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POLICY PROSPECTS FOR ADVANCING DIGITAL E-READINESS IN TOURISM SMES: A CASE STUDY OF PATTAYA CITY, THAILAND

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Abstract

The rapid digitalization of global tourism necessitates "smart tourism cities," yet small and medium-sized enterprises (SMEs) in developing economies face significant barriers to adopting information and communication technology (ICT). This study applies the Perceived E-readiness Model (PERM) to evaluate the e-readiness of tourism SMEs in Pattaya City, Thailand, considering internal (organizational awareness, human, business, and technological resources) and external (market forces, government support, and supporting industries) determinants. Utilizing a three-round Delphi process with a multi-stakeholder expert panel, the research identified feasible strategies and policy priorities. Findings reveal high ICT awareness among SMEs, but substantial capability gaps persist due to financial constraints, insufficient digital skills, and inadequate technological infrastructure. External enablers, particularly robust government interventions and collaborative industry support, are crucial for driving digital transformation. The study underscores that e-readiness is co-produced by firm-level readiness and external environmental support. Policy recommendations emphasize local government's role in enhancing digital infrastructure, providing financial incentives, and implementing tailored capacity-building programs. Fostering multi-stakeholder collaboration is vital for sustainable digital transformation, offering a scalable roadmap for innovative tourism development in other emerging economies.

Keywords: Public Policy, E-Readiness, Smart Tourism, PERM, Local Government

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Introduction

Tourism is a pivotal engine of Thailand's economic and social development, contributing nearly one-fifth of national GDP and sustaining millions of jobs (Office of the National Economic and Social Development Council, 2022). Unfortunately, Thailand's tourism momentum has been weakening in 2025 due to a shift in tourist demographics toward Gen Z and millennials who rely heavily on digital devices (Bank of Thailand, 2025).

In response to accelerating digitalization and changing visitor expectations, global tourism has shifted toward "smart tourism cities," which use ICT to enhance competitiveness, visitor experiences, and sustainable resource management (Buhalis & Amaranggana, 2015; Gretzel et al., 2015). Despite national initiatives promoting smart tourism, small and medium-sized enterprises (SMEs)—the backbone of Thailand's tourism sector—face persistent obstacles to adopting and leveraging ICTs (Windrum & Berranger, 2002; Hung et al., 2009). These constraints include limited financial resources, insufficient digital skills, and uneven infrastructure provision, particularly at the local level (Verduzco Villaseñor et al., 2023).

Existing scholarship highlights the importance of both internal organizational readiness and external enabling environments for digital transformation (Molla & Licker, 2005; Mutula & van Brakel, 2006). However, research on tourism SMEs in Thailand has remained fragmented, with limited empirical evidence on how government policies, market dynamics, and supporting industries jointly shape SMEs' e-readiness (Lee et al., 2020). Pattaya City, a leading destination within Thailand's Eastern Economic Corridor (EEC), offers an ideal case for examining the multi-level factors influencing tourism SMEs' digital transition. The city has been a focal point for wise infrastructure investment, including public Wi-Fi, data-driven urban management, and mobile applications, yet the readiness of local tourism businesses to adopt and sustain these innovations remains underexplored (Office of the National Economic and Social Development Council, 2022; Verduzco Villaseñor et al., 2023).

This study addresses this gap by applying the Perceived E-readiness Model (PERM) to assess the internal (organizational awareness, human, business, and technological resources) and external (market forces, government support, and supporting industries) factors influencing e-readiness among tourism SMEs in Pattaya City (Molla & Licker, 2005; Tan et al., 2007). Using an Ethnographic Delphi Futures Research approach, the research engages a multi-stakeholder expert panel to identify the most feasible strategies and policy actions to enhance digital adoption (Okoli & Pawlowski, 2004). The findings provide evidence-based insights for industry stakeholders, local authorities, and national policy makers, contributing to the advancement of innovative tourism governance in developing-economy contexts (Gretzel et al., 2015; Office of the National Economic and Social Development Council, 2022).

Literature Review

Concept of E-readiness

E-readiness refers to the degree to which an organization or nation is prepared to adopt and benefit from information and communication technologies (ICTs). Originally developed to measure the digital divide between developed and developing countries, e-readiness has evolved into a diagnostic tool for evaluating ICT adoption at both national and organizational levels (Mutula & van Brakel, 2006). The Computer Systems Policy Project (CSPP) defined e-readiness as encompassing access to high-speed networks, the extent of ICT applications in government and business, and the provision of online security and privacy protection. Within this framework, the Perceived E-readiness Model (PERM) proposed by Molla & Licker (2005) offers a more granular approach by distinguishing between Perceived Organizational E-readiness (POER)—including awareness, human, business, and technological resources—and Perceived Environmental E-readiness (PEER)—covering market forces, government support, and supporting industries. PERM thus captures both micro-level organizational readiness and

macro-level environmental enablers, making it especially relevant for analyzing SMEs in developing economies (Tan et al., 2007; Ruikar et al., 2006; Fathian et al., 2008).

