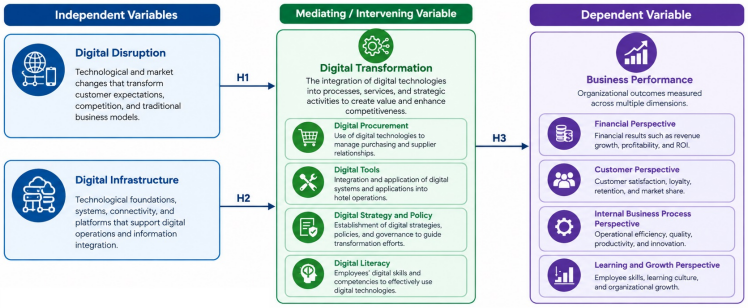


Fig. 1 *Research framework*

Figure 1 proposes that digital infrastructure and digital disruption directly influence Digital Transformation, which subsequently affects Business Performance among small and medium-sized hotels in Thailand.

Research hypothesis

This study proposes three hypotheses based on the literature review and conceptual framework concerning the relationships among digital disruption, digital infrastructure, digital transformation, and business performance. The proposed hypotheses examine whether digital disruption and digital infrastructure influence digital transformation and whether digital transformation subsequently influences business performance. Accordingly, the following hypotheses are proposed:

H1: Digital disruption has a positive and significant effect on the digital transformation of small and medium-sized hotels in Thailand.
H2: Digital infrastructure has a positive and significant effect on the digital transformation of small and medium-sized hotels in Thailand.
H3: Digital transformation has a positive and significant effect on the business performance of small and medium-sized hotels in Thailand.

Research Methodology

Research design

This study adopts a quantitative research design to investigate the relationships among digital infrastructure, digital disruption, digital transformation, and business performance in small and medium-sized hotels in Thailand. A quantitative approach is appropriate because it enables the systematic collection and statistical analysis of numerical data to examine the proposed relationships and test the research hypotheses. The study employs a cross-sectional survey design, with data collected from hotel owners, general managers, managing directors, and senior executives at a single point in time. In accordance with the conceptual framework, digital infrastructure and digital disruption are treated as independent variables, digital transformation is positioned as an intervening construct, and business performance is treated as the dependent variable. The study focuses on examining the direct relationships between the proposed constructs and determining whether digital disruption and digital infrastructure significantly influence digital transformation and whether digital transformation subsequently influences business performance among small and medium-sized hotels in Thailand.

Population and sample

The population of this study consists of small and medium-sized hotels operating throughout Thailand. According to Williams and Salvatore (2004), small hotels are defined as establishments with fewer than 50 guest rooms, whereas medium-sized hotels are classified as establishments with between 50 and 100 guest rooms. These establishments represent an important segment of Thailand's hospitality sector and operate under diverse technological, competitive, and market conditions. The target respondents are hotel owners, general managers, managing directors, and senior executives who have direct responsibility for strategic planning, operational management, and technology-related decisions within their organizations. Their positions enable them to provide relevant information concerning their hotels' digital infrastructure, responses to digital disruption, digital transformation activities, and business performance. A total of 400 valid questionnaires were completed by respondents from small and medium-sized hotels across Thailand. The respondents were selected using convenience sampling, which is a non-probability sampling technique. The sample included hotels located in major tourism destinations, such as Bangkok, Chiang Mai, and Pattaya, as well as hotels operating in other tourism destinations across Thailand. The sample size of 400 respondents was considered adequate for Structural Equation Modeling (SEM) and for the multivariate statistical analyses employed in this study. Nevertheless, because convenience sampling was used, not every hotel in the population had a known and equal probability of selection. Therefore, the findings should be interpreted with appropriate caution when generalizing the results to all small and medium-sized hotels in Thailand.

