

Digital Entrepreneurship in Tourism: A Literature Review on Innovation, Business Model Transformation, and Destination Competitiveness

*Digital
Entrepreneurship
and Tourism*

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Mumuh Mulyana, Diah Kusumayanti, Zul Azhar

Department of Bio Entrepreneurship, Institut Bisnis dan Informatika Kesatuan, Indonesia

Department of Management, Pakuan University, Indonesia

EMail: mumuh.mulyana@ibik.ac.id

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ABSTRACT

Digital entrepreneurship has become a strategic force in transforming the tourism sector, particularly through the integration of digital platforms, data analytics, social media, artificial intelligence, mobile applications, and smart tourism ecosystems. This article aims to review the literature on digital entrepreneurship in tourism by focusing on three major dimensions: innovation, business model transformation, and destination competitiveness. Using a literature review approach, this article synthesizes previous studies on e-tourism, smart tourism, digital entrepreneurship, tourism innovation, platform-based business models, and destination management. The review indicates that digital entrepreneurship in tourism is not merely related to technology adoption, but also to entrepreneurial capability, opportunity recognition, digital value creation, ecosystem collaboration, and strategic managerial transformation. Digital technologies enable tourism entrepreneurs to redesign products, personalize tourist experiences, expand market access, improve operational efficiency, and strengthen destination branding. From a managerial perspective, the main challenge is not only how tourism firms adopt digital tools, but how managers transform organizational capabilities, business models, human resources, customer relationships, and inter-organizational networks. This article contributes by proposing an integrative managerial framework linking digital entrepreneurial orientation, innovation capability, business model transformation, and destination competitiveness. The article concludes that digital entrepreneurship should be positioned as a strategic capability for tourism firms and destinations, especially in facing dynamic competition, changing tourist behavior, and the demand for sustainable tourism development.

Keywords: digital entrepreneurship, tourism, innovation, business model transformation, destination competitiveness, smart tourism, digital platform.

ABSTRAK

Kewirausahaan digital telah menjadi kekuatan strategis dalam mentransformasi sektor pariwisata, khususnya melalui integrasi platform digital, analitik data, media sosial, kecerdasan buatan, aplikasi seluler, dan ekosistem smart tourism. Artikel ini bertujuan untuk meninjau literatur tentang digital entrepreneurship dalam pariwisata dengan menitikberatkan pada tiga dimensi utama, yaitu inovasi, transformasi model bisnis, dan daya saing destinasi. Dengan menggunakan pendekatan literature review, artikel ini mensintesis berbagai studi tentang e-tourism, smart tourism, kewirausahaan digital, inovasi pariwisata, model bisnis berbasis platform, dan manajemen destinasi. Hasil telaah menunjukkan bahwa digital entrepreneurship dalam pariwisata tidak hanya berkaitan dengan adopsi teknologi, tetapi juga menyangkut kapabilitas kewirausahaan, pengenalan peluang, penciptaan nilai digital, kolaborasi ekosistem, dan transformasi manajerial strategis. Teknologi digital memungkinkan pelaku usaha pariwisata merancang ulang produk, mempersonalisasi pengalaman wisatawan, memperluas akses pasar, meningkatkan efisiensi operasional, serta memperkuat branding destinasi. Dari perspektif

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manajerial, tantangan utama bukan sekadar bagaimana perusahaan pariwisata menggunakan perangkat digital, tetapi bagaimana manajer mentransformasi kapabilitas organisasi, model bisnis, sumber daya manusia, hubungan pelanggan, dan jaringan antarorganisasi. Artikel ini berkontribusi dengan mengusulkan kerangka manajerial integratif yang menghubungkan orientasi kewirausahaan digital, kapabilitas inovasi, transformasi model bisnis, dan daya saing destinasi. Artikel ini menyimpulkan bahwa digital entrepreneurship perlu diposisikan sebagai kapabilitas strategis bagi perusahaan dan destinasi pariwisata, terutama dalam menghadapi persaingan dinamis, perubahan perilaku wisatawan, dan tuntutan pembangunan pariwisata berkelanjutan.

Kata kunci: kewirausahaan digital, pariwisata, inovasi, transformasi model bisnis, daya saing destinasi, smart tourism, platform digital.

INTRODUCTION

Tourism is one of the sectors most affected by digital transformation because tourism products are highly information-intensive, experience-based, network-dependent, and strongly influenced by consumer-generated content. Since the emergence of e-tourism, information and communication technology has reshaped the structure of the tourism industry, distribution channels, tourist behavior, and destination competitiveness (Buhalis & Law, 2008; Xiang & Gretzel, 2010; Law et al., 2014). Digital technology no longer functions only as a supporting tool for promotion and reservation; it has become a strategic infrastructure that determines how tourism value is created, delivered, communicated, and captured (Buhalis & Law, 2008; Gretzel et al., 2015; Buhalis, 2020). OECD also emphasizes that digitalization gives tourism SMEs opportunities to access new markets, develop new products and services, adopt new business models, improve their position in global tourism value chains, and integrate into digital ecosystems.

The rise of digital entrepreneurship has expanded the meaning of entrepreneurship in the tourism sector. Digital entrepreneurship refers to entrepreneurial activities in which digital technologies are embedded in the process of opportunity recognition, resource mobilization, innovation, market creation, and value capture (Nambisan, 2017; Kraus et al., 2019; Elia et al., 2020). In tourism, digital entrepreneurship is reflected in the emergence of online travel agencies, digital tour operators, destination platforms, tourism start-ups, virtual tour providers, travel content creators, homestay platforms, experience-based marketplaces, smart village tourism applications, and data-driven destination management systems (Gretzel et al., 2015; Buhalis, 2020; Varotsis, 2022). Nambisan (2017) argues that digital technologies make entrepreneurial processes less bounded and less predictable because digital tools enable rapid experimentation, flexible scaling, and distributed entrepreneurial agency.

The relevance of digital entrepreneurship in tourism becomes stronger because contemporary tourists increasingly rely on digital information before, during, and after travel. Tourists search for destinations through search engines, compare prices on platforms, book hotels and transportation through applications, share experiences on social media, and evaluate services through online reviews (Xiang & Gretzel, 2010; Litvin et al., 2018; Buhalis, 2020). This shift changes the managerial logic of tourism firms. Managers are no longer sufficient to manage physical assets, service quality, and offline distribution; they must also manage data, digital reputation, algorithm visibility, online customer engagement, platform relationships, and digital innovation capability (Gretzel et al., 2015; Sigala, 2020; Verhoef et al., 2021).

From the perspective of destination competitiveness, digital entrepreneurship contributes to the creation of a more dynamic tourism ecosystem. Destinations are no longer competitive only because they have natural beauty, cultural attractions, accessibility, and accommodation facilities. They become competitive when they are able to orchestrate digital infrastructure, entrepreneurial networks, smart tourism services, data-driven governance, creative content, local community participation, and sustainable

value creation (Ritchie & Crouch, 2003; Dwyer & Kim, 2003; Boes et al., 2016; Gretzel et al., 2015). Smart tourism studies indicate that the integration of digital technologies in tourism can improve experience, efficiency, sustainability, and destination governance (Gretzel et al., 2015; Boes et al., 2016; Wu, 2024). A recent state-of-the-art review also highlights the growing importance of digital technologies in supporting smart tourism development.

