

# The current status of online booking system adoption in homestays at Ba Be lake (Thai Nguyen) and implications for enhancing digital capability

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**ABSTRACT:** *In the context of rapid digital transformation in the tourism and hospitality industry, small-scale accommodation establishments in rural destinations are increasingly participating in the online distribution ecosystem. This study evaluates the current status of online booking system (OBS) adoption among homestays in the Ba Be Lake area and proposes implications for enhancing digital capability. The research employs a descriptive design combining quantitative and qualitative methods, surveying all 20 homestays and conducting semi-structured interviews with eight owners.*

*The findings indicate that 70% of homestays participate in at least one online travel agency (OTA); however, the level of distribution channel diversification remains limited, and direct booking channels are underdeveloped. Digital capability is at a basic operational level but constrained at the strategic level, particularly in terms of visibility optimization and digital marketing. Major barriers include high OTA commission fees, limited technological skills, and dependence on platform algorithms. SWOT analysis reveals that online booking system adoption in Ba Be is currently at the stage of “operational digitalization” rather than “strategic digitalization”. This study contributes to the digital transformation literature in community-based tourism by clarifying the characteristics of technology adoption in micro and small accommodation enterprises. It also provides practical evidence for developing policies to enhance digital capability in rural destinations.*

**Keywords:** *Online booking system; Online travel agencies (OTA); Digital capability; Homestay; Community-based tourism; Digital transformation.*

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## I. INTRODUCTION

In the context of the Fourth Industrial Revolution and the rapid advancement of digital technologies, the tourism and hospitality industry is undergoing profound transformation in its distribution, marketing, and service management practices. The proliferation of digital platforms and smart tourism ecosystems has reshaped traditional distribution structures, shifting significantly from conventional intermediary models toward online environments (Buhalis & Leung, 2018; Koo et al., 2021). Within this landscape, the online booking system (OBS) has increasingly become a primary distribution channel for accommodation providers, enabling them to access global markets at lower marketing costs and with greater scalability (Chang, 2019).

Online travel agencies (OTAs), such as Agoda and Booking.com, function as key digital intermediaries by offering global search, comparison, booking, and online payment services. The expansion of OTA platforms has enhanced market visibility and connectivity for small-scale accommodation providers, particularly small and medium-sized enterprises (SMEs) in the hospitality sector (Chang, 2019; Koo et al., 2021). However, prior research also indicates that excessive reliance on OTAs may increase commission costs and reduce strategic autonomy in distribution channel management (Buhalis & Leung, 2018).

In developing countries, including Vietnam, digital transformation among tourism SMEs is being actively promoted; nevertheless, the level and effectiveness of digital technology adoption vary considerably across enterprises due to constraints in financial resources, skills, and technological infrastructure (Díaz-Arancibia et al., 2024; OECD, 2020). Studies on digital transformation suggest that small enterprises tend to prioritize basic technological systems, whereas the adoption of advanced tools - such as data analytics, online channel management, and digital marketing strategies - remains limited because of insufficient digital capability and institutional support (Díaz-Arancibia et al., 2024).

Within the tourism and accommodation sector, most previous studies have focused on tourists' online booking behavior, factors influencing OTA choice, or user experience on digital platforms (Koo et al., 2021). However, the supply-side perspective - specifically how small accommodation providers such as homestays implement and operate online booking systems - remains relatively underexplored, particularly in rural and community-based tourism destinations. This gap is especially significant as ecological and community-based

destinations increasingly face pressure to integrate into the global digital distribution ecosystem, while the digital capability of local operators remains limited (UNWTO, 2021).

Homestays in ecotourism destinations such as Ba Be Lake in Thai Nguyen Province represent small-scale, flexible, and community-oriented accommodation models. At the same time, they face multiple challenges related to digital transformation. Preliminary survey data indicate that approximately 70% of homestays in the area sell rooms through OTA channels to reach Asian and European markets, while only a few have developed their own websites with booking functionality. The majority use social media in the form of personal Facebook accounts rather than professional fan pages. These realities raise important questions regarding the level of OBS adoption, technical and managerial barriers, and approaches to strengthening digital capability in order to reduce intermediary dependence and enhance strategic autonomy.