ICT Adoption and E-readiness in SMEs

Small and medium-sized enterprises (SMEs) are widely recognized as key drivers of employment and innovation, but often lag behind larger firms in ICT adoption due to financial, technical, and managerial constraints (Windrum & Berranger, 2002; Hung et al., 2009). Research shows that managerial awareness of ICT benefits, strategic vision, and dedicated implementation teams are critical for successful digital transformation (Teo et al., 2003; Molla & Licker, 2005). Organizational resources—including skilled personnel, modern equipment, and supportive business processes—determine a firm's capacity to adopt and sustain ICT use (Iacovou et al., 1995; Kuan & Chau, 2001). However, SMEs frequently lack these resources, leading to uneven adoption rates and limited engagement with advanced digital tools such as cloud computing, big data analytics, or AI-driven applications (Lee et al., 2020). This gap underscores the importance of assessing both internal and external factors when evaluating e-readiness among SMEs, especially in sectors such as tourism, where digital competitiveness is increasingly essential.

E-readiness in Tourism

The tourism sector has become increasingly dependent on digital technologies to improve visitor experiences, streamline operations, and maintain competitiveness in a rapidly changing market (Buhalis & Amaranggana, 2015; Gretzel et al., 2015). Smart tourism destinations go beyond basic digitization to integrate data-driven decision-making, personalized services, and sustainable resource management, requiring high levels of ICT infrastructure and digital literacy (Lee et al., 2020). In Thailand, where tourism contributes nearly 20% of GDP, national initiatives such as Thailand 4.0 and the Eastern Economic Corridor (EEC) have prioritized smart tourism as a strategic growth area (Office of the National Economic and Social Development Council, 2022). Despite large-scale investments in smart infrastructure, the readiness of tourism SMEs to adopt and effectively use ICT remains uneven. Previous studies indicate that SMEs' ability to integrate digital solutions is critical to the success of innovative tourism initiatives (Windrum & Berranger, 2002; Wang & Cheung, 2004).

Moreover, recent scholarship has emphasized that smart tourism destinations increasingly rely on data analytics, artificial intelligence (AI), and Internet of Things (IoT) technologies to personalize services and improve operational efficiency (Gretzel et al., 2015; Lee et al., 2020). These technologies create new opportunities for SMEs to enter digital ecosystems but also heighten the need for standardized data practices, cybersecurity protocols, and cross-sector collaborations. In Thailand, initiatives such as Thailand 4.0 and the Eastern Economic Corridor (EEC) not only expand digital infrastructure but also provide a policy framework for tourism businesses to adopt advanced ICT solutions. However, the literature suggests that without capacity-building measures—especially digital literacy, change management, and integration support—SMEs may struggle to translate infrastructure investments into sustained competitiveness. This reinforces the notion that e-readiness in tourism is multidimensional, requiring simultaneous progress in technology, human capital, and institutional support systems to achieve a brilliant tourism ecosystem.

Challenges for Tourism Businesses, Local and National Government in Developing Tourism SMEs' E-readiness

While digital transformation holds promise for tourism, SMEs face persistent challenges that span both internal and external dimensions. Internally, financial limitations, insufficient digital skills, and a lack of strategic planning hinder ICT integration (Hung et al., 2009). Externally, inadequate broadband coverage, inconsistent government support, and fragmented policy implementation create structural barriers to SME digitalization (Verduzco Villaseñor et al., 2023). At the local level, governments may face limited technical expertise, budget constraints,

and bureaucratic inefficiencies, thereby impeding their ability to provide targeted training or infrastructure (Office of the National Economic and Social Development Council, 2022). Nationally, while innovative tourism policies exist, gaps in regulatory enforcement and limited fiscal incentives reduce their impact on SMEs. Market forces and industry associations can partially offset these constraints but require coordinated frameworks to be effective (Gretzel et al., 2015). This body of research highlights the need for integrated, multi-level approaches that combine infrastructure investment, capacity building, and collaborative governance across industry, local, and national governments to enhance e-readiness among tourism SMEs (Mutula & van Brakel, 2006; Lee et al., 2020).

Additionally, scholars argue that a "last-mile" challenge persists in many developing countries where digital policy intentions at the national level are not fully translated into local practice (Mutula & van Brakel, 2006; Verduzco Villaseñor et al., 2023). For Pattaya City, which serves as a testbed for intelligent infrastructure, aligning municipal-level initiatives with national policies becomes crucial to ensure equitable access for SMEs. This alignment can be facilitated through public-private partnerships, local innovation hubs, and coordinated training programs that address sector-specific needs such as e-marketing, online customer relationship management, and secure digital payments. By incorporating these dimensions, the literature points to a more integrated approach that links macro-level strategy with micro-level implementation for tourism SMEs.