Despite the growing number of studies on digital transformation, smart tourism, and tourism innovation, the literature on digital entrepreneurship in tourism remains relatively fragmented. Some studies focus on digital technology adoption, while others focus on innovation, platform economy, entrepreneurial orientation, destination competitiveness, or smart tourism ecosystems (Hjalager, 2010; Gretzel et al., 2015; Nambisan, 2017; Varotsis, 2022). Therefore, a literature review is needed to synthesize these different streams and clarify how digital entrepreneurship contributes to innovation, business model transformation, and destination competitiveness. This article addresses this gap by developing an integrative review that emphasizes managerial implications.

The main objective of this article is to examine how digital entrepreneurship shapes innovation, transforms tourism business models, and strengthens destination competitiveness. Specifically, this article seeks to answer three questions. First, how does digital entrepreneurship stimulate innovation in tourism? Second, how does digital entrepreneurship transform tourism business models? Third, how does digital entrepreneurship contribute to destination competitiveness from a managerial perspective? By answering these questions, this article provides theoretical synthesis and practical direction for tourism entrepreneurs, destination managers, policy makers, and tourism SMEs.

LITERATURE REVIEW

Digital Entrepreneurship in the Tourism Context

Digital entrepreneurship refers to entrepreneurial activities that are enabled, mediated, or transformed by digital technologies in the processes of opportunity identification, innovation, resource mobilization, market development, and value creation (Nambisan, 2017; Kraus et al., 2019). In contrast to conventional entrepreneurship, digital entrepreneurship is characterized by the intensive use of digital platforms, data, connectivity, algorithmic systems, social media, mobile applications, and digital ecosystems to create scalable and flexible business opportunities (Autio et al., 2018; Elia et al., 2020). Digital entrepreneurship therefore does not merely represent the use of technology in business, but reflects a new entrepreneurial logic in which technology becomes a strategic resource for creating, delivering, and capturing value.

In the tourism sector, digital entrepreneurship has become increasingly important because tourism products are information-intensive, experience-based, and highly dependent on networks among tourists, service providers, intermediaries, and destinations (Buhalis & Law, 2008; Xiang & Gretzel, 2010). Tourism entrepreneurs use digital technology to promote destinations, sell tour packages, manage reservations, personalize tourist experiences, respond to customer reviews, build online communities, and expand market reach (Leung et al., 2013; Gretzel et al., 2015). Digital entrepreneurship in tourism can be seen in various forms, such as online travel agencies, travel start-ups, digital tour operators, virtual tourism platforms, destination applications, digital homestay platforms, culinary tourism marketplaces, and social media-based tourism businesses (Buhalis, 2020; Varotsis, 2022).

The emergence of digital entrepreneurship also changes the role of tourism entrepreneurs. Tourism entrepreneurs are no longer only required to understand local attractions, hospitality services, and customer relations, but also need digital literacy, platform capability, data interpretation skills, content creation ability, and online reputation management capability (Buhalis & Law, 2008; Nambisan, 2017; Verhoef et al., 2021). This shift indicates that entrepreneurship in tourism has moved from a traditional resource-based model toward a digitally mediated and knowledge-based

entrepreneurial model. Consequently, digital entrepreneurship becomes a strategic mechanism through which tourism firms and destinations can adapt to changing tourist behavior, market uncertainty, and technological disruption.

From a managerial perspective, digital entrepreneurship in tourism should be understood as a combination of entrepreneurial orientation and digital capability. Entrepreneurial orientation reflects innovativeness, proactiveness, and risk-taking behavior, while digital capability reflects the ability to use digital technologies to support business strategy, innovation, and customer engagement (Lumpkin & Dess, 1996; Nambisan, 2017). Tourism firms that combine these two capabilities are more likely to recognize new market opportunities, develop innovative tourism products, and respond quickly to environmental changes (Teece, 2007; Kraus et al., 2019). Therefore, digital entrepreneurship is not only relevant for tourism start-ups, but also for established tourism SMEs, destination managers, and community-based tourism actors.

Digital Transformation and E-Tourism

The concept of e-tourism has long been used to describe the application of information and communication technology in tourism activities, including marketing, reservation, distribution, communication, and customer relationship management (Buhalis & Law, 2008; Law et al., 2014). E-tourism marks a fundamental transformation in the tourism industry because it changes how tourists search for information, compare alternatives, make reservations, evaluate services, and share travel experiences (Xiang & Gretzel, 2010; Leung et al., 2013). Through digital channels, tourists become more informed, more connected, and more influential in shaping tourism demand.

Digital transformation in tourism goes beyond e-tourism because it involves deeper changes in business processes, organizational structures, value propositions, and competitive strategies (Buhalis, 2020; Verhoef et al., 2021). While e-tourism mainly emphasizes the use of digital tools in tourism operations, digital transformation emphasizes the strategic reconfiguration of tourism business models and destination systems. This means that tourism firms must not only adopt websites, social media, online booking, and digital payment systems, but also redesign their managerial processes, customer experience, revenue models, and partnership networks (Buhalis & Law, 2008; Verhoef et al., 2021).

Digital transformation also strengthens the role of data in tourism management. Data generated from online bookings, website visits, social media interactions, customer reviews, location-based services, and digital transactions can be used to understand tourist preferences, predict demand, improve service quality, and develop personalized offerings (Gretzel et al., 2015; Buhalis, 2020). For tourism managers, data-driven decision-making becomes a key managerial capability. However, many tourism SMEs still face challenges in data utilization because of limited digital skills, lack of analytical tools, weak organizational routines, and low investment capacity (OECD, 2020; Verhoef et al., 2021).

Digital transformation also produces managerial challenges related to technological readiness, human resources, cybersecurity, platform dependence, and organizational culture. Tourism firms may adopt digital platforms without having a clear strategy for customer data ownership, online reputation, direct booking, or long-term customer relationship management (Parker et al., 2016; Cusumano et al., 2019). As a result, digital transformation may create operational efficiency but not necessarily strategic competitiveness. Therefore, digital transformation in tourism must be guided by entrepreneurial vision, managerial commitment, and continuous innovation capability.

Tourism Innovation through Digital Entrepreneurship

Innovation is a central element in tourism competitiveness because tourism firms and destinations operate in a dynamic environment shaped by changing tourist preferences, technological advancement, global competition, and sustainability pressures (Hjalager, 2010; Hall & Williams, 2020). Hjalager (2010) identifies several types of innovation in tourism, including product innovation, process innovation, managerial innovation, marketing innovation, and institutional innovation. Digital entrepreneurship contributes

to all these innovation types because it provides new tools, channels, resources, and mechanisms for creating tourism value.

Product innovation occurs when tourism entrepreneurs develop new products or experiences by using digital technology. Examples include virtual tours, augmented reality-based heritage interpretation, digital storytelling, personalized travel itineraries, online cultural experiences, smart guide applications, and interactive destination platforms (Gretzel et al., 2015; Buhalis, 2020). Through digital entrepreneurship, tourism products can be expanded beyond physical experience into hybrid and digitally enhanced experiences. This is important because tourists increasingly seek personalized, authentic, and interactive experiences rather than standardized tourism packages (Pine & Gilmore, 1999; Buhalis, 2020).

Process innovation refers to improvements in the way tourism services are produced and delivered. Digital reservation systems, customer relationship management applications, QR-code ticketing, digital payment systems, automated customer service, and online feedback systems can improve efficiency, reduce transaction costs, and enhance service consistency (Buhalis & Law, 2008; Verhoef et al., 2021). For tourism SMEs, process innovation is managerially important because it helps overcome limitations in human resources, operational coordination, and market access. Digital tools allow small tourism firms to operate more professionally and respond faster to customer needs.