Accordingly, this study aims to evaluate the current status of online booking system adoption among homestays in the Ba Be Lake area through descriptive statistics combined with qualitative analysis, and to propose implications for enhancing digital capability in small-scale accommodation enterprises. By clarifying OBS usage patterns, identifying limitations in digital capability, and analyzing contextual local factors, this study contributes to the theoretical discourse on digital transformation in community-based tourism and provides practical evidence to support policy development for SMEs in digitalized environments.

## **II. LITERATURE REVIEW AND THEORETICAL BACKGROUND**

### **2.1. Online booking systems (OBS) in the accommodation sector**

The development of information and communication technologies has significantly transformed distribution structures in the hospitality industry, shifting from traditional distribution systems to multi-channel distribution models based on digital platforms (Buhalis & Leung, 2018). In this context, online booking systems (OBS) have become a central component of distribution strategies, enabling accommodation providers to manage room inventory, pricing, and reservations via Internet-based environments.

Online travel agencies (OTAs), such as Agoda and Booking.com, serve as key digital intermediaries within the global tourism distribution ecosystem. According to Chang (2019), OTAs enable hotels to expand access to international markets while simultaneously creating a relationship characterized by both cooperation and competition between platforms and accommodation providers. This model is particularly suitable for small enterprises due to low entry costs and high market visibility.

However, several studies indicate that heavy reliance on OTAs may reduce a firm's strategic autonomy, especially when direct booking channels through proprietary websites are not developed (Buhalis & Leung, 2018). In this regard, OBS adoption should not be understood merely as "being present on OTAs," but rather as encompassing the capability to operate, manage, and optimize online booking channels strategically.

### **2.2. Digital capability in tourism SMEs**

Digital capability refers to an enterprise's ability to effectively utilize digital technologies to improve operations, innovate business models, and enhance competitive advantage (Díaz-Arancibia et al., 2024). For tourism SMEs, digital capability extends beyond technological infrastructure to include human skills, strategic thinking, and the capacity to integrate digital tools into core business activities.

OECD (2020) emphasizes that small enterprises often face constraints in financial resources, technical expertise, and policy support when implementing digital transformation initiatives. In the accommodation sector, this is reflected in the tendency of many establishments to use OTAs as passive tools rather than developing comprehensive multi-channel digital distribution strategies.

Koo et al. (2021) argue that the competitiveness of smart tourism destinations depends on the degree of technological integration and connectivity among stakeholders within the digital ecosystem. This is particularly relevant for rural destinations, where small accommodation providers play a dominant role but often lack strategic-level digital capabilities.

### **2.3. Digital divide in community-based and rural tourism**

Community-based tourism and homestays in ecological destinations typically operate at the household level, with limited resources and lower levels of professionalization compared to commercial hotels. According to UNWTO (2021), digital transformation in rural destinations encounters multiple barriers, including Internet infrastructure limitations, technological skills gaps, and restricted access to financial capital.

Recent studies highlight the existence of a "digital divide" between tourism enterprises in urban and rural areas, not only in terms of infrastructure but also in their capacity to strategically manage digital distribution channels (Díaz-Arancibia et al., 2024). This often results in platform dependency, whereby small enterprises rely almost entirely on OTAs to access customers without developing direct booking channels or long-term digital marketing strategies.

In this context, examining OBS adoption among homestays in the Ba Be Lake area is not merely a localized descriptive exercise but also contributes to understanding the characteristics of digital transformation in micro-enterprises operating within community-based tourism ecosystems.

#### **2.4. Research analytical framework**

Based on the literature review, this study develops an analytical framework structured around three main pillars:

- Level of OBS adoption (OTA participation; Direct booking website availability; Use of social media for booking)
- Digital capability of homestays (Technological infrastructure; OTA operational skills; Ability to manage online content and customer reviews)
- Barriers and development opportunities (Skill and resource limitations; Platform dependency; Opportunities arising from digital transformation policies and market trends)

This analytical framework serves as the foundation for quantitative data collection (descriptive statistics) and qualitative inquiry (in-depth interviews), and supports the construction of the SWOT matrix presented in the results section.