Research instruments

The primary research instrument was a structured questionnaire developed from an extensive review of relevant literature and previous empirical studies. The questionnaire consisted of five sections. The first section collected demographic and organizational information, including hotel size, location, years of operation, ownership structure, and respondent position. The second section measured digital infrastructure by assessing the technological foundations, systems, connectivity, platforms, and information technology resources available to support hotel operations and information integration. The third section measured digital disruption by assessing the perceived effects of technological change, competitive pressure, changing customer expectations, and changes in traditional business models. The fourth section measured digital transformation through four dimensions: digital procurement, digital tools, digital strategy and policy, and digital literacy. The fifth section measured business performance using the Balanced Scorecard framework, comprising the financial perspective, customer perspective, internal business process perspective, and learning and growth perspective. All measurement items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Before the main data collection, the questionnaire was reviewed by experts to establish content validity and was pilot-tested to assess the clarity and reliability of the measurement items. Internal consistency was assessed using Cronbach's alpha coefficients. The measurement model was subsequently evaluated using Confirmatory Factor Analysis (CFA), including assessments of factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), convergent validity, and discriminant validity. Because the study collected data on all major constructs from the same respondents at a single point in time, the potential for common method bias was also considered. Procedural measures were applied during questionnaire administration by providing clear instructions, assuring respondents of anonymity and confidentiality, and emphasizing that there were no right or wrong answers. In addition, a statistical assessment of common method bias was conducted using an appropriate single-factor assessment to determine whether a substantial proportion of the variance could be attributed to a common measurement factor. The specific statistical results are reported in the data analysis and findings section.

Data collection

Data were collected using both online and face-to-face survey methods to facilitate access to respondents across different geographical areas of Thailand. The online questionnaire was distributed through hotel associations, tourism industry networks, professional hospitality groups, and electronic communication channels. In addition, printed questionnaires were distributed directly to hotels in major tourism destinations and selected regional tourism areas. The use of both approaches facilitated participation from hotels with different operational characteristics and geographical locations. Participation was voluntary, and respondents were informed that the information provided would be treated confidentially and that individual responses would not be disclosed. Respondents were also informed about the purpose of the study before completing the questionnaire. Following data collection, all returned questionnaires were screened for completeness and response consistency. Questionnaires with substantial missing data or invalid response patterns were excluded from the analysis. A total of 400 valid responses were retained for subsequent statistical analysis and hypothesis testing.

Statistics used for data analysis

The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize respondent and hotel characteristics and to describe the distribution of the study variables. For inferential analysis, Structural Equation Modeling (SEM) was employed to examine the proposed relationships among digital disruption, digital infrastructure, digital transformation, and business performance. SEM was selected because it enables the simultaneous examination of relationships among multiple latent constructs and their observed indicators. The analysis was conducted in two stages. First, Confirmatory Factor Analysis (CFA) was performed to evaluate the measurement model. Factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) were examined to assess indicator reliability, internal consistency, and convergent validity. Discriminant validity was assessed using an appropriate criterion, such as the Fornell-Larcker criterion and/or the Heterotrait-Monotrait (HTMT) ratio, to confirm that the constructs represented conceptually distinct dimensions. Second, the structural model was assessed to test the proposed hypotheses. The analysis examined the path coefficients, standard errors, critical ratios, and significance levels associated with the hypothesized relationships. Specifically, the analysis evaluated whether digital disruption and digital infrastructure significantly influence digital transformation and whether digital transformation significantly influences business performance. Statistical significance was evaluated using the criteria specified for the SEM analysis. The overall model fit was evaluated using multiple goodness-of-fit indices recommended in the SEM literature, including the Chi-square (χ^2), degrees of freedom (df), the Chi-square/degrees of freedom ratio (CMIN/DF), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The inclusion of degrees of freedom is particularly important for interpreting the Chi-square statistic and other model-fit measures. The results of the measurement-model and structural-model assessments are presented in the subsequent findings section.