Marketing innovation is one of the most visible outcomes of digital entrepreneurship in tourism. Social media, influencer marketing, search engine optimization, online reviews, digital storytelling, and user-generated content have significantly changed tourism promotion practices (Xiang & Gretzel, 2010; Leung et al., 2013; Litvin et al., 2018). Through digital marketing, tourism entrepreneurs can reach niche markets, build emotional connections, strengthen destination image, and stimulate electronic word-of-mouth. However, effective digital marketing requires more than content production. Managers must align digital communication with market segmentation, brand positioning, customer engagement, conversion strategy, and service quality delivery (Kotler et al., 2021; Buhalis, 2020).

Managerial innovation refers to changes in organizational routines, leadership practices, decision-making processes, and coordination mechanisms. Digital entrepreneurship encourages tourism managers to adopt agile management, data-based decision-making, experimentation, cross-functional collaboration, and customer-centric innovation (Nambisan, 2017; Verhoef et al., 2021). Managerial innovation is crucial because digital transformation often fails when firms only adopt technology without changing managerial behavior. Therefore, tourism firms need leaders who are able to integrate digital tools into strategy, operations, human resource development, and customer experience management.

Institutional innovation occurs when digital entrepreneurship changes the rules, structures, and relationships within the tourism ecosystem. Digital platforms, online travel agencies, peer-to-peer accommodation, destination applications, and smart tourism systems create new forms of coordination among tourism actors (Gretzel et al., 2015; Parker et al., 2016). These changes require new governance mechanisms, collaborative arrangements, data-sharing practices, and regulatory frameworks. For destination managers, institutional innovation is important because destination competitiveness depends not only on individual business innovation, but also on the collective capacity of stakeholders to collaborate within a digital ecosystem.

Business Model Transformation in Digital Tourism

Business model transformation is one of the most important consequences of digital entrepreneurship in tourism. A business model describes how an organization creates, delivers, and captures value (Osterwalder & Pigneur, 2010; Teece, 2010). In tourism, digital entrepreneurship transforms business models by changing customer segments, value propositions, distribution channels, customer relationships, revenue streams, key

resources, key activities, partnerships, and cost structures (Buhalis & Law, 2008; Verhoef et al., 2021).

The first transformation occurs in the value proposition. Traditional tourism firms often offer standardized products such as accommodation, transportation, tour packages, or attraction tickets. Digital entrepreneurship enables firms to offer personalized, experience-based, data-driven, and interactive value propositions (Pine & Gilmore, 1999; Buhalis, 2020). For example, digital platforms can recommend customized itineraries based on tourist preferences, while mobile applications can provide real-time information and location-based services. This transformation changes tourism value from product-centered to experience-centered and customer-centered.

The second transformation occurs in distribution channels. Digital technology reduces dependence on traditional intermediaries by enabling tourism firms to communicate and transact directly with tourists through websites, mobile applications, online travel platforms, social media, and messaging applications (Buhalis & Law, 2008; Leung et al., 2013). However, digital channels also create new dependencies, especially on large digital platforms and algorithms. Tourism SMEs may gain visibility through online travel agencies but lose control over customer data, pricing flexibility, and direct relationships with tourists (Parker et al., 2016; Cusumano et al., 2019). Therefore, managers need to balance platform participation with direct digital channels.

The third transformation occurs in customer relationships. In the digital era, customer relationships are no longer limited to face-to-face service encounters. They are built before, during, and after travel through online communication, reviews, social media interaction, customer communities, loyalty programs, and digital service recovery (Lemon & Verhoef, 2016; Litvin et al., 2018). Tourists also act as co-creators of value because they produce reviews, photos, videos, and recommendations that influence other tourists' decisions (Prahalad & Ramaswamy, 2004; Xiang & Gretzel, 2010). This means that managers must treat tourists not only as buyers, but also as partners in value creation and brand communication.

The fourth transformation occurs in revenue streams. Digital entrepreneurship allows tourism firms to generate revenue from various sources, including online booking, subscription services, digital content, virtual experiences, affiliate marketing, merchandise, membership programs, and bundled tourism products (Osterwalder & Pigneur, 2010; Varotsis, 2022). This diversification is important for business resilience, particularly when physical tourist arrivals decline due to crisis, seasonality, or market uncertainty (Sigala, 2020). Tourism firms that diversify their revenue streams through digital entrepreneurship are better positioned to survive and adapt.

The fifth transformation occurs in key resources and capabilities. In conventional tourism, strategic resources often include physical assets, location, service personnel, and destination attractions. In digital tourism, strategic resources also include digital content, customer data, online reputation, digital platforms, analytics capability, digital skills, and online communities (Nambisan, 2017; Verhoef et al., 2021). This indicates that tourism managers must redefine their resource strategy. A firm with strong digital reputation, customer database, and platform capability may compete effectively even with limited physical assets.

The sixth transformation occurs in key partnerships. Digital entrepreneurship encourages tourism firms to collaborate with technology providers, digital marketing agencies, platform companies, local communities, content creators, payment service providers, and destination management organizations (Gretzel et al., 2015; Boes et al., 2016). These partnerships are essential because digital tourism value is created within ecosystems rather than within isolated firms. From a managerial perspective, partnership capability becomes a strategic competence for tourism firms and destinations.

Digital Platforms and Tourism Ecosystems

Digital platforms are central to digital entrepreneurship because they facilitate interactions among multiple actors and enable value creation through network effects (Parker et al., 2016; Cusumano et al., 2019). In tourism, platforms connect tourists with

hotels, restaurants, transport providers, tour guides, attractions, local communities, and destination managers. Platforms reduce search costs, increase market transparency, facilitate trust through ratings and reviews, and enable efficient transactions (Buhalis & Law, 2008; Gretzel et al., 2015).

The platform economy has transformed tourism distribution and competition. Online travel agencies, accommodation-sharing platforms, ride-hailing applications, food delivery platforms, and experience marketplaces have changed how tourism services are marketed, purchased, and evaluated (Parker et al., 2016; Dolnicar, 2021). These platforms provide opportunities for small tourism entrepreneurs to access broader markets, but they also create challenges related to commission costs, data ownership, algorithmic dependence, and competitive pressure (Kenney & Zysman, 2016; Cusumano et al., 2019).

Tourism ecosystems are increasingly shaped by the interaction between digital platforms and local actors. A tourism destination is not a single organization but a network of interdependent actors that collectively create tourist experiences (Ritchie & Crouch, 2003; Gretzel et al., 2015). Digital entrepreneurship strengthens this ecosystem by connecting stakeholders, improving information flow, enabling collaborative promotion, and facilitating service integration. However, if digital platforms are dominated by external actors, local value capture may be weakened. Therefore, destination managers must ensure that digital entrepreneurship supports local participation and inclusive economic benefits.

From a managerial standpoint, platform strategy is essential. Tourism firms should not depend entirely on third-party platforms. They need to develop a balanced digital channel strategy that combines platform visibility with owned digital assets, such as official websites, customer databases, social media communities, direct booking systems, and loyalty programs (Parker et al., 2016; Verhoef et al., 2021). This strategy allows tourism firms to benefit from platform reach while maintaining customer ownership and strategic flexibility.

Smart Tourism and Destination Competitiveness

Smart tourism refers to tourism development supported by digital technology, data, smart infrastructure, and connected ecosystems to improve tourist experience, destination management, sustainability, and competitiveness (Gretzel et al., 2015; Boes et al., 2016). Smart tourism is closely related to digital entrepreneurship because entrepreneurial actors often create the digital services, applications, content, and platforms that support smart tourism ecosystems.