Research Conceptual Framework

This study adopts a conceptual framework based on Molla & Licker's (2005) Perceived E-readiness Model (PERM). The PERM framework evaluates e-readiness from both internal and external perspectives, identifying factors that influence SMEs' ability to adopt ICT. The model's two primary constructs—Perceived Organizational E-readiness (POER) and Perceived Environmental E-readiness (PEER)—serve as the foundation for this research. Internal Factors (POER): These include the organization's awareness of ICT benefits, technological resources, human resources, and business resources. External Factors (PEER): These encompass government policies, market dynamics, supporting industries structures, and the availability of ICT infrastructure. The research framework integrates these two constructs to assess the e-readiness of tourism SMEs in Pattaya City. It identifies areas where policy interventions can enhance their readiness for smart tourism.

Beyond identifying the internal and external factors, the research framework also underscores the dynamic interplay between these domains, positioning e-readiness not as a static condition but as a capability that evolves. By applying the PERM model in a tourism context, this study integrates concepts from resource-based theory and collaborative governance, highlighting how organizational resources, institutional support, and market dynamics co-produce digital transformation outcomes. This expanded view enables the formulation of policy interventions that are sensitive to both firm-level constraints and systemic enablers, thereby providing a more actionable roadmap to improve SMEs' readiness for innovative tourism initiatives in Pattaya City and similar destinations.

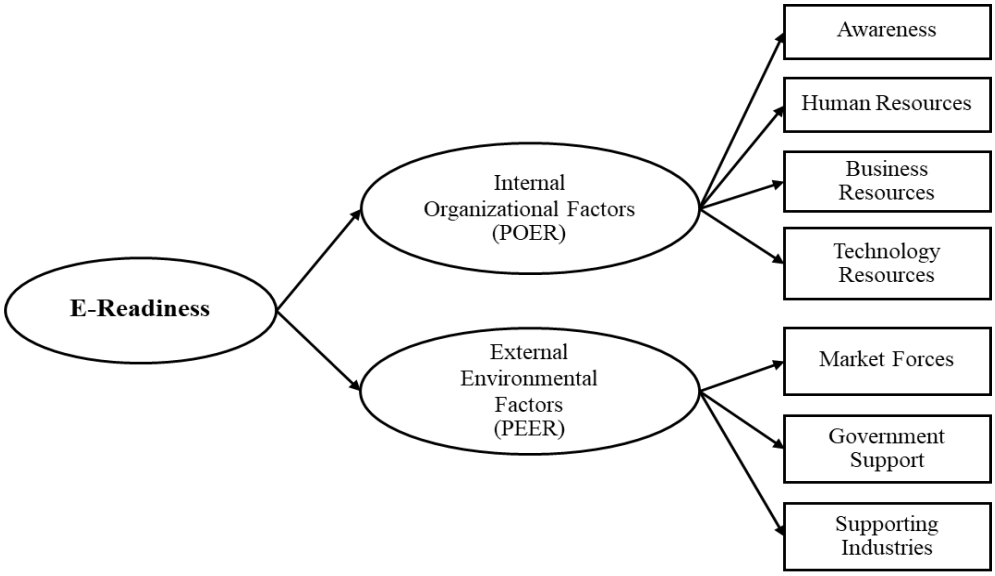

Figure 1 Conceptual Framework of the Study

Methodology

This study employed an Ethnographic Delphi Futures Research (EDFR) design to assess the e-readiness of tourism SMEs in Pattaya City and to identify feasible policy interventions (Okoli & Pawlowski, 2004). Anchored in the Perceived E-Readiness Model (PERM) (Molla & Licker, 2005), the assessment covered internal readiness (awareness; human, business, and technology resources) and external readiness (market forces, government support, supporting industries). A purposive expert panel (n = 20) drawn from local government, tourism SMEs, national policy agencies, and industry associations participated under guaranteed anonymity. Data were collected over three Delphi rounds in 40 days: Round 1—qualitative elicitation; Round 2—structured ratings of feasibility and priority; Round 3—controlled feedback to refine rankings and implications. Consensus was evaluated using median, mode, interquartile range (IQR), and coefficient of variation, with high consensus defined as IQR ≤ 1.25 and |MO-MD| ≤ 1.00 (Hung et al., 2009). Quantitative ratings were aggregated into summary tables, and qualitative responses were thematically analyzed to derive evidence-based policy prospects for industry, local government, and national government.