Data Analysis and Findings

Introduction

This section presents the results of the empirical analysis conducted to examine the relationships among digital disruption, digital infrastructure, digital transformation, and business performance in small and medium-sized hotels in Thailand. The analysis is based on data collected from 400 hotel owners, general managers, managing directors, and senior executives with direct knowledge of strategic planning, operational management, and technology-related activities within their organizations. The purpose of this section is to evaluate the proposed conceptual framework and test the three research hypotheses developed from the Technology-Organization-Environment (TOE) framework, the Resource-Based View (RBV), and Dynamic Capabilities Theory. The data analysis was conducted in several stages. First, descriptive statistics were used to summarize the demographic and organizational characteristics of the respondents and to describe the distribution of the study variables. Second, reliability analysis was performed to assess the internal consistency of the measurement scales using Cronbach's alpha coefficients. Third, Confirmatory Factor Analysis (CFA) was conducted to evaluate the measurement model and determine whether the observed indicators adequately represented their respective latent constructs. The measurement model was assessed in terms of factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), convergent validity, and discriminant validity. The overall model fit was also evaluated using multiple goodness-of-fit indices. Because the study employed a cross-sectional survey in which the major constructs were measured using responses obtained from the same respondents, the potential for common method bias was also assessed. Procedural measures were applied during data collection, and an appropriate statistical assessment was conducted to determine whether common method variance represented a substantial threat to the results. Following validation of the measurement model, Structural Equation Modeling (SEM) was employed to assess the structural relationships among the constructs and to test the proposed hypotheses. Specifically, the structural analysis examined whether digital disruption and digital infrastructure have significant effects on digital transformation and whether digital transformation has a significant effect on business performance. The statistical results provide empirical evidence regarding the proposed relationships and the role of digital transformation within the relationship between technology-related conditions and business performance in the Thai SME hotel context. The results presented in this section provide the

empirical basis for the subsequent discussion of the findings, theoretical contributions, managerial implications, limitations, and conclusions of the study.

Data analysis of the quantitative data

Sample characteristics

A total of 400 usable questionnaires were obtained and included in the analysis. Of the respondents, 76 were hotel owners (19.00%), 86 were general managers (21.50%), and 238 were senior executives or managers (59.50%). Regarding hotel size, 103 respondents (25.75%) reported that their hotels had between 4 and 49 guest rooms, representing small-sized hotels, while 297 respondents (74.25%) reported that their hotels had between 50 and 100 guest rooms, representing medium-sized hotels. In terms of ownership structure, 329 respondents (82.25%) reported that their hotels were independently owned, whereas 71 respondents (17.75%) reported that their hotels were chain-affiliated or part of a hotel group. Regarding years of operation, 73 hotels (18.25%) had been operating for less than 5 years, 168 hotels (42.00%) had been operating for 5-10 years, and 159 hotels (39.75%) had been operating for more than 10 years. These characteristics indicate that the sample included respondents with different managerial positions and hotels with different sizes, ownership structures, and operating histories.

Descriptive statistics

The descriptive statistics indicate that respondents generally agreed with the statements measuring the study variables. For digital disruption, technology and innovation had a mean score of 3.48, artificial intelligence had a mean score of 3.56, and customer expectations had a mean score of 3.60. These results indicate that respondents generally perceived technological and market changes as relevant sources of digital disruption affecting their hotels. For digital infrastructure, hardware infrastructure had a mean score of 3.70, software infrastructure had a mean score of 3.75, process infrastructure had a mean score of 3.69, and service infrastructure had a mean score of 3.77. These findings indicate that respondents generally agreed that their hotels possessed and utilized digital infrastructure to support hotel operations and information integration. Regarding digital transformation, digital strategy and policy had a mean score of 3.83, digital literacy and skills had a mean score of 3.84, digital procurement had a mean score of 3.87, and digital tools had the highest mean score of 3.90. These results suggest that respondents generally agreed that digital technologies had been incorporated into various organizational activities, including procurement, operational processes, strategic planning, and employee capabilities. For business performance, the financial perspective had a mean score of 3.89, the customer perspective had a mean score of 3.85, the internal business process perspective had the highest mean score of 3.94, and the learning and growth perspective had a mean score of 3.85. Overall, the descriptive findings indicate relatively favorable perceptions of digital disruption, digital infrastructure, digital transformation, and business performance among the sampled small and medium-sized hotels. Important: If you have the standard deviations, add them to this subsection or, preferably, put Mean and SD together in a descriptive-statistics table. Since your methodology says mean and standard deviation are used, the results should actually report both.