Destination competitiveness refers to the ability of a destination to attract tourists, satisfy their needs, improve local welfare, and sustain destination resources over time (Ritchie & Crouch, 2003; Dwyer & Kim, 2003). In the digital era, destination competitiveness is increasingly influenced by digital visibility, online reputation, data-driven services, digital accessibility, smart infrastructure, and digital entrepreneurial ecosystems (Gretzel et al., 2015; Buhalis, 2020). Destinations that are digitally visible and digitally connected are more likely to attract tourists and compete effectively.

Digital entrepreneurship strengthens destination competitiveness in several ways. First, it improves destination visibility through digital marketing, social media, search engines, online travel platforms, and user-generated content (Xiang & Gretzel, 2010; Leung et al., 2013). Second, it enhances tourist experience through digital navigation, online booking, mobile services, virtual interpretation, real-time communication, and personalized recommendations (Gretzel et al., 2015; Buhalis, 2020). Third, it supports local economic participation by enabling local SMEs, communities, guides, artisans, and culinary entrepreneurs to access tourism markets (Varotsis, 2022; OECD, 2020). Fourth, it strengthens destination branding through digital storytelling, online reputation management, and creative content production (Kavaratzis & Hatch, 2013; Litvin et al., 2018).

However, digital entrepreneurship may also create risks for destination competitiveness. Excessive digital promotion may lead to overtourism, environmental pressure, and cultural commodification (Sigala, 2020; Hall & Williams, 2020). Platform

dependence may reduce local bargaining power and shift economic benefits to external intermediaries (Kenney & Zysman, 2016; Dolnicar, 2021). Digital inequality may also exclude small tourism actors who lack digital skills or infrastructure (OECD, 2020; Verhoef et al., 2021). Therefore, destination competitiveness requires not only digital innovation but also digital governance.

Destination managers must act as ecosystem orchestrators. Their role is not only to promote destinations, but also to coordinate stakeholders, support digital literacy, facilitate data sharing, strengthen local entrepreneurship, manage destination reputation, and ensure sustainable tourism development (Gretzel et al., 2015; Boes et al., 2016). This indicates that digital entrepreneurship should be integrated into destination management strategy, not treated as a separate promotional activity.

Managerial Perspective on Digital Entrepreneurship in Tourism

The managerial perspective is crucial because digital entrepreneurship in tourism cannot succeed through technology adoption alone. The literature indicates that digital transformation requires strategic leadership, organizational readiness, innovation capability, digital skills, customer orientation, and ecosystem collaboration (Teece, 2007; Nambisan, 2017; Verhoef et al., 2021). Managers must therefore translate digital entrepreneurship into concrete managerial practices.

First, managers must develop a digital entrepreneurial mindset. This mindset includes the ability to identify digital opportunities, experiment with new ideas, tolerate uncertainty, learn from customer feedback, and respond quickly to market changes (Lumpkin & Dess, 1996; Nambisan, 2017). Tourism firms with a digital entrepreneurial mindset are more likely to innovate continuously and adapt to changing tourist behavior.

Second, managers must align digital technology with business strategy. Digital tools should be selected based on strategic needs, not merely because they are popular. For example, social media should support brand positioning, booking systems should improve conversion, customer databases should strengthen loyalty, and data analytics should support decision-making (Buhalis, 2020; Verhoef et al., 2021). Without strategic alignment, digital adoption may become fragmented and ineffective.

Third, managers must strengthen human resource capability. Digital entrepreneurship requires employees who can operate digital tools, communicate online, manage customer feedback, produce content, interpret data, and deliver digitally supported service experiences (Buhalis & Law, 2008; Verhoef et al., 2021). Training should therefore combine technical digital skills with service quality, creativity, and customer empathy.

Fourth, managers must manage digital reputation. In tourism, tourists often rely on online reviews and ratings before making purchase decisions (Litvin et al., 2018; Xiang & Gretzel, 2010). Negative reviews can damage brand image, while positive reviews can strengthen trust and purchase intention. Managers must systematically monitor online reviews, respond to complaints, encourage satisfied customers to share experiences, and ensure that digital promises are consistent with actual service quality.

Fifth, managers must build resilience through digital diversification. Tourism is vulnerable to crises, seasonality, disasters, and changes in travel restrictions (Sigala, 2020). Digital entrepreneurship allows tourism firms to diversify products, channels, markets, and revenue streams. Virtual tourism, hybrid events, digital content, online communities, and local product marketplaces can support business continuity when physical tourism activities decline.

Sixth, managers must integrate sustainability into digital entrepreneurship. Digital technology should not only be used to increase tourist numbers but also to distribute visitors, promote responsible behavior, support local products, preserve culture, and reduce environmental pressure (Hall & Williams, 2020; Sigala, 2020). This is important because destination competitiveness in the future will depend on the ability to balance economic growth, social inclusion, cultural authenticity, and environmental sustainability.

Conceptual Relationship among Digital Entrepreneurship, Innovation, Business Model Transformation, and Destination Competitiveness

Based on the literature, digital entrepreneurship can be positioned as an antecedent of innovation, business model transformation, and destination competitiveness. Digital entrepreneurial capability enables tourism firms to identify opportunities, develop new products, improve processes, use digital marketing, and collaborate within digital ecosystems (Nambisan, 2017; Kraus et al., 2019). These activities stimulate tourism innovation in product, process, marketing, managerial, and institutional dimensions (Hjalager, 2010).

Tourism innovation then contributes to business model transformation. Product and process innovation reshape value propositions and operational activities, while marketing and managerial innovation change channels, customer relationships, key resources, and revenue models (Osterwalder & Pigneur, 2010; Teece, 2010). Business model transformation allows tourism firms to move from traditional, offline, and transaction-based models toward digital, experience-based, platform-enabled, and data-driven models (Buhalis, 2020; Verhoef et al., 2021).

Business model transformation contributes to destination competitiveness by improving destination visibility, tourist experience, service integration, local economic participation, digital branding, and resilience (Ritchie & Crouch, 2003; Dwyer & Kim, 2003; Gretzel et al., 2015). However, this relationship is influenced by managerial capability, digital infrastructure, stakeholder collaboration, platform governance, and sustainability orientation (Boes et al., 2016; Sigala, 2020). Therefore, digital entrepreneurship should be managed as a strategic and ecosystem-level capability.

The conceptual logic of the literature review can be summarized as follows:

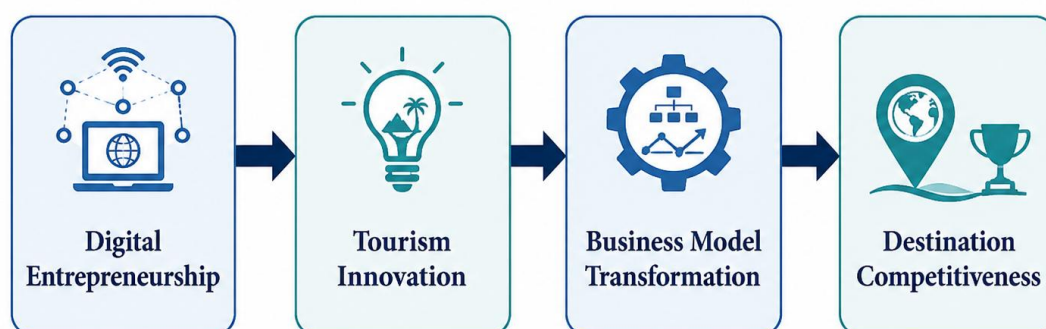


Figure 1: The Conceptual Framework

This framework suggests that the impact of digital entrepreneurship on destination competitiveness is not direct and automatic. Digital entrepreneurship must first be translated into innovation and business model transformation. Only when digital innovation is strategically managed and embedded into tourism business models can it strengthen destination competitiveness in a sustainable manner.