Research Findings

Using the Perceived E-readiness Model (PERM), we examine how internal (organizational awareness, human, business, and technological resources) and external (market forces, government support, and supporting industries) conditions collectively influence ICT adoption among tourism SMEs in Pattaya City. Expert ratings, summarized using Mean (M), Mode (MO), Median (MD), Interquartile Range (IQR), and |MO-MD|, indicate that a factor is considered high/consensual when IQR ≤ 1.25 and |MO-MD| ≤ 1.00. While SMEs generally show high awareness of ICT benefits, a notable capability gap exists across various dimensions. We first detail the internal organizational factors (POER) before proceeding to the external environmental factors (PEER).

Internal Organizational E-readiness (POER)

The analysis of internal factors reveals four interrelated dimensions—awareness, human resources, business resources, and technology resources—which jointly determine the effectiveness of ICT adoption and sustainability for tourism SMEs in Pattaya City. This domain, corresponding to the Perceived Organizational E-readiness (POER) construct, is critical for translating external policy support into concrete business outcomes.

1) Awareness: SMEs widely recognize the business value of online marketing, digital booking, and data-driven customer service. Overall: M = 4.14; MO = 4.13; MD = 4.25; IQR = 1.13; |MO-MD| = 0.13 (high consensus). Owners/managers show a clear digital vision (M = 4.18; IQR = 1.00; MO-MD = 0.00), and staff understand the benefits and challenges of e-business (M = 4.18; IQR = 1.00; MO-MD = 0.00). Having documented ICT plans aligned with business goals also scores high (M = 4.18; MO = 4.50; MD = 5.00; IQR = 1.25; MO-MD = 0.50), as does employee willingness to adopt ICT (M = 4.00; IQR = 1.25; MO-MD = 0.00). Awareness is therefore strong, but alone it cannot ensure implementation.
2) Human resources: Capacity is the weakest link. Many firms lack advanced digital skills; training is sporadic. Overall: M = 3.87; MO = 4.00; MD = 4.00; IQR = 1.63; |MO-MD| = 0.00 (high but dispersed). Understanding ICT-relevant laws/regulations is lowest (M = 3.68; IQR = 1.25; MO-MD = 0.00), while the ability to use tourism information via e-channels is higher (M = 4.05; IQR = 1.00; MO-MD = 0.00). The above-threshold IQR indicates uneven capabilities across firms.
3) Business resources: Financial/managerial capacity is moderate, reflecting thin margins, limited earmarked ICT budgets, and few in-house ICT roles. Overall: M = 3.78; MO = 4.00; MD = 4.00; IQR = 1.13; |MO-MD| = 0.00 (high consensus). A dedicated IS/IT unit/role remains limited (M = 3.50; IQR = 1.00; MO-MD = 0.00), whereas partnerships/networks for IT development are stronger (M = 4.05; IQR = 1.25; MO-MD = 0.00). The pattern suggests a resource rather than an attitudinal constraint.
4) Technology resources. Ratings are moderately high but uneven: some firms use cloud booking/CRM; others rely on legacy or fragmented systems amid variable broadband and minimal cybersecurity. Overall: M = 3.96; MO = 4.00; MD = 4.50; IQR = 1.13; |MO-MD| = 0.50 (high consensus). Adequate hardware scores high (M = 4.18; IQR = 1.00; MO-MD = 1.00; MD = 5.00), indicating pockets of strong capability alongside lagging firms. Readiness to upgrade IT systems is high but falls in the mid-high range (M = 3.73; IQR = 1.25; MO-MD = 0.00), reflecting constraints in maintenance, integration, and basic cyber hygiene.

Synthesis of internal findings (POER).

Internal e-readiness is as decisive as external enablement: high awareness coexists with limited human and financial capacity, creating a capability gap that suppresses deep ICT adoption even when policies, infrastructure, and industry partnerships are in place. Closing this gap requires a bundled, firm-level response—targeted skills development, ring-fenced ICT budgets, and clear ownership with measurable KPIs—so that external supports translate into sustained implementation and tangible business outcomes.