Reliability analysis

Reliability analysis was conducted to assess the internal consistency of the measurement scales using Cronbach's alpha coefficients. The results indicate that all measurement scales achieved Cronbach's alpha values above the commonly accepted threshold of 0.70, demonstrating satisfactory internal consistency. The Cronbach's alpha coefficients ranged from 0.76 for service infrastructure to 0.82 for digital literacy and skills, digital tools, financial perspective, and internal business process perspective. These results indicate that the items used to measure the respective dimensions demonstrated an acceptable level of internal consistency and were therefore considered suitable for subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). However, Cronbach's alpha alone does not establish construct validity; therefore, convergent and discriminant validity were examined separately through the measurement-model assessment.

Confirmatory factor analysis and model fit

Confirmatory Factor Analysis (CFA) was conducted to assess the measurement model and determine whether the observed indicators adequately represented their respective latent constructs. The assessment considered factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), convergent validity, and discriminant validity, together with the overall goodness-of-fit of the measurement model. The CFA results indicated that the proposed measurement model demonstrated an acceptable fit with the empirical data. The chi-square statistic was $\chi^2 = 71.294$ with $p = .837$, indicating that the chi-square test was not statistically significant. The model also produced a CMIN/DF value of 0.849, GFI = 0.967, AGFI = 0.966, NFI = 0.968, IFI = 1.000, CFI = 1.000, and RMSEA = 0.000. The degrees of freedom should be explicitly reported in the table and should be verified against the original CFA output. Based on the reported chi-square and p-value, the corresponding degrees of freedom appear to be 84; however, this value should be confirmed using the actual statistical output before publication. Overall, the reported fit indices indicate that the measurement model fits the observed data well. Nevertheless, model fit alone is not sufficient to establish the adequacy of the measurement model. Therefore, the results of factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), and discriminant validity should

also be considered before proceeding to the structural model. Figure 2 presents the results of the measurement model for the conceptual model, including the relationships between the latent constructs and their observed indicators.

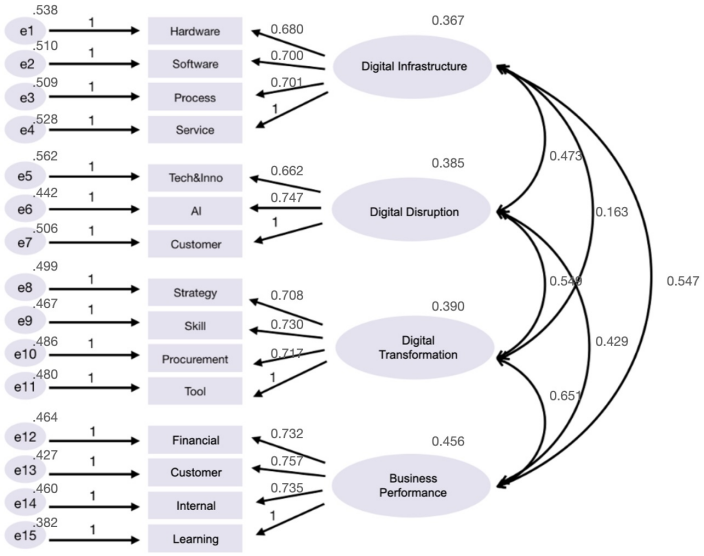


Fig. 2 *Results of measurement model of the conceptual model*

Table I indicates that the measurement model demonstrates a very strong overall fit with the observed data. The chi-square value is 71.294, with a *p*-value of .837, indicating that the chi-square statistic is not statistically significant. The CMIN/DF value of 0.849 is below the commonly accepted threshold of 3.00, indicating a good model fit. The incremental and absolute fit indices also show favorable results, with GFI = .967, AGFI = .966, NFI = .968, IFI = 1.000, and CFI = 1.000. In addition, the RMSEA value of .000 indicates an excellent approximation of the model to the population covariance structure. Overall, these results suggest that the hypothesized measurement model provides a very good fit to the empirical data and supports proceeding with the assessment of the measurement properties and structural relationships among the study constructs. However, the degrees of freedom (df) should be added to Table I, as the reviewer specifically requested it, and the reported fit statistics should be verified against the original CFA output because the combination of p = .837, CFI = 1.000, and RMSEA = .000 is unusually strong.