### **III. RESEARCH METHODOLOGY**

This study adopts a descriptive research design combining quantitative and qualitative methods to evaluate the current status of online booking system adoption among homestays in the Ba Be Lake area. A case study approach was selected to enable an in-depth examination of digital transformation characteristics within a specific community-based tourism destination, where most accommodation providers operate at the household level and exhibit uneven levels of digitalization.

The research population consists of 20 homestays currently operating in the Ba Be Lake area. Given the relatively small number of establishments, a census approach was employed to ensure representativeness. Respondents were homestay owners or individuals directly responsible for managing booking operations and online distribution channels.

Quantitative data were collected through a structured questionnaire focusing on three main categories: (1) characteristics of accommodation establishments, (2) level of online booking system adoption, and (3) assessment of digital capability and implementation barriers. Items related to digital capability and barriers were measured using a five-point Likert scale, while categorical variables such as OTA participation, website ownership, and social media use were recorded as frequencies and percentages.

In addition to the survey, semi-structured interviews were conducted with eight homestay owners representing different levels of technology adoption. The interviews aimed to explore motivations for OTA participation, operational experiences, degree of platform dependency, and future intentions regarding direct booking channel development. Qualitative data were coded thematically to complement and enrich the descriptive statistical analysis.

Quantitative data were analyzed using descriptive statistics, including frequencies, percentages, and mean values. Qualitative data were examined through thematic coding to identify behavioral patterns and characteristic barriers. Based on the integration of both data sources, a SWOT matrix was constructed to comprehensively assess strengths, weaknesses, opportunities, and threats associated with online booking system implementation among homestays in the Ba Be Lake area.

All participants were assured anonymity, and accommodation establishments were coded during the analysis process to protect business information and privacy.

### **IV. RESEARCH FINDINGS**

#### **4.1. Sample characteristics and operational context of homestays**

The study surveyed 20 homestays currently operating in the Ba Be Lake area. The results indicate that accommodation establishments in this destination primarily operate under a household-based model, characterized by small scale and limited resources. The average years of operation is 4.8 years (SD = 2.1), reflecting the relatively recent development of the homestay sector in this area. The average room capacity is 4.6 rooms (SD = 1.7), while the mean number of permanent employees is 2.4 persons (SD = 0.9), most of whom are family members.

**Table 1. General characteristics of surveyed homestays (N = 20)**

<b>Indicator</b>	<b>Value</b>
Years of operation (Mean ± SD)	4.8 ± 2.1 years
Room capacity (Mean ± SD)	4.6 ± 1.7 rooms
Permanent employees (Mean ± SD)	2.4 ± 0.9 persons
Owner directly manages operations	18 (90%)
Serve international guests	15 (75%)
International guests >30% of total	9 (45%)

Main market: Domestic	20 (100%)
Main market: Asia	13 (65%)
Main market: Europe	11 (55%)

(Source: Author's survey and data processing, 2025)

The majority of homestays (90%) are directly managed by the household owner, indicating a low level of managerial specialization. The personal role of the owner is therefore decisive in business operations, including the management of online booking channels. This finding is particularly relevant when analyzing digital capability, as technology adoption largely depends on the skills and perceptions of the individual manager.

Regarding market structure, 75% of homestays serve international guests, and 45% report that international visitors account for more than 30% of total customers. In addition to the domestic market (100%), key international markets include Asia (65%) and Europe (55%). These results demonstrate a significant presence of international demand in a mountainous community-based tourism destination and highlight the importance of online distribution channels in connecting homestays with foreign visitors.

Preliminary cross-analysis indicates that homestays serving international guests largely overlap with those participating in OTAs, suggesting a close relationship between intermediary platform presence and access to foreign markets. Interview data further support this finding, as many owners reported that OTAs constitute the primary channel for reaching Asian and European guests, while domestic customers mainly originate from social media or word-of-mouth referrals.

Overall, the sample characteristics reveal that the homestay system at Ba Be Lake consists of micro-enterprises with limited resources yet relatively strong integration into international markets. This context provides a critical foundation for analyzing the level of online booking system adoption and digital capability in subsequent sections.

#### 4.2. Level of online booking system adoption

Survey results indicate that the level of online booking system adoption among homestays in the Ba Be Lake area is relatively high in terms of platform presence but remains limited in depth and channel diversification. Out of 20 homestays, 14 establishments (70%) participate in at least one OTA platform, primarily Agoda and Booking.com. However, most participate in only one platform and have not developed a multi-channel distribution strategy.