Table 1 Internal Organizational Factors for E-readiness (POER)

Internal Organizational Factors for E-readiness		**Final Results of Policy Strategies for e-readiness enhancement of tourism SMEs**						
		MEAN	**Mode (MO)**	**Median (MD)**	**IQR**	**MO-MD**	**Agreement**	**Agreement Level**
Awareness								
1	Business owners or managers must have a clear vision for developing business channels using tools and information technology.	4.18	4.00	4.00	1.00	0.00	Agreed	Very High
2	Tourism SMEs' employees should be aware of the benefits, challenges, and impacts of conducting e-business.	4.18	4.00	4.00	1.00	0.00	Agreed	Very High
3	Tourism SMEs should have clear, documented plans and strategies for ICT-enabled business operations, aligned with business goals and supported by assigned owners, budgets, timelines, and KPIs.	4.18	4.50	5.00	1.25	0.50	Agreed	High
4	Employees should support and be willing to use tools and information technology.	4.00	4.00	4.00	1.25	0.00	Agreed	High
	Total	**4.14**	**4.13**	**4.25**	**1.13**	**0.13**	**Agreed**	**High**
Human Resources								
1	Employees should understand the relevant laws or government policies regarding the use of information technology	3.68	4.00	4.00	1.25	0.00	Agreed	High
2	Employees should be able to access tourist information for business purposes through e-channels.	4.05	4.00	4.00	1.00	0.00	Agreed	High
	Total	**3.87**	**4.00**	**4.00**	**1.63**	**0.00**	**Agreed**	**High**
Business Resources								
1	Tourism SMEs should establish specialized employees, departments, or divisions for utilizing information technology systems for business purposes.	3.50	4.00	4.00	1.00	0.00	Agreed	Very High

Internal Organizational Factors for E-readiness		Final Results of Policy Strategies for e-readiness enhancement of tourism SMEs						
		MEAN	**Mode (MO)**	**Median (MD)**	**IQR**	**MO-MD**	**Agreement**	**Agreement Level**
2	Tourism SMEs should have partnerships or business linkages in developing IT systems.	4.05	4.00	4.00	1.25	0.00	Agreed	High
	Total	**3.78**	**4.00**	**4.00**	**1.13**	**0.00**	**Agreed**	**High**
Technology Resources								
1	Tourism SMEs should have sufficient hardware, such as computers and mobile phones.	4.18	4.00	5.00	1.00	1.00	Agreed	Very High
2	Tourism SMEs should be prepared for change and development in information technology systems.	3.73	4.00	4.00	1.25	0.00	Agreed	High
	Total	**3.96**	**4.00**	**4.50**	**1.13**	**0.50**	**Agreed**	**High**

External Environmental Factors (PEER)

Quantitatively, Government Support shows the strongest consensus across tiers (national M = 4.22; local M = 4.20; total M = 4.15), underscoring the primacy of public-sector enablement relative to market forces. Findings indicate strong external enablers with uneven market dynamics. Results are organized by the three framework dimensions: Market Forces, Government Support, and Supporting Industries.

1) Market Forces: Competitive signals are present but comparatively weaker as primary drivers of adoption. Overall: M = 4.16; MO = 4.25; MD = 5.00; IQR = 1.13; |MO-MD| = 0.75 (high, consensual). This suggests that market signals alone are insufficient to induce deep ICT adoption without complementary institutional support.

2) Government Support: Public policy functions as the decisive enabler across tiers. At the local level, municipal and local administrative bodies act as frontline providers—offering public Wi-Fi, tourism information systems, digital training workshops, and coordination on online service platforms—yet budget and staffing constraints produce uneven continuity across districts (subtotal: M = 4.20; MO = 4.25; MD = 5.00; IQR = 1.13; |MO-MD| = 0.75). At the national level, frameworks such as Thailand 4.0, the EEC, and digital economy master plans establish strategic and fiscal conditions—tax incentives, grants, and broadband/cloud infrastructure—that shape SMEs' willingness to adopt ICT; streamlined funding access would further enhance uptake (subtotal: M = 4.22; MO = 4.38; MD = 4.50; IQR = 1.00; |MO-MD| = 0.13; strongest consensus). In addition, collaborative governance within government support—multi-level coordination that bridges local and national authorities with industry associations via co-created tourism apps, shared data platforms, and joint digital-service standards—helps scale pilots and reduce duplication (subtotal: M = 4.08; MO = 4.58; MD = 4.83; IQR = 1.17; |MO-MD| = 0.25). Overall, total Government Support is high (M = 4.15; MO = 4.43; MD = 4.79; IQR = 1.11; |MO-MD| = 0.36).

3) Supporting Industries. Partnerships with technology vendors, tourism associations, and training consortia are rated very high, underscoring the value of collective networks and shared learning for SMEs. Overall: M = 4.21; MO = 4.00; MD = 4.60; IQR = 1.00; |MO-MD| = 0.60 (high, consensual).

Synthesis of external findings (PEER)

External enablers—especially Government Support (including collaborative governance across tiers) and Supporting Industries—are decisive for the digital transition, while Market Forces are supportive but not determinative. Their impact is maximized when aligned with firm-level readiness (POER), confirming that sustained ICT adoption is co-produced by internal and external factors.