METHOD

This article uses a narrative literature review approach supported by thematic synthesis. A narrative literature review is appropriate when the aim is to integrate diverse theoretical perspectives, identify major conceptual patterns, and develop managerial implications rather than statistically aggregate empirical findings (Snyder, 2019; Tranfield et al., 2003). The literature reviewed in this article includes studies on digital entrepreneurship, e-tourism, smart tourism, tourism innovation, digital platform business models, destination competitiveness, tourism SMEs, and digital transformation.

The review process was conducted through several stages. First, the main concepts were identified, namely digital entrepreneurship, tourism innovation, business model transformation, and destination competitiveness. Second, relevant literature was grouped into thematic categories: digital entrepreneurship theory, digital transformation in tourism, innovation in tourism, digital platform and business model innovation, smart

tourism ecosystems, and destination competitiveness. Third, the literature was synthesized to develop an integrative framework that connects digital entrepreneurial capability with innovation outcomes, business model transformation, and destination-level competitiveness (Nambisan, 2017; Hjalager, 2010; Buhalis & Law, 2008; Gretzel et al., 2015).

The literature selection emphasized academic works that have strong relevance to tourism and digital entrepreneurship. Foundational studies such as Buhalis and Law (2008), Hjalager (2010), Xiang and Gretzel (2010), Gretzel et al. (2015), Nambisan (2017), and Verhoef et al. (2021) were used as conceptual anchors. More recent studies on digital tourism, smart tourism, digital entrepreneurship in creative industries and tourism, and digital transformation in tourism were also included to capture contemporary developments (Varotsis, 2022; Wu, 2024; Almeida et al., 2025). The review therefore combines classical conceptual foundations and current digital tourism debates.

The method used in this article is interpretive rather than purely bibliometric. The purpose is not only to count publication trends, keywords, or citation networks, but to produce a managerial synthesis. Therefore, the review gives special attention to how managers can use digital entrepreneurship to create innovation, transform business models, and improve destination competitiveness. This managerial orientation distinguishes this article from literature reviews that focus only on conceptual mapping or descriptive categorization.

RESULT AND DISCUSSION

Conceptual Foundation of Digital Entrepreneurship in Tourism

Digital entrepreneurship can be understood as entrepreneurial activity that is enabled, mediated, or transformed by digital technologies (Nambisan, 2017; Kraus et al., 2019; Elia et al., 2020). Unlike conventional entrepreneurship, which often depends on physical assets, local networks, and linear business development, digital entrepreneurship allows entrepreneurs to identify opportunities through data, test products rapidly, reach customers globally, and scale business models through platforms (Nambisan, 2017; Autio et al., 2018). In this sense, digital entrepreneurship changes both the process and outcome of entrepreneurship.

In the tourism context, digital entrepreneurship refers to entrepreneurial initiatives that use digital technology to create, deliver, and capture value in tourism activities. These initiatives may include online booking platforms, travel recommendation systems, digital tour packages, virtual tourism experiences, tourism content monetization, social media-based destination promotion, AI-based customer service, digital payment systems, destination apps, and community-based tourism platforms (Buhalis & Law, 2008; Gretzel et al., 2015; Varotsis, 2022). The essential point is that digital entrepreneurship does not simply digitize existing tourism services; it creates new ways of organizing tourism value.

The concept is closely related to e-tourism and smart tourism but differs in focus. E-tourism emphasizes the use of information and communication technologies in tourism transactions and communication (Buhalis & Law, 2008). Smart tourism emphasizes the integration of ICT, data, sensors, platforms, and smart infrastructure to enhance tourist experiences and destination management (Gretzel et al., 2015; Boes et al., 2016). Digital entrepreneurship emphasizes the entrepreneurial process of creating opportunities, building ventures, innovating services, and capturing value through digital technologies (Nambisan, 2017; Kraus et al., 2019). Therefore, digital entrepreneurship can be viewed as the entrepreneurial engine within the broader ecosystem of e-tourism and smart tourism.

From a managerial perspective, digital entrepreneurship in tourism requires at least five capabilities. First, opportunity-sensing capability, namely the ability to identify digital market opportunities from tourist behavior, online trends, platform data, and emerging technologies (Teece, 2007; Nambisan, 2017). Second, innovation capability, namely the ability to develop new tourism products, services, experiences, and processes (Hjalager, 2010). Third, digital marketing capability, namely the ability to manage social media,

content strategy, search visibility, customer engagement, and online reputation (Xiang & Gretzel, 2010; Leung et al., 2013). Fourth, platform capability, namely the ability to use, integrate, or build digital platforms for distribution, collaboration, and value capture (Parker et al., 2016; Cusumano et al., 2019). Fifth, ecosystem orchestration capability, namely the ability to collaborate with local communities, government, SMEs, creative actors, technology providers, and destination management organizations (Gretzel et al., 2015; Boes et al., 2016).

Digital Entrepreneurship and Innovation in Tourism

Innovation is a central theme in tourism because tourism firms must continuously adapt to changing tourist preferences, competitive pressure, technological developments, and environmental uncertainty (Hjalager, 2010; Hall & Williams, 2020). Hjalager (2010) classifies tourism innovation into product innovation, process innovation, managerial innovation, marketing innovation, and institutional innovation. This classification is highly relevant to digital entrepreneurship because digital technologies can support all five categories. Hjalager's review highlights that tourism innovation includes product, process, managerial, marketing, and institutional innovation, and acknowledges entrepreneurship, technology push, and clusters as determinants of innovation.

Product innovation in tourism occurs when digital entrepreneurs create new tourism products or experiences. Examples include virtual tours, augmented reality-based cultural interpretation, personalized itinerary applications, digital storytelling, gamified destination experiences, online cooking classes, and hybrid events (Buhalis, 2020; Sigala, 2020; Almeida et al., 2025). Digital entrepreneurship enables tourism firms to transform intangible cultural, natural, or experiential resources into digitally mediated products. For example, local heritage can be transformed into interactive digital narratives, while culinary tourism can be extended into online cooking experiences and digital marketplace products.

Process innovation occurs when digital technology improves operational efficiency, service delivery, booking systems, payment processes, customer relationship management, inventory management, and service monitoring (Buhalis & Law, 2008; Verhoef et al., 2021). Tourism SMEs can use cloud-based reservation systems, digital payments, AI chatbots, QR-code ticketing, and customer data analytics to reduce transaction costs and improve service consistency. From a managerial standpoint, process innovation is important because many tourism SMEs face resource limitations, informal management practices, and weak operational standardization (OECD, 2020; Buhalis, 2020). Digital tools can help SMEs formalize processes without requiring large physical investment.

Marketing innovation is one of the most visible forms of digital entrepreneurship in tourism. Social media, influencer marketing, user-generated content, search engine optimization, online reviews, and short-video platforms have changed how destinations and tourism firms communicate value (Xiang & Gretzel, 2010; Leung et al., 2013; Litvin et al., 2018). Tourism entrepreneurs can reach niche markets through targeted content, emotional storytelling, and community engagement. However, managerial effectiveness depends not only on posting content, but also on aligning digital communication with brand positioning, customer segmentation, conversion strategy, and reputation management (Kotler et al., 2021; Buhalis, 2020).

Managerial innovation refers to new ways of organizing, coordinating, deciding, and controlling tourism activities. Digital entrepreneurship encourages managers to adopt data-driven decision-making, agile experimentation, cross-functional collaboration, digital performance metrics, and customer-centric service design (Teece, 2007; Nambisan, 2017; Verhoef et al., 2021). For tourism managers, this means that digital entrepreneurship must be embedded into management systems, not merely assigned to the marketing department. Digital innovation requires changes in leadership mindset, employee skills, organizational culture, partnership management, and investment priorities.