**Table 2. Level of online booking system adoption (N = 20)**

Indicator	Frequency	Percentage (%)
Participate in OTA	14	70.0
Participate in only 1 OTA	9	45.0
Participate in $\geq 2$ OTAs	5	25.0
Own a website	3	15.0
Website with online booking function	2	10.0
Have Facebook (personal or fanpage)	18	90.0
Professional fanpage	5	25.0
Use automation tools (chatbot)	1	5.0

(Source: Author's survey and data processing, 2025)

The findings reveal an "OTA-dominant" distribution structure, in which intermediary platforms play a central role in booking activities. The proportion of homestays participating in more than one OTA is only 25%, indicating limited channel diversification. None of the homestays use a channel manager, suggesting that distribution management remains manual and fragmented.

Although 15% of homestays have their own websites, only 10% integrate an online booking function. This suggests that direct booking channels remain underdeveloped and primarily serve as informational platforms rather than transactional systems. In-depth interviews reveal that some owners perceive website development and maintenance costs as barriers, while considering OTAs more effective in generating quick market access.

Social media presence is high, with 90% of homestays using Facebook. However, only 25% operate professional fanpages, and the use of automation tools is nearly negligible. This indicates that social media is primarily utilized as a personal communication channel rather than a structured digital marketing tool. Bookings via Facebook are typically handled through direct messaging without integration into inventory management systems or online payment mechanisms.

Cross-analysis between market structure and distribution channels shows that homestays with a higher proportion of international guests are more likely to participate in OTAs, whereas those not using OTAs mainly serve domestic customers. This finding highlights the strong link between intermediary platform presence and access to international markets.

Overall, although participation in online booking systems is relatively widespread, adoption remains largely operational rather than strategically integrated. The absence of robust direct booking channels and advanced digital management tools reflects strategic-level digital capability constraints, warranting further examination of capability gaps and implementation barriers in the following sections.

#### 4.3. Assessment of digital capability

To assess the level of digital capability, the study employed a five-point Likert scale (1 = very low; 5 = very high) to measure variables reflecting the operational and managerial capacity of online booking channels. The descriptive statistical results are presented in Table 3.

**Table 3. Assessment of digital capability of homestays (N = 20)**

Observed Variable	Mean	SD
Confidence in managing OTA platforms	3.42	0.88
Ability to update prices and room availability	3.65	0.72
Ability to respond to customer reviews	3.58	0.81
Understanding how to optimize OTA visibility	2.71	0.93
Clear online marketing strategy	2.36	0.97
English communication ability	2.84	1.02

(Source: Author's survey and data processing, 2025)

The results indicate that the digital capability of homestays is at a moderate level, with mean values ranging from 2.36 to 3.65. Basic operational skills - such as updating prices, managing room inventory, and responding to customer reviews - achieve mean scores above 3.5, suggesting that most homestay owners are capable of performing fundamental technical tasks on OTA platforms.

However, strategic-level capabilities - such as optimizing visibility on OTAs (Mean = 2.71) and developing a clear online marketing strategy (Mean = 2.36) - are significantly lower. This finding reflects a gap between operational competence and strategic digital management. Most homestays appear to use OTAs primarily as customer acquisition tools rather than as components of an integrated multi-channel distribution strategy.

In-depth interviews reinforce this observation. Several owners reported that they can update room availability and pricing following initial instructions but lack understanding of how to improve ranking visibility or analyze customer data. One homestay owner (HS12) noted that improvements in platform visibility largely depend on "guest reviews and the system algorithm", indicating limited proactive management of distribution channels.

English communication ability scores at a moderately low level (Mean = 2.84), revealing a potential barrier in interacting with international guests on online platforms. This is particularly significant given that 75% of homestays serve international visitors, suggesting a mismatch between market integration and language capability.

Overall, the findings in this section demonstrate that digital capability among homestays in Ba Be Lake remains at a basic operational stage and has not yet reached a strategic and integrated level. This gap represents a critical factor to be considered when analyzing implementation barriers and developing digital capability enhancement solutions in the subsequent section.