Table 2 External Environmental Factors for E-readiness (PEER)

External Environmental Factors for E-readiness	**Final Results of Policy Strategies for e-readiness enhancement of tourism SMEs**						
	MEAN	**MO**	**MD**	**IQR**	**MO-MD**	**Agreement**	**Agreement Level**
Market Forces							
1 Tourists can access government-developed applications designed to support tourism.	4.14	4.50	5.00	1.25	0.50	Agreed	High
2 The SMEs should utilize digital systems to enhance competitiveness.	4.18	4.00	5.00	1.00	1.00	Agreed	Very High
Total	**4.16**	**4.25**	**5.00**	**1.13**	**0.75**	**Agreed**	**High**
Government Support							
○ Local Government Support							
1 The government should provide digital infrastructure, such as installing Wi-Fi hotspots.	4.14	4.00	5.00	1.00	1.00	Agreed	Very High
2 Government-organized training programs should help reduce the digital divide in access to learning resources for target groups (local communities).	4.32	5.00	5.00	1.25	0.00	Agreed	High
3 The government should develop online platforms, such as tourism applications.	4.18	4.00	5.00	1.00	1.00	Agreed	Very High
4 The government should integrate digital systems into tourism applications.	4.14	4.00	5.00	1.25	1.00	Agreed	High
Subtotal	4.20	4.25	5.00	1.13	0.75	Agreed	High
○ National Government Support							

External Environmental Factors for E-readiness		Final Results of Policy Strategies for e-readiness enhancement of tourism SMEs						
		MEAN	**MO**	**MD**	**IQR**	**MO-MD**	**Agreement**	**Agreement Level**
1	The government should also establish efficient e-government data centers and networks.	4.18	4.50	5.00	1.00	0.50	Agreed	Very High
2	Digitalization in government management can contribute to the country's economy.	4.23	4.00	4.00	1.00	0.00	Agreed	Very High
3	Government policies should more widely utilize ICTs in tourism.	4.36	5.00	5.00	1.00	0.00	Agreed	Very High
4	The government should have guidelines or policies to promote and support innovative tourism businesses.	4.09	4.00	4.00	1.00	0.00	Agreed	Very High
	Subtotal	4.22	4.38	4.50	1.00	0.13	Agreed	Very High
○	Collaborative Policy Actions							
1	Citizens and tourists should receive and be satisfied with the government-provided internet infrastructure.	4.41	5.00	5.00	1.00	0.00	Agreed	Very High
2	Government-invested internet infrastructure can increase the value of tourism.	3.86	4.00	5.00	1.25	1.00	Agreed	High
3	Government-invested internet infrastructure should be cost-effective.	4.05	5.00	5.00	1.25	0.00	Agreed	High
4	Government-invested internet infrastructure can create tourism-related jobs for local communities.	4.00	5.00	5.00	1.25	0.00	Agreed	High
5	When government policies are implemented, they should have economic and social impacts.	4.00	4.00	4.00	1.25	0.00	Agreed	High
6	Entrepreneurs should benefit from government tourism policies.	4.18	4.50	5.00	1.00	0.50	Agreed	Very High
	Subtotal	4.08	4.58	4.83	1.17	0.25	Agreed	High
	Total Government Support	**4.15**	**4.43**	**4.79**	**1.11**	**0.36**	**Agreed**	**High**
Supporting Industries								
1	Tourism SMEs should use online platforms to develop employees' technological skills.	4.23	4.00	5.00	1.00	1.00	Agreed	Very High

External Environmental Factors for E-readiness		Final Results of Policy Strategies for e-readiness enhancement of tourism SMEs						
		MEAN	**MO**	**MD**	**IQR**	**MO-MD**	**Agreement**	**Agreement Level**
2	Entrepreneurs and civil society organizations should contribute to human capital development to generate employment in the community.	4.23	4.00	4.00	1.00	0.00	Agreed	Very High
3	The tourism-related associations in Pattaya should provide partial support or co-develop tourism-related applications using their own platforms and websites.	4.23	4.00	5.00	1.00	1.00	Agreed	Very High
4	Tourism SMEs should comply with the government's digital policy guidelines.	4.18	4.00	5.00	1.00	1.00	Agreed	Very High
5	Tourism SMEs should undertake projects to develop efficient online human resource development programs initiated by the industry's association, such as training in traditional Thai massage or guiding.	4.18	4.00	4.00	1.00	0.00	Agreed	Very High
	Total	**4.21**	**4.00**	**4.60**	**1.00**	**0.60**	**Agreed**	**Very High**

Overall, high ICT awareness coexists with thin human and financial capacity, creating a capability gap that limits deep and sustained adoption. External enablers—especially coordinated government support across local and national tiers and collaborative industry actions—are decisive yet conditional on firm-level readiness, confirming that e-readiness is co-produced by internal (POER) and external (PEER) factors.