Institutional innovation occurs when digital entrepreneurship changes the rules, norms, and governance structures of tourism ecosystems (Hjalager, 2010; Gretzel et al., 2015). For example, the emergence of homestay platforms changes accommodation governance, online travel agencies change distribution power, and destination apps change how tourists interact with local services. These changes require new forms of regulation, collaboration, data governance, and public-private partnership. Destination managers must therefore treat digital entrepreneurship as an ecosystem-level phenomenon, not only as individual business activity.

A critical managerial implication is that tourism innovation should be managed as a portfolio. Tourism firms should not rely only on one type of innovation, such as social media promotion. They need to combine product innovation, process innovation, marketing innovation, managerial innovation, and institutional collaboration. A destination that has attractive digital promotion but poor booking systems, weak service quality, limited digital payment, and fragmented stakeholder coordination will not achieve sustainable competitiveness. Therefore, digital entrepreneurship must be integrated into strategic planning, operational systems, customer experience design, and destination governance.

Digital Entrepreneurship and Business Model Transformation

Business model transformation is one of the most important outcomes of digital entrepreneurship in tourism. A business model explains how an organization creates, delivers, and captures value (Osterwalder & Pigneur, 2010; Teece, 2010). Digital transformation changes the logic of value creation by enabling platform-based interaction, data-based personalization, network effects, real-time communication, and scalable digital services (Parker et al., 2016; Cusumano et al., 2019; Verhoef et al., 2021). In tourism, this transformation affects almost all components of the business model: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures.

Traditional tourism business models are often linear. A tourism firm designs a package, promotes it through agents, sells it to tourists, delivers the service, and receives payment. Digital entrepreneurship changes this model into a more interactive and networked model. Tourists become co-creators of value through reviews, ratings, social media content, travel stories, and recommendations (Pralhalad & Ramaswamy, 2004; Xiang & Gretzel, 2010; Litvin et al., 2018). Tourism firms no longer control the entire customer journey; they must manage interactions across multiple digital touchpoints.

The first form of transformation is the shift from product-based value proposition to experience-based and data-driven value proposition. Tourism firms do not only sell rooms, tickets, transportation, or tour packages; they sell personalized experiences, convenience, trust, authenticity, and emotional value (Pine & Gilmore, 1999; Buhalis, 2020). Digital technologies allow firms to understand customer preferences through search behavior, booking history, reviews, and social media engagement. Managers can use this data to develop segmented packages, dynamic pricing, personalized recommendations, and customized experiences (Gretzel et al., 2015; Verhoef et al., 2021).

The second form of transformation is the shift from offline channels to omnichannel tourism distribution. Tourists interact with destinations through websites, mobile applications, online travel agencies, social media, messaging apps, review platforms, and physical service encounters (Buhalis & Law, 2008; Leung et al., 2013). The managerial challenge is to integrate these channels so that customers receive consistent information, pricing, service quality, and brand experience. Poor channel integration may create confusion, price inconsistency, delayed response, and negative reviews.

The third form of transformation is the emergence of platform-based business models. Platforms connect multiple actors, such as tourists, accommodation providers, guides, transportation operators, restaurants, local communities, and creative entrepreneurs (Parker et al., 2016; Cusumano et al., 2019). In tourism, platforms create value by reducing search costs, facilitating trust through reviews, enabling digital payment, and increasing market access. However, platform dependence also creates managerial risks,

such as commission pressure, algorithm dependency, loss of customer data, and vulnerability to platform rule changes (Kenney & Zysman, 2016; Dolnicar, 2021). Tourism managers must therefore balance platform participation with owned digital assets such as websites, databases, loyalty programs, and direct booking channels.

The fourth form of transformation is the diversification of revenue streams. Digital entrepreneurship allows tourism firms to generate income not only from direct service sales but also from subscriptions, affiliate marketing, digital content, virtual experiences, merchandise, data-based services, online courses, community membership, and bundled experiences (Osterwalder & Pigneur, 2010; Varotsis, 2022). For example, a destination-based culinary entrepreneur can sell offline culinary tours, online cooking classes, recipe e-books, local food products, and branded digital content. This diversification strengthens resilience because the firm is less dependent on physical tourist arrivals.

The fifth form of transformation is the reconfiguration of key resources and capabilities. In traditional tourism, key resources include location, physical facilities, human service, and local attractions. In digital tourism entrepreneurship, key resources also include customer data, digital content, brand reputation, platform access, digital skills, analytics capability, online communities, and technological partnerships (Nambisan, 2017; Verhoef et al., 2021). Managers must therefore redefine what counts as a strategic asset. A tourism SME with strong digital reputation and customer database may become more competitive than a larger firm with weak digital presence.

The sixth form of transformation is the change in cost structure. Digital technologies can reduce marketing, distribution, communication, and transaction costs, but they also create new costs related to software subscriptions, content production, cybersecurity, digital advertising, platform commissions, data management, and employee training (Buhalis, 2020; Verhoef et al., 2021). Therefore, digital entrepreneurship should not be interpreted as cost-free entrepreneurship. Managers need digital investment planning, return-on-investment evaluation, and capability development.

From a managerial perspective, business model transformation requires strategic coherence. Many tourism SMEs adopt digital tools in a fragmented way: they create social media accounts, join online travel platforms, use digital payments, and post promotional content, but they do not redesign their value proposition, customer relationship, revenue model, or operational process. This creates a gap between digital adoption and digital transformation. Digital entrepreneurship becomes truly strategic only when digital tools are connected to business model innovation, market positioning, customer experience, and competitive advantage (Teece, 2010; Verhoef et al., 2021).

Digital Entrepreneurship and Destination Competitiveness

Destination competitiveness refers to the ability of a destination to attract and satisfy tourists while enhancing the welfare of local communities and sustaining destination resources (Ritchie & Crouch, 2003; Dwyer & Kim, 2003). Traditional destination competitiveness is influenced by natural resources, cultural heritage, infrastructure, accessibility, hospitality, price competitiveness, safety, and destination management (Ritchie & Crouch, 2003; Dwyer & Kim, 2003). In the digital era, competitiveness also depends on digital visibility, online reputation, smart infrastructure, data-driven governance, platform integration, and digital entrepreneurial ecosystems (Gretzel et al., 2015; Boes et al., 2016; Buhalis, 2020).

Digital entrepreneurship contributes to destination competitiveness in several ways. First, it improves destination visibility. Through digital content, search engines, social media, online travel platforms, influencer networks, and user-generated content, destinations can reach broader and more segmented markets (Xiang & Gretzel, 2010; Leung et al., 2013). For emerging destinations, digital entrepreneurship can reduce dependence on traditional intermediaries and allow local actors to promote unique attractions directly to tourists. This is especially important for rural tourism, community-based tourism, and small destinations with limited marketing budgets.

Second, digital entrepreneurship strengthens destination experience. Tourists increasingly expect seamless information, easy booking, digital payment, real-time

navigation, personalized recommendations, and interactive interpretation (Gretzel et al., 2015; Buhalis, 2020). Digital entrepreneurs can provide apps, digital maps, storytelling platforms, augmented reality experiences, smart guides, online customer service, and itinerary management tools. These services improve convenience and satisfaction, which in turn influence revisit intention and word-of-mouth behavior (Buhalis, 2020; Litvin et al., 2018).