Table I

Results of the measurement model fit indices

Chi-Square	*p*-Value	CMIN/DF	GFI	AGFI	NFI	IFI	CFI	RMSEA
71.294	0.837	0.849	0.967	0.966	0.968	1.000	1.000	0.000

Hypothesis testing

Structural Equation Modeling (SEM) was conducted to examine the hypothesized relationships among digital disruption, digital infrastructure, digital transformation, and business performance among small and medium-sized hotels in Thailand. The results of the structural model and hypothesis testing are presented in Table X.

Hypothesis 1: Digital disruption has a positive and significant effect on digital transformation among small and medium-sized hotels in Thailand. The results indicate a positive and statistically significant relationship between digital disruption and digital transformation (β = .288, Estimate = .274, S.E. = .043, C.R. = 6.427, p < .001). Therefore, H1 is supported. This finding indicates that higher levels of perceived digital disruption, including technological and innovation-related changes, artificial intelligence, and changing customer expectations, are associated with higher levels of digital transformation among the sampled hotels.

Hypothesis 2: Digital infrastructure has a positive and significant effect on digital transformation among small and medium-sized hotels in Thailand. The results show that digital infrastructure has a positive and statistically significant effect on digital transformation (β = .384, Estimate = .400, S.E. = .047, C.R. = 8.519, p < .001). Therefore, H2 is supported. This result indicates that stronger digital infrastructure, including hardware, software, process, and service-related infrastructure, is associated with higher levels of digital transformation. Within the proposed model, digital infrastructure has a stronger standardized effect on digital transformation than digital disruption (β = .384 compared with β = .288).

Hypothesis 3: Digital transformation has a positive and significant effect on business performance among small and medium-sized hotels in Thailand. The results indicate that digital transformation has a positive and statistically significant effect on business performance (β = .538,

Estimate = .566, S.E. = .045, C.R. = 12.721, $p < .001$). Therefore, H3 is supported. This finding indicates that higher levels of digital transformation are associated with better business performance across the financial, customer, internal business process, and learning and growth dimensions.

Overall, the structural model supports all three proposed hypotheses. Digital disruption and digital infrastructure both have positive and significant effects on digital transformation, while digital transformation has a positive and significant effect on business performance. Together, digital disruption and digital infrastructure explain 31.1% of the variance in digital transformation ($R^2 = .311$). In addition, digital transformation explains 28.9% of the variance in business performance ($R^2 = .289$). These results indicate that the proposed antecedents provide a moderate level of explanatory power for digital transformation, while digital transformation explains a meaningful proportion of the variation in business performance within the study sample.

Table II
Estimates of regression weights

Influence	Influence	Influence	Estimate	S.E.	C.R.	*p*	Label
Digital Disruption	=>	Digital Transformation	0.274	0.043	6.427	0.00**	par_10
Digital Infrastructure	=>	Digital Transformation	0.400	0.047	8.519	0.00**	par_11
Digital Transformation	=>	Business Performance	0.566	0.045	12.721	0.00**	par_12