Conclusion and Discussion

This study's findings highlight a dual-layered dynamic in the digital transformation of tourism SMEs in Pattaya City. On the internal side, SMEs exhibit high awareness of ICT benefits but uneven human, business, and technological resources; on the external side, government support, industry collaboration, and market forces create a powerful enabling environment. This duality substantiates the Perceived E-readiness Model (PERM), which posits that internal organizational readiness (POER) and external environmental readiness (PEER) are mutually reinforcing and jointly determine the success of ICT adoption (Molla & Licker, 2005; Mutula & van Brakel, 2006). Our results thus extend the model's applicability to the tourism sector in a developing-economy context, demonstrating that SMEs cannot leverage external enablers effectively without adequate internal capacity, and external policies are less impactful if internal readiness is weak.

The evidence also reinforces insights from resource-based theory and dynamic capability perspectives (Teo et al., 2003; Wade & Hulland, 2004), suggesting that sustained digital advantage arises from the firm's ability to reconfigure and deploy its internal resources to exploit technological.

Opportunities. In the case of Pattaya's tourism SMEs, awareness alone does not translate into dynamic capabilities—skills, processes, and investments must also be cultivated. Without such internal upgrading, government incentives risk becoming underutilized subsidies rather than catalysts for transformation.

On the external dimension, the study uncovers a nuanced hierarchy of enablers: local government serves as the frontline provider of infrastructure and training; national government sets the strategic and fiscal frameworks; and collaborative policy actions link the two levels and integrate industry actors. This three-tiered configuration reflects contemporary models of collaborative governance (Ansell & Gash, 2008; Gretzel et al., 2015), which argue that complex challenges like digital transformation require multi-level, cross-sectoral coordination. The high ratings for government and supporting industries validate this approach, but also signal a policy gap—without systematic alignment, SMEs remain fragmented and unable to achieve economies of scale in digital adoption.

Policy prospect for tourism industry: the industry should strengthen digital capabilities through systematic staff upskilling in analytics, digital marketing, and cybersecurity; adopt advanced ICT solutions—such as CRM, cloud-based booking, and real-time analytics—to improve efficiency and service quality; establish partnerships with technology vendors, universities, and industry associations to share resources and co-develop innovations; and allocate dedicated ICT budgets alongside medium-term digital roadmaps to sustain implementation and avoid ad hoc investment.

Policy prospect for local government: the local government should expand inclusive digital infrastructure, public Wi-Fi, and secure city data platforms that SMEs can seamlessly plug into; offer targeted training, mentorship, and incubation programs in collaboration with local universities and associations; create public-private co-creation mechanisms—for example city tourism apps, integrated payment systems, and shared data dashboards; and streamline licensing, permits, and access to municipal grants to lower administrative burdens and accelerate ICT adoption.

Policy Prospect for National Government: the central government should align smart tourism and SME digitalization goals with Thailand 4.0 and the EEC to ensure adequate resource flows to destinations; provide fiscal and regulatory incentives (e.g., tax credits, grants, concessional loans) and set clear data-protection and cybersecurity standards; build centralized digital tourism data ecosystems for market intelligence and diffusion of best practices; and institutionalize multi-level coordination through inter-ministerial committees or joint task forces with local governments and industry bodies.

Furthermore, the findings extend the debate on innovative tourism governance by illustrating how the alignment of micro-level organizational readiness with macro-level policy interventions produces cumulative effects on SME competitiveness. This convergence suggests that digital transformation should be treated as an ecosystem rather than a series of isolated initiatives. Accordingly, national and local governments could develop multi-phase roadmaps linking infrastructure investment, digital skills development, and incentive structures to help SMEs scale their ICT adoption progressively. In addition, integrating emerging technologies such as artificial intelligence, IoT, and blockchain into tourism services offers a pathway for differentiation and resilience. However, it requires targeted support to ensure equitable participation among SMEs. Future policies might also emphasize monitoring and evaluation mechanisms to track SMEs' progress, enabling data-driven adjustments and evidence-based decision-making. By framing digitalization as an ongoing, co-produced process between public and private actors, the study's conclusions point to the need for continuous policy learning and adaptive governance models, which can serve as exemplars for other developing destinations pursuing innovative tourism strategies.

These policy prospects underscore that enhancing tourism SMEs' e-readiness requires coordinated action at three levels—industry-led capacity building, local government infrastructure and facilitation, and national strategic and fiscal frameworks. For example, integrated training programs that link vocational schools, universities, local government, and tourism associations could directly mitigate the skills shortage identified by the Delphi panel. Similarly, simplified grant application procedures and performance-based tax incentives could encourage SMEs to invest in upgrading their ICT systems. At the same time, public-private co-creation platforms could accelerate the diffusion of best practices and shared digital resources. Implemented in concert, these measures will bridge the last-mile capability gap, enable SMEs to fully leverage digital opportunities, and accelerate the transition toward smart tourism in Pattaya City.