Third, digital entrepreneurship enhances local economic participation. Digital platforms allow local guides, homestay owners, culinary entrepreneurs, artisans, transport providers, and creative communities to access tourism markets (Varotsis, 2022; OECD, 2020). This is managerially important because destination competitiveness should not be measured only by tourist arrivals, but also by local value capture. A destination may attract many tourists, but if the benefits are captured mainly by external intermediaries, the destination's long-term competitiveness remains weak. Digital entrepreneurship can strengthen local ownership when local actors are trained to use digital platforms, manage customer relationships, and develop authentic products.

Fourth, digital entrepreneurship supports destination branding. Destination brands are increasingly shaped by digital narratives, visual identity, online reviews, traveler stories, and social media conversations (Kavaratzis & Hatch, 2013; Xiang & Gretzel, 2010). Managers of destinations must therefore manage not only official promotion but also digital reputation ecosystems. This requires monitoring online sentiment, responding to complaints, encouraging positive user-generated content, and aligning digital storytelling with destination identity. Digital entrepreneurship can support this process by producing creative content, developing niche experiences, and building communities around destination themes.

Fifth, digital entrepreneurship supports sustainable destination management. Digital data can help destination managers monitor visitor flows, identify overtourism risks, distribute tourists to alternative attractions, manage carrying capacity, and promote responsible travel behavior (Gretzel et al., 2015; Sigala, 2020). Technology can also support sustainability communication, carbon footprint awareness, local product promotion, and community-based booking systems. From a managerial perspective, this means digital entrepreneurship should not be directed only toward growth and sales, but also toward sustainability, inclusion, and resilience.

However, the relationship between digital entrepreneurship and destination competitiveness is not automatic. Digital gaps may create inequality between digitally capable firms and traditional actors. Platform domination may reduce local bargaining power. Excessive digital promotion may contribute to overtourism. Algorithmic visibility may favor popular attractions and marginalize smaller local actors. Digital reputation may be damaged quickly by negative reviews or misinformation (Sigala, 2020; Dolnicar, 2021). Therefore, destination managers must govern digital entrepreneurship strategically through capacity building, platform partnerships, data governance, digital literacy, and sustainability-oriented policies.

Managerial Discussion: Digital Entrepreneurship as Strategic Capability in Tourism

The most important managerial insight from this literature review is that digital entrepreneurship should be understood as a strategic capability rather than a technological accessory. Many tourism organizations still treat digitalization as a promotional activity, such as creating Instagram content, joining online travel agents, or using digital payment. Although these activities are important, they do not automatically create competitive advantage. Competitive advantage emerges when digital entrepreneurship is embedded into strategic decision-making, organizational capability, customer experience management, and ecosystem collaboration (Teece, 2007; Nambisan, 2017; Verhoef et al., 2021).

First, tourism managers need to develop digital entrepreneurial orientation. Entrepreneurial orientation refers to innovativeness, proactiveness, and risk-taking (Lumpkin & Dess, 1996). In the digital tourism context, this orientation must be expanded into digital opportunity sensing, experimentation, platform agility, and data-driven

learning (Nambisan, 2017; Kraus et al., 2019). Managers should encourage employees and business units to identify new digital opportunities from tourist behavior, online trends, customer feedback, competitor movements, and technological changes. Without entrepreneurial orientation, digital tools will be used only administratively, not strategically.

Second, managers must build innovation routines. Digital innovation should not depend only on individual creativity or occasional campaigns. It needs routines such as customer insight collection, idea generation, rapid prototyping, testing, feedback analysis, and scaling (Ries, 2011; Nambisan, 2017). For tourism SMEs, simple routines can be implemented through weekly review of online reviews, monthly content performance analysis, customer feedback forms, A/B testing of tour packages, and small-scale experimentation with new digital services. The managerial principle is that innovation must become a repeated organizational practice.

Third, managers must redesign the customer journey. Tourism customer experience consists of pre-trip, during-trip, and post-trip stages (Lemon & Verhoef, 2016; Buhalis, 2020). Digital entrepreneurship creates opportunities in all stages. In the pre-trip stage, managers can use digital content, search optimization, virtual previews, online consultation, and customer reviews. During the trip, they can use digital guides, real-time communication, digital payment, location-based services, and service recovery systems. In the post-trip stage, they can use review management, loyalty programs, storytelling campaigns, and re-engagement content. Therefore, digital entrepreneurship should be managed as end-to-end experience orchestration.

Fourth, managers must transform data into decision-making assets. Data is one of the most valuable resources in digital tourism, but many tourism SMEs do not systematically collect, analyze, or use data. Data from booking platforms, social media, online reviews, website visits, customer databases, and payment systems can inform pricing, segmentation, service improvement, product development, and promotion strategy (Gretzel et al., 2015; Verhoef et al., 2021). Managerially, the challenge is to convert raw data into actionable insight. This requires digital literacy, simple dashboards, analytical routines, and decision discipline.

Fifth, managers must manage digital reputation as strategic capital. In tourism, reputation strongly influences trust because tourists often purchase experiences before consuming them (Litvin et al., 2018; Xiang & Gretzel, 2010). Online reviews, ratings, comments, photos, and videos shape perceived quality and destination image. Tourism firms must therefore respond to reviews, resolve complaints, encourage satisfied customers to share experiences, and maintain consistency between digital promises and actual service delivery. A strong digital reputation can become a source of competitive advantage, while poor reputation can quickly damage demand.

Sixth, managers must balance platform dependence and platform leverage. Online platforms provide access to markets, but they can also create dependency. Tourism SMEs often rely heavily on online travel agencies or social media algorithms without building their own customer database or direct channels. This weakens bargaining power and reduces customer ownership (Parker et al., 2016; Cusumano et al., 2019). Managers should use platforms strategically while also developing owned media, direct booking systems, email lists, customer communities, and loyalty programs. The managerial goal is not to avoid platforms, but to avoid being controlled entirely by them.

Seventh, managers must strengthen human resource capability. Digital entrepreneurship requires employees who understand digital tools, customer engagement, online communication, data interpretation, and service innovation (Buhalis, 2020; Verhoef et al., 2021). Training should not focus only on technical skills but also on digital mindset, service creativity, customer empathy, and problem-solving. In tourism, technology cannot replace hospitality; instead, technology should enhance human service. Therefore, digital capability and service culture must be developed together.

Eighth, destination managers must orchestrate collaboration. Tourism destinations are multi-actor systems involving government, businesses, communities, tourists, technology

providers, investors, and cultural actors (Ritchie & Crouch, 2003; Gretzel et al., 2015). Digital entrepreneurship will be more effective when actors are connected through shared platforms, joint branding, data sharing, digital training, and collaborative product development. Destination management organizations should act as ecosystem orchestrators, not merely promotional agencies. Their role includes facilitating digital literacy, supporting local entrepreneurs, managing destination data, coordinating digital campaigns, and ensuring inclusive participation.

Ninth, managers must integrate sustainability into digital entrepreneurship. Digital entrepreneurship should not only pursue growth, traffic, and sales. It should also support responsible tourism, local empowerment, environmental protection, cultural preservation, and visitor flow management (Sigala, 2020; Hall & Williams, 2020). For example, digital platforms can promote local products, distribute tourists to less crowded areas, educate tourists about cultural norms, and provide transparent information about sustainable practices. Destination competitiveness in the future will depend not only on digital attractiveness but also on responsible and sustainable value creation.

Tenth, managers must build resilience through digital diversification. The COVID-19 crisis showed that tourism firms relying solely on physical visits are highly vulnerable (Sigala, 2020). Digital entrepreneurship allows firms to diversify markets, products, channels, and revenue streams. Virtual experiences, online communities, digital content, hybrid events, local delivery products, and membership models can help tourism firms survive during shocks. From a strategic management perspective, digital entrepreneurship should be part of resilience planning, not only growth strategy.