Summary of the results

This study examined the relationships among digital disruption, digital infrastructure, digital transformation, and business performance in small and medium-sized hotels in Thailand. The empirical findings support the proposed conceptual framework, with all three research hypotheses receiving statistical support. The descriptive results indicate that respondents reported generally favorable perceptions of digital disruption, digital infrastructure, digital transformation, and business performance. The reliability analysis further showed that all measurement scales demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients exceeding the recommended threshold of 0.70. The confirmatory factor analysis supported the adequacy of the measurement model, while the assessment of factor loadings, composite reliability, average variance extracted, and discriminant validity provided evidence for the reliability and validity of the measurement constructs. The structural equation modeling results showed that digital disruption had a positive and statistically significant effect on digital transformation ($\beta = .288$, $p < .001$), supporting H1. Digital infrastructure also had a positive and statistically significant effect on digital transformation ($\beta = .384$, $p < .001$), supporting H2. The standardized coefficient for digital infrastructure was higher than that for digital disruption, indicating that digital infrastructure had a stronger effect on digital transformation within the proposed model. In addition, digital transformation had a positive and statistically significant effect on business performance ($\beta = .538$, $p < .001$), supporting H3. This finding indicates that higher levels of digital transformation are associated with better performance across the financial, customer, internal business process, and learning and growth dimensions. Overall, digital disruption and digital infrastructure were significant antecedents of digital transformation, while digital transformation was significantly associated with business performance. The structural model explained 31.1% of the variance in digital transformation ($R^2 = .311$), indicating that digital disruption and digital infrastructure together account for a meaningful but limited proportion of variation in digital transformation. Digital transformation explained 28.9% of the variance in business performance ($R^2 = .289$), indicating that other organizational, technological, market, and contextual factors may also contribute to hotel performance. Taken together, the findings provide empirical evidence that both external digital pressures and internal digital infrastructure are relevant to digital transformation, while digital transformation is an important factor associated with business performance among small and medium-sized hotels in Thailand.

Conclusion, Discussion, and Recommendation

Conclusion

This study aimed to examine the effects of digital disruption and digital infrastructure on digital transformation among small and medium-sized hotels in Thailand and to determine the effect of digital transformation on business performance. The findings provide empirical support for all three hypothesized relationships within the proposed model. Specifically, digital disruption had a positive and statistically significant effect on digital transformation ($\beta = .288$, $p < .001$), indicating that external technological changes, innovation, artificial intelligence, and changing customer expectations are associated with greater digital transformation among the sampled hotels. Digital infrastructure also had a positive and statistically significant effect on digital transformation ($\beta = .384$, $p < .001$). Moreover, digital infrastructure demonstrated a stronger standardized effect on digital transformation than digital disruption, highlighting the importance of internal technological resources and infrastructure in supporting transformation. The findings further showed that digital transformation had a positive and statistically significant effect on business performance ($\beta = .538$, $p < .001$). This result indicates that higher levels of digital transformation are associated with better outcomes across the financial, customer, internal business process, and learning and growth dimensions of business performance. The structural model explained 31.1% of the variance in digital transformation and 28.9% of the variance in business performance, indicating that the variables examined in this study make a meaningful contribution to explaining the outcomes, while other factors not included in the model may also influence digital transformation

and business performance. Overall, the findings indicate that both external digital pressures and internal digital infrastructure are significant factors associated with digital transformation, while digital transformation is significantly associated with business performance among small and medium-sized hotels in Thailand. By examining these relationships within a single empirical model, the study provides empirical evidence on how technological conditions and organizational digital transformation are related to business performance in the Thai SME hotel context.

Discussion

H1: Digital disruption has a positive and significant effect on the digital transformation of small and medium-sized hotels in Thailand.

The findings support H1, showing that digital disruption has a positive and statistically significant effect on digital transformation (β = .288, p < .001). This result indicates that changes in digital technologies, technological innovation, artificial intelligence, and evolving customer expectations are associated with greater digital transformation among small and medium-sized hotels in Thailand. From the perspective of the Technology-Organization-Environment (TOE) framework, this finding can be understood as an environmental influence on organizational technology-related change. Environmental conditions such as technological developments, competitive pressures, and changing market expectations can increase the need for organizations to reconsider existing processes and adopt new digital approaches. The finding is also consistent with the broader digital transformation literature, which emphasizes that technological and environmental changes can require organizations to redesign processes, customer interactions, and value creation activities (Verhoef et al., 2021; Vial, 2019). In the hotel context, digital disruption may be reflected in the increasing use of digital platforms, artificial intelligence, online customer interfaces, and data-driven services by competitors and customers. Consequently, hotels may need to strengthen their digital transformation activities to remain responsive to changes in the operating environment. However, the standardized coefficient for H1 (β = .288) indicates a positive but comparatively moderate relationship. Therefore, digital disruption should be interpreted as an important environmental pressure rather than as a sufficient condition for digital transformation. The finding suggests that recognizing technological change creates pressure for transformation, but the ability to respond depends on additional organizational and technological conditions.