The Ethnographic Delphi Futures Research approach revealed how expert stakeholders envision feasible interventions over time, thereby capturing a forward-looking view of SME digitalization. This methodological choice complements traditional cross-sectional surveys and can inform similar studies in other developing destinations.

However, the study has limitations. Its focus on Pattaya City may limit generalizability to other destinations, and reliance on expert perceptions may introduce selection bias. Future research could extend the framework to multiple destinations, incorporate longitudinal data to capture dynamic changes in e-readiness, and explore mixed-method designs combining surveys with in-depth case studies. Such approaches could also examine the role of emerging technologies (AI, IoT, blockchain) in transforming the operations of tourism SMEs.

Taken together, these results indicate that tourism SMEs in Pattaya City possess high ICT awareness but insufficient internal capacity to implement and sustain digital tools, while external enablers—particularly well-coordinated government support across local and national levels, combined with collaborative policy actions—play a pivotal role in shaping e-readiness. By framing these insights within the PERM model, the study provides a theoretically grounded and policy-relevant roadmap for strengthening SME digital readiness.

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References

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory, 18*(4), 543-571.

Bank of Thailand. (2025). *Monetary Policy Report*. Retrieved from www.bot.or.th/content/dam/bot/documents/en/our-roles/monetary-policy/mpc-publication/monetary-policy-report/MPR_2025_Q2.pdf.

Buhalis, D., & Amaranggana, A. (2015). Smart Tourism Destinations Enhancing Tourism Experience Through Personalisation of Services. In I. Tussyadiah, & A. Inversini. (eds.). *Information and Communication Technologies in Tourism 2015* (pp. 377-389). Cham: Springer.

Fathian, M., Akhavan, P., & Hoorali, M. (2008). E-readiness assessment of non-profit ICT SMEs in a developing country: The case of Iran. *Technovation, 28*(9), 578-590.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. *Electronic Markets, 25*, 179-188.

Hung, S., Tang, K., Chang, C., & Ke, C. (2009). User acceptance of intergovernmental services: An example of electronic document management system. *Government Information Quarterly, 26*(2), 387-397.

Iacovou, C., Benbasat, I., & Dexter, A. (1995). Electronic data interchange and small organizations: Adoption and impact of technology. *MIS Quarterly, 19*(4), 465-485.

Kuan, K., & Chau, P. (2001). A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework. *Information & Management, 38*(8), 507-521.

Lee, J., Hunter, W., & Chung, N. (2020). Smart tourism city: Developments and transformations. *Sustainability, 12*(10), 3958.

Molla, A., & Licker, P. (2005). eCommerce adoption in developing countries: a model and instrument. *Information & Management, 42*(6), 877-899.

Mutula, S., & van Brakel, P. (2006). E-readiness of SMEs in the ICT sector in Botswana with respect to information access. *The Electronic Library, 24*(3), 402-417.

Office of the National Economic and Social Development Council. (2022). *Thailand digital economy and society development plan 2022-2027*. Bangkok: Office of the National Economic and Social Development Council.

Okoli, C., & Pawlowski, S. (2004). The Delphi method as a research tool: An example, design considerations and applications. *Information & Management, 42*(1), 15-29.

Ruikar, K., Anumba, C., & Carrillo, P. (2006). VERDICT—An e-readiness assessment application for construction companies. *Automation in Construction, 15*(1), 98-110.

Tan, J., Tyler, K., & Manica, A. (2007). Business-to-business adoption of eCommerce in China. *Information & Management, 44*(3), 332-351.

Teo, H., Wei, K., & Benbasat, I. (2003). Predicting intention to adopt interorganizational linkages: An institutional perspective. *MIS Quarterly, 27*(1), 19-49.

Verduzco Villaseñor, M., Cornejo Ortega, J., & Espinoza Sánchez, R. (2023). Governmental Strategies and Policies in the Projection of Smart Tourist Destination: An Approach to the Conceptual and Theoretical Qualitative Analysis. *Sustainability, 15*(9), 7166.

Wade, M., & Hulland, J. (2004). Review: The resource-based view and information systems research: Review, extension, and suggestions for future research. *MIS Quarterly, 28*(1), 107-142.

Wang, S., & Cheung, W. (2004). E-business adoption by travel agencies: Prime candidates for mobile e-commerce. *International Journal of Electronic Commerce, 8*(3), 43-63.

Windrum, P., & Berranger, P. (2002). *The adoption of e-business technology by SMEs*. Limburg: Maastricht Economic Research Institute on Innovation and Technology.

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