#### 4.4. Barriers to online booking system implementation

To identify factors constraining the adoption and operation of online booking systems, respondents were asked to indicate their level of agreement with key barrier-related statements using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The results are presented in Table 4.

**Table 4. Assessment of Barriers to OBS Implementation (N = 20)**

Barrier	Mean	SD
High OTA commission fees	3.92	0.81
Lack of technological skills	3.78	0.76
Dependence on OTA algorithms	3.74	0.83
Lack of dedicated digital marketing personnel	3.65	0.84
Limited English proficiency	3.41	0.95
Unstable Internet infrastructure	2.88	0.89

(Source: Author's survey and data processing, 2025)

The results indicate that the most significant barrier is high OTA commission fees (Mean = 3.92), reflecting concerns regarding financial sustainability when relying heavily on intermediary platforms. Although OTAs facilitate access to international markets, commission costs are perceived as reducing profit margins for small-scale homestays.

The lack of technological skills (Mean = 3.78) and dependence on OTA display algorithms (Mean = 3.74) are also identified as major constraints. These findings suggest that many homestay owners lack sufficient capability to optimize their online presence, and business performance is partly influenced by platform governance mechanisms. Interview data further reveal that some owners perceive ranking visibility as “difficult to control” and dependent on customer reviews as well as platform rules.

Human resource constraints are reflected in the relatively high mean score (3.65) for the lack of dedicated digital marketing personnel. Since most homestays are directly managed by household owners, there is no specialized department responsible for online distribution management. This limits the ability to develop long-term digital marketing strategies and diversify distribution channels.

Limited English proficiency (Mean = 3.41) is also considered a notable barrier, particularly given the high proportion of international guests. In contrast, Internet infrastructure receives a lower mean score (2.88), indicating that technical infrastructure is not perceived as the most critical constraint compared to skill and resource limitations.

Overall, these findings suggest that barriers to online booking system implementation among homestays in Ba Be Lake stem primarily from internal digital capability limitations and resource structures rather than from technological infrastructure constraints. Platform dependence, combined with the absence of strategic direct distribution channels, has resulted in a largely passive operational model of OBS adoption. This provides the foundation for the strategic analysis presented in the next section.

#### 4.5. SWOT Analysis and strategic implications

##### 4.5.1. Development of the SWOT matrix for OBS adoption

Based on descriptive statistical results and qualitative analysis, the adoption of online booking systems among homestays in the Ba Be Lake area can be synthesized into four groups of factors: strengths, weaknesses, opportunities, and threats.

**Table 5. SWOT matrix of OBS adoption in Ba Be lake homestays**

Strengths (S)	Weaknesses (W)
High OTA participation rate (70%)	Dependence on OTAs
Basic operational capability (Mean > 3.4)	Lack of digital marketing strategy (Mean = 2.36)
Access to international guests	Limited direct booking websites (10%)
High social media presence (90%)	Low rate of professional fanpages (25%)
Opportunities (O)	Threats (T)
Increasing trend of online booking	High OTA commission fees (Mean = 3.92)
Government policies promoting digital transformation	Dependence on display algorithms
Growing demand for experiential tourism	Visibility competition on OTAs
International demand for ecological destinations	Limited English capability

(Source: Compiled by the author based on research findings)

The SWOT matrix indicates that although platform presence within online booking systems is relatively high, the current adoption structure remains imbalanced between market accessibility and strategic autonomy. OTAs play a central role in distribution activities, while direct booking channels and digital marketing capabilities remain underdeveloped.

##### 4.5.2. Strategic analysis based on the SWOT matrix

###### *SO strategy (Leveraging strengths to exploit opportunities)*

Homestays can capitalize on their relatively high OTA participation rate and basic operational capability to expand international markets amid growing online booking demand. Standardizing content, improving visual presentation, and enhancing responsiveness to guest reviews may improve platform visibility without requiring substantial infrastructure investment.

Moreover, the high level of social media presence provides a favorable foundation for transitioning from personal communication models to professional fanpages. This shift could strengthen direct customer engagement and gradually reduce intermediary dependence.

###### *WO strategy (Overcoming weaknesses to capture opportunities)*

The most significant gap lies in strategic digital marketing capability and direct booking channel development. In the context of national and local digital transformation initiatives, organizing training programs focused on OTA management, content development, and website construction could help homestays progressively enhance digital autonomy.