H2: Digital infrastructure has a positive and significant effect on the digital transformation of small and medium-sized hotels in Thailand.

The findings support H2, demonstrating that digital infrastructure has a positive and statistically significant effect on digital transformation (β = .384, p < .001). Moreover, the standardized coefficient for digital infrastructure is higher than that for digital disruption (β = .384 versus β = .288), indicating that digital infrastructure has a stronger effect on digital transformation within the proposed model. This result emphasizes that the presence of appropriate technological foundations is an important condition for translating digital transformation requirements into organizational practice. This finding is consistent with the Resource-Based View (RBV), which suggests that organizational resources can contribute to the development of capabilities and competitive outcomes when they are effectively deployed (Barney, 1991). In the context of SME hotels, digital infrastructure may include hardware, software, technological systems, connectivity, process-related infrastructure, and service-supporting technologies that enable digital activities to be implemented across the organization. The finding also complements the Dynamic Capabilities perspective, because technological resources alone do not create transformation unless organizations are able to deploy, integrate, and reconfigure those resources in response to changing conditions. Thus, the stronger coefficient for digital infrastructure suggests that internal technological readiness may be particularly important for Thai SME hotels seeking to transform their operations. This result also provides an important qualification to the role of digital disruption identified in H1. External technological pressure may create a need for transformation, but such pressure does not automatically produce organizational change. Hotels require sufficient technological foundations to respond effectively to environmental changes. The finding therefore extends the interpretation of digital transformation beyond external technology pressure by emphasizing the complementary importance of internal technological capacity. Nevertheless, the effect should not be interpreted as evidence that infrastructure alone determines transformation. The structural model explains 31.1% of the variance in digital transformation (R^2 = .311), indicating that digital disruption and digital infrastructure together account for a meaningful proportion, but not the majority, of the variation in digital transformation. Other organizational, managerial, technological, and environmental factors not included in the model may therefore also influence the extent of transformation.

H3: Digital transformation has a positive and significant effect on the business performance of small and medium-sized hotels in Thailand.

The findings support H3, showing that digital transformation has a positive and statistically significant effect on business performance (β = .538, p < .001). Among the three hypothesized relationships, this is the largest standardized coefficient, indicating that digital transformation has the strongest direct relationship with the outcome variable within the proposed model. The result suggests that hotels reporting higher levels of digital transformation also tend to report better performance across the financial, customer, internal business process, and learning and growth dimensions. This finding is consistent with the Balanced Scorecard perspective of Kaplan and Norton (1992), which conceptualizes organizational performance as multidimensional rather than being limited to financial outcomes. Digital transformation can support this multidimensional performance by facilitating operational efficiency, improving access to information, strengthening customer interactions, supporting data-based

decision-making, and enabling hotels to adapt their services and processes to changing market requirements. The finding is also broadly consistent with previous research linking digital transformation and digital capabilities with organizational performance through improvements in agility, innovation, operational processes, and customer value (Bharadwaj et al., 2013; Verhoef et al., 2021). However, the result should not be interpreted as demonstrating that digital transformation alone determines hotel performance. Digital transformation explains 28.9% of the variance in business performance (R^2 = .289), meaning that more than two-thirds of the variance remains unexplained by the model. Other factors, such as managerial capabilities, human resources, service quality, market conditions, competitive strategy, financial resources, and broader environmental conditions, may also contribute to business performance. Therefore, the finding provides evidence of a meaningful relationship between digital transformation and business performance rather than evidence that digital transformation is the sole or dominant determinant of hotel performance.