Proposed Integrative Framework

Based on the literature synthesis, this article proposes an integrative framework linking digital entrepreneurship in tourism with innovation, business model transformation, and destination competitiveness. The framework consists of four main components: digital entrepreneurial capability, tourism innovation, business model transformation, and destination competitiveness.

The first component is digital entrepreneurial capability. This includes digital opportunity sensing, digital literacy, entrepreneurial orientation, platform capability, data analytics capability, digital networking, and experimentation capability (Nambisan, 2017; Teece, 2007; Kraus et al., 2019). These capabilities enable tourism entrepreneurs and managers to identify opportunities and mobilize resources in digital environments.

The second component is tourism innovation. Digital entrepreneurial capability stimulates product innovation, process innovation, marketing innovation, managerial innovation, and institutional innovation (Hjalager, 2010). Product innovation creates new tourism experiences. Process innovation improves efficiency and service delivery. Marketing innovation strengthens digital communication and customer engagement. Managerial innovation changes organizational routines and decision-making. Institutional innovation changes ecosystem governance and collaboration.

The third component is business model transformation. Tourism innovation affects value proposition, customer segments, channels, customer relationships, revenue streams, key resources, key activities, partnerships, and cost structures (Osterwalder & Pigneur, 2010; Teece, 2010). This transformation enables tourism firms to move from conventional, asset-based, and transaction-oriented models toward digital, experience-based, platform-enabled, and data-driven models.

The fourth component is destination competitiveness. When tourism firms and destination actors successfully transform their innovation and business models, destinations can improve digital visibility, tourist experience, local economic participation, destination branding, sustainability, and resilience (Ritchie & Crouch, 2003; Dwyer & Kim, 2003; Gretzel et al., 2015). Destination competitiveness is therefore the collective outcome of firm-level digital entrepreneurship and ecosystem-level coordination.

Research Agenda

The reviewed literature indicates several future research opportunities. First, future studies should examine how digital entrepreneurial capability affects tourism SME performance. Although many studies discuss digital transformation conceptually, more empirical studies are needed to test relationships among digital capability, innovation, business model transformation, and performance (Nambisan, 2017; Verhoef et al., 2021).

Second, future research should investigate the role of digital platforms in shaping power relations between local tourism entrepreneurs and large platform companies. Platform participation may improve market access, but it may also create dependency and reduce local value capture (Parker et al., 2016; Cusumano et al., 2019; Dolnicar, 2021).

Third, future studies should explore digital entrepreneurship in rural tourism and community-based tourism. Rural destinations often have strong cultural and natural resources but limited digital skills, infrastructure, and market access. Research is needed to understand how digital entrepreneurship can support inclusive and sustainable rural tourism development (Varotsis, 2022; Hall & Williams, 2020).

Fourth, future research should examine the relationship between digital entrepreneurship and sustainable tourism. Digital tools may support sustainability, but they may also accelerate overtourism, digital inequality, and excessive commercialization. Therefore, studies should analyze both positive and negative consequences of digital entrepreneurship (Sigala, 2020; Gretzel et al., 2015).

Fifth, future research should develop measurement models for digital entrepreneurship in tourism. Possible indicators include digital opportunity recognition, digital innovation capability, platform capability, digital marketing capability, data-driven decision-making, digital collaboration, and digital resilience. Such measurement models can support quantitative studies using SEM, PLS-SEM, or mixed methods.

Sixth, future studies should examine the role of destination management organizations in orchestrating digital entrepreneurial ecosystems. Destination competitiveness depends not only on individual firms but also on collective coordination. Research should investigate how destination managers facilitate digital infrastructure, data governance, training, branding, and local platform development (Boes et al., 2016; Gretzel et al., 2015).

CONCLUSION

Digital entrepreneurship has become a strategic driver of tourism transformation. This literature review shows that digital entrepreneurship contributes to tourism innovation, business model transformation, and destination competitiveness. It enables tourism entrepreneurs to create new products, improve processes, develop digital marketing, redesign managerial practices, and participate in digital ecosystems. It also transforms tourism business models by changing value propositions, distribution channels, customer relationships, revenue streams, strategic resources, and partnership structures.

The article emphasizes that digital entrepreneurship should not be understood merely as the use of digital tools. It is a strategic capability that integrates entrepreneurial orientation, digital capability, innovation management, platform strategy, data-driven decision-making, and ecosystem collaboration. From a managerial perspective, the success of digital entrepreneurship depends on leadership, organizational learning, human resource development, customer journey management, reputation management, platform governance, and sustainability orientation.

For destinations, digital entrepreneurship strengthens competitiveness by improving visibility, tourist experience, local economic participation, destination branding, sustainability, and resilience. However, the benefits are not automatic. Without strategic management, digital entrepreneurship may create platform dependency, digital inequality, reputation risk, and unsustainable tourism growth. Therefore, tourism managers and destination management organizations must govern digital entrepreneurship in an inclusive, strategic, and sustainable manner.

This article contributes to the literature by integrating digital entrepreneurship, tourism innovation, business model transformation, and destination competitiveness into a

managerial framework. Future research should empirically test this framework, especially in tourism SMEs, rural tourism destinations, creative tourism ecosystems, and emerging economies. In practical terms, tourism firms and destinations that are able to develop digital entrepreneurial capability will be better positioned to compete, innovate, and sustain their value in the digital tourism era.

Managerial Implications

This literature review provides several managerial implications. First, tourism entrepreneurs should move from digital adoption to digital transformation. Digital adoption means using digital tools, while digital transformation means redesigning business strategy, operating model, customer experience, and revenue logic through digital technologies (Verhoef et al., 2021). Managers must ensure that digital investments are connected to strategic objectives.

Second, tourism SMEs should develop a digital business model canvas. Managers can evaluate how digital technology changes customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, partnerships, and cost structures (Osterwalder & Pigneur, 2010). This tool can help SMEs avoid fragmented digitalization.

Third, tourism firms should prioritize customer journey management. Managers need to map tourist interactions from inspiration, search, booking, travel, experience, review, and loyalty. Each stage should be supported by appropriate digital tools and service standards (Lemon & Verhoef, 2016; Buhalis, 2020).

Fourth, destination managers should build digital entrepreneurial ecosystems. This includes training local SMEs, improving digital infrastructure, developing destination databases, integrating digital payment, supporting local content creators, and facilitating collaboration between tourism actors and technology providers (Gretzel et al., 2015; Boes et al., 2016).

Fifth, tourism managers should develop data-driven decision-making. Even simple data such as customer origin, booking patterns, review themes, complaint frequency, and social media engagement can guide managerial decisions. Data should become part of routine management meetings and strategic evaluation (Verhoef et al., 2021).

Sixth, tourism entrepreneurs should protect authenticity. Digital entrepreneurship should not make destinations artificial or over-commercialized. Managers must ensure that digital storytelling reflects local culture, community values, and authentic experiences (Kavaratzis & Hatch, 2013; Hall & Williams, 2020).

Seventh, managers should reduce platform risk. Tourism firms should use online platforms to gain visibility but must also develop direct relationships with customers. Owned websites, customer databases, loyalty programs, and direct communication channels are important strategic assets (Parker et al., 2016; Cusumano et al., 2019).

Eighth, destination competitiveness should be measured beyond tourist arrivals. Managers should evaluate digital visibility, visitor satisfaction, online reputation, local income distribution, sustainability indicators, and community participation. This broader measurement is more aligned with sustainable destination competitiveness (Ritchie & Crouch, 2003; Dwyer & Kim, 2003).

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