Developing simple websites integrated with online booking functionality or electronic payment links may represent a critical transition from a “platform-dependent” model toward a multi-channel distribution strategy.

*ST strategy (Leveraging strengths to mitigate threats)*

Basic OTA operational capability provides a foundation for mitigating risks associated with visibility competition. Proactive management of customer reviews, consistent service quality, and optimized listing information can reduce negative impacts stemming from platform algorithms.

Additionally, leveraging Ba Be's distinctive ecological and community-based tourism characteristics can create differentiation from other destinations, thereby reducing direct price competition on OTA platforms.

*WT Strategy (Minimizing Weaknesses and Avoiding Threats)*

In the long term, failure to enhance strategic digital capability may lock homestays into a platform-dependent model characterized by low profit margins. Therefore, a phased digital transformation roadmap should be established, beginning with strengthening basic skills, improving English communication, and gradually developing direct booking channels.

Collaboration among homestays to build a shared destination portal or engage in joint digital marketing initiatives may help reduce costs and enhance the overall destination brand.

The SWOT analysis indicates that online booking system adoption at Ba Be Lake remains at the stage of "operational digitalization" rather than "strategic digitalization". This distinction provides an important basis for deeper discussion of theoretical and managerial implications in the next section.

## V. DISCUSSION, MANAGERIAL AND POLICY IMPLICATIONS

### 5.1. Discussion

The findings reveal that online booking system adoption among homestays in the Ba Be Lake area is characterized by relatively high platform presence but limited strategic integration. This pattern aligns with broader trends observed among micro tourism enterprises in rural destinations of developing countries, where digital transformation typically begins with accessible intermediary tools such as OTAs rather than with direct investment in proprietary digital infrastructure (Díaz-Arancibia et al., 2024).

First, the strong reliance on OTAs reflects a form of platform-mediated digitalization. Under resource constraints, OTA participation enables homestays to access international markets rapidly without substantial investment in marketing or technological systems. This finding is consistent with Buhalis and Leung (2018), who argue that digital platforms create global connectivity opportunities for small accommodation providers. However, the results also demonstrate limited strategic autonomy, as direct booking channels and digital marketing strategies remain underdeveloped. This supports the view that digital transformation in SMEs often remains at the operational level rather than transforming the business model fundamentally (OECD, 2020).

Second, the gap between basic operational capability and strategic digital capability represents a key contribution of this study. While homestays demonstrate competence in performing technical OTA tasks, they lack the ability to optimize visibility, manage customer data strategically, and build online branding. This finding corresponds to the concept of a "digital capability gap," whereby enterprises may access technology but fail to develop organizational capabilities to fully leverage its value (Koo et al., 2021). It highlights that digital capability is not merely an infrastructural issue but also one of managerial cognition, skill development, and strategic orientation.

Third, the study underscores the distinctive characteristics of mountainous community-based tourism, where enterprise structures are household-based and heavily dependent on the individual capacity of the owner. The absence of managerial specialization in digital marketing constrains distribution channel diversification and strategic autonomy. Meanwhile, increasing international demand for ecological and authentic experiences presents significant opportunities if homestays can strengthen digital capability and effectively communicate destination-specific value propositions.

From a theoretical perspective, this study contributes to the literature on digital transformation in tourism by clarifying how digitalization unfolds in micro accommodation enterprises within rural and community-based destinations. Rather than occurring as a linear and uniform process, digital transformation appears incremental and strongly influenced by internal resource structures. This suggests that theoretical models of digital capability and digital transformation may require contextual adaptation when applied to community-based tourism, where cultural factors, individual skills, and local social networks play pivotal roles.

Overall, the discussion demonstrates that OBS adoption in Ba Be Lake is not merely a technological issue but a broader organizational and strategic transformation process. The distinction between "being present on a platform" and "mastering the digital ecosystem" represents the critical gap that must be addressed in the next stage of digital capability development.

### 5.2. Managerial and policy implications

#### 5.2.1. Implications for homestay owners

The findings indicate that digital capability among homestays in Ba Be Lake remains largely operational, while strategic capability is limited. Therefore, the first implication is the need to shift from a passive platform-based approach toward a strategically oriented multi-channel distribution model.