Taken together, the findings provide support for the three hypothesized direct relationships in the proposed model. Digital disruption represents an external environmental pressure associated with digital transformation, while digital infrastructure represents an internal technological foundation that has a comparatively stronger relationship with transformation. Digital transformation, in turn, is positively associated with multidimensional business performance. The combination of the TOE framework, RBV, and Dynamic Capabilities Theory therefore provides a useful theoretical basis for interpreting how environmental conditions and organizational resources relate to digital transformation and how transformation is associated with performance in the Thai SME hotel context. Importantly, the findings do not establish a formal mediating effect because indirect effects were not tested in the present analysis. Instead, they provide empirical evidence for the three direct relationships specified in the conceptual model. This contributes to the hospitality literature by examining external digital disruption and internal digital infrastructure simultaneously as antecedents of digital transformation within a specific SME hotel context, rather than simply replicating the broader finding that digitalization is related to hospitality performance.

Recommendation

Based on the findings of this study, recommendations can be proposed for hotel managers, policymakers, and future researchers. The recommendations are derived directly from the three hypothesized relationships and should be interpreted within the scope of the study.

First, hotel owners and managers should prioritize the development and maintenance of digital infrastructure as an important foundation for digital transformation. The findings for H2 show that digital infrastructure has a positive and significant effect on digital transformation (β = .384, p < .001), and its standardized effect is stronger than that of digital disruption. Therefore, SME hotels should assess the adequacy of their existing hardware, software, connectivity, information systems, digital service infrastructure, and related technological resources. Rather than treating infrastructure investment as an isolated information technology activity, managers should consider how these resources can be integrated into hotel operations, information management, customer services, and decision-making processes. Particular attention should be given to infrastructure that can support the integration and effective use of digital tools across different hotel functions.

Second, hotel managers should monitor external digital changes and customer expectations systematically. The findings for H1 demonstrate that digital disruption has a positive and significant effect on digital transformation (β = .288, p < .001). This suggests that changes in technology, artificial intelligence, digital platforms, and customer expectations are relevant environmental conditions for SME hotels. Managers should therefore establish mechanisms for monitoring technological developments, competitor practices, customer preferences, and emerging digital services. Such monitoring can help hotels identify relevant digital changes and determine which transformation initiatives are appropriate for their organizational circumstances rather than responding to every new technology without strategic assessment.

Third, hotel managers should strengthen employees' digital competencies and organizational capabilities alongside investments in digital infrastructure. The findings for H3 show that digital transformation has a positive and significant effect on business performance (β = .538, p < .001). Accordingly, digital transformation should be incorporated into organizational planning and supported through employee training, digital literacy development, managerial capability building, and effective integration of digital technologies into hotel processes. Technology investments without sufficient employee capabilities may limit the organization's ability to translate digital resources into operational improvements. Therefore, management should ensure that employees and managers understand how digital systems and tools can be applied to customer service, internal processes, information management, and organizational learning.

Fourth, policymakers and relevant government agencies should consider targeted support for digital transformation among SME hotels, particularly smaller establishments that may face resource constraints. Such support could include accessible digital training programs, technology advisory services, financial assistance for appropriate digital infrastructure, and partnerships between hotels and technology providers. Because digital infrastructure demonstrated a stronger relationship with digital transformation than digital disruption in this study, policy support that improves access to appropriate technological resources and capabilities may be particularly relevant. However, support programs should emphasize the development of organizational capacity and effective technology utilization rather than technology acquisition alone.

Finally, future research should extend the present study in several directions. The structural model explains 31.1% of the variance in digital transformation and 28.9% of the variance in business performance, indicating that other factors not included in the model may also contribute to these outcomes. Future studies could therefore incorporate additional variables such as organizational culture, leadership, employee capabilities, financial resources, service quality, innovation capability, competitive strategy, or organizational agility. Future research should also address the limitation associated with the convenience sampling approach used in this study. Because the respondents were selected through non-probability

sampling, the findings should be generalized cautiously beyond the sampled hotels. Subsequent studies could employ probability sampling or stratified sampling to improve representativeness. Comparative studies across different hospitality segments, hotel sizes, regions, or countries could further examine whether the observed relationships remain consistent across contexts. Longitudinal research would also be valuable for examining how digital transformation develops over time and how changes in digital capabilities relate to subsequent changes in business performance. In addition, qualitative or mixed-method research could provide deeper insights into the organizational processes, managerial decisions, implementation challenges, and contextual factors underlying the relationships identified in this study.

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