Rather than perceiving OTAs solely as customer acquisition channels, homestay owners should recognize them as components of a broader distribution strategy. Optimizing listing descriptions, improving visual presentation, actively responding to reviews, and adopting dynamic pricing practices can enhance visibility without increasing fixed costs. Simultaneously, gradually developing direct booking channels—through simple websites or professional fanpages—can reduce intermediary dependence and improve long-term profit margins.

Furthermore, enhancing digital marketing skills and foreign language proficiency should be viewed as strategic investments rather than short-term expenses. Given the substantial proportion of international guests, bilingual communication and content management capabilities may provide a clear competitive advantage.

### **5.2.2. Implications for local authorities and tourism management agencies**

The study indicates that the primary barriers do not stem from Internet infrastructure but from internal skill and resource limitations. Accordingly, digital transformation support programs should prioritize practical training rather than purely theoretical guidance.

Local authorities may assume a coordinating role by organizing training workshops on OTA management, digital content development, and online visibility optimization. Establishing a shared destination portal or providing standardized website templates for homestays could further enhance collective digital autonomy within the region.

Additionally, encouraging collaboration among homestays to share experiences and engage in joint digital marketing initiatives may generate network effects, reduce costs, and strengthen the destination's brand image.

### **5.2.3. Implications for the digital support ecosystem**

Given the dominance of micro-enterprises in community-based tourism, the broader support ecosystem—including training institutions, technology providers, and tourism associations—plays a crucial role. Technological solutions should be simple, affordable, and easy to implement, such as lightweight booking integration systems or user-friendly social media management tools, rather than complex enterprise-level systems.

Moreover, support programs should be designed in alignment with the specific characteristics of mountainous community-based tourism, where cultural values, family participation, and community engagement are central. In this context, digital transformation should be approached as a gradual adaptive process rather than a rapid and comprehensive overhaul.

## **VI. CONCLUSION AND FUTURE RESEARCH DIRECTIONS**

This study evaluated the current status of online booking system adoption among homestays in the Ba Be Lake area through descriptive statistical analysis combined with qualitative inquiry and SWOT analysis. The findings indicate that although OTA participation is relatively high and homestays have achieved basic technical operational capability, the current distribution structure remains platform-dependent and lacks long-term strategic orientation. Direct booking channels are underdeveloped, digital marketing capability remains limited, and a clear gap persists between technical operation and strategic digital management.

From an academic perspective, this study contributes to the digital transformation literature in tourism by clarifying the characteristics of technology adoption among micro accommodation enterprises in rural and community-based destinations. The findings demonstrate that digitalization does not occur uniformly but rather incrementally and unevenly, strongly influenced by internal resource structures and the individual capability of owners. This provides practical insights for digital capability and SME transformation theories, which are often developed based on large-scale or urban enterprise contexts.

From a practical standpoint, the study offers evidence-based implications for designing digital transformation policies tailored to the specific characteristics of mountainous homestays. Solutions should prioritize enhancing platform management skills, developing direct distribution channels, and strengthening community collaboration rather than merely expanding OTA presence. Such an approach is essential for improving strategic autonomy and ensuring the long-term economic sustainability of small-scale accommodation enterprises.

Nevertheless, several limitations should be acknowledged. First, the small sample size and focus on a single destination may limit the generalizability of the findings. Second, the data are primarily based on self-reported assessments by homestay owners, which may be subject to subjective bias. Third, the study relies on descriptive statistics and SWOT analysis without empirically testing causal relationships between digital capability and business performance.

Future research may expand the scope to multiple community-based tourism destinations to compare levels of online booking system adoption across regions. The application of advanced quantitative methods, such as regression analysis or PLS-SEM, could further examine the relationships between digital capability, platform dependence, and business performance. Additionally, longitudinal studies would help capture the

dynamic evolution of digital transformation processes in homestays over time, thereby identifying distinct stages of digital capability development within community-based tourism contexts.

Overall, this study confirms that “being present” on digital platforms does not equate to “mastering” the digital ecosystem. Bridging the gap between technical presence and strategic digital capability is the key condition for enhancing sustainability and competitiveness among homestays in the increasingly digitalized tourism environment.

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