

# FinTech Integration in Online Tourism Development: Prospects and Challenges in Guangxi, China

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## Abstract

The integration of Fintech and tourism is changing the dynamics of tourists-destination contact and service delivery in an era of rapid technological development. This study employs the qualitative research method involving literature review, key informant interview and case studies, and explores the multifaceted impact of FinTech integration on Guangxi's growing online tourism sector. The main objective is to explore the complex role of FinTech in Guangxi's online tourism landscape, explaining its multifaceted impact. This study adopts an integrated strategy to identify the most effective applications of FinTech to improve the online tourism experience and increase operational efficiency. The integration of FinTech has led to greater convenience for online tourists, causing profound changes in the online tourism framework in Guangxi. However, this integration journey is not without challenges. The multifaceted nature of the online tourism sector requires nuanced understanding and strategic navigation. Foremost among these challenges is the concern for security and privacy, which requires a firm commitment to protecting the confidentiality of tourist data. At the same time, the digital divide is a potential barrier, preventing the full participation of different segments of the population. Addressing these complex challenges will require cooperation between a tripartite coalition of government, industry stakeholders and academia. The pooling of their joint expertise underlines the need for collaboration to enable the successful integration of FinTech into Guangxi's online tourism industry. This collaborative synergy will play an important role in driving sustainable growth and catalyzing innovation in Guangxi's emerging online tourism sector.

**Keywords:** FinTech Integration, Online Tourism Dynamics, Impact Assessment, Operational Efficiency, Digital Divide.

## **Introduction**

### **Definition of FinTech**

According to the Payments Association (2020), FinTech is defined as the application of modern technological advances to reform or innovate financial products, business models, business processes and other financial aspects in order to promote higher quality and more efficient financial development. The Financial Stability Board (FSB, 2017); Hossain et al (2023) agrees with this definition, describing FinTech as a technology-driven financial innovation that aims to use modern technological advances to reform or innovate financial products, business models, business processes and related components to promote better and more optimal financial development. The People's Bank of China (PBOC) defines fintech as technology-centric financial innovation." , which includes payment systems, online finance and big data applications (PBOC, 2019).

### **Development of FinTech at Home and Abroad**

The global FinTech development has gone through several stages. In the early stages (1990s to early 2000s), FinTech was in its infancy, focusing on areas such as e-payments and online banking. During this period, FinTech was laid by the creation of PayPal in 1998 as a globally recognized online payment platform (Yang & Zheng, 2020). With the financial crisis of 2008 came the rise of online finance. People's distrust of traditional financial models led to a boom in areas such as P2P lending and digital currencies. Bitcoin, the first cryptocurrency introduced in 2009, triggered a profound exploration of decentralized cryptography (Kumar et al., 2023; Mughairi et al., 2019). The proliferation of smartphones in the 2010s fuelled the spread of mobile payments and digital banking. Kenya's M-Pesa system has established itself as a global success in mobile payments and serves as a model for developing nations interested in investigating financial inclusion (Burns, 2018). Since then, blockchain technology has emerged, bringing new opportunities to the financial sector. Shared ledger technology can help explore advances in areas such as cross-border payments and digital identity verification, and it will be the blockchain technology for Bitcoin (Zachariadis et al., 2019). Blockchain features, such as decentralization and anti-counterfeiting, offer new security and reliability to financial transactions, triggering fundamental changes in the financial sector.

In China, the development of FinTech has gone through several stages. In the early 2010s, the emergence of mobile payment platforms, such as Alipay and WeChat Pay, transformed payment methods and drove the widespread use of mobile payments, marking a new era of FinTech in China (Arner et al., 2022). In the mid-2010s, the Chinese government introduced a series of FinTech regulatory policies, which strengthened the regulation of online finance and promoted the stable development of the financial system (Surana, et al., 2020). Subsequently, internet finance sectors such as P2P lending, equity crowdfunding, and internet insurance have grown rapidly, providing fertile ground for FinTech development (Huang, 2018). In addition, China is aggressively testing and implementing blockchain technology, especially in areas such as supply chain finance and electronic invoicing, which have given rise to new practices. These projects are included in national development strategies (Yun, 2022). The report of the 20th National Congress of the Communist Party of China (CPC) emphasised the need to accelerate the creation of a digital China and to promote the integrated development of the real and digital economies, which is an important support for the digital transformation of the FinTech industry (Zhong & Lin, 2022).

### Current Tourism Resources in Guangxi

Guangxi is extremely rich in tourism resources. According to the 2022 Guangxi Statistical Yearbook, as of 2021, Guangxi had over 300 tourism administrations, 937 travel agencies and 419 star-rated hotels (see Table 1.1). This shows that tourism has got extensive attention and development in Guangxi, indicating that the tourism infrastructure and service system are relatively complete, which provides a good basis for further tourism enhancement in Guangxi.

Table1.1

*Number of Tourism Institutions in Guangxi in 2021*

City	Tourist Management Departments	Travel Agencies	Star-rated Hotels	5 Star	4 Star	3 Star	2 Star
<b>Total</b>	310	937	419	13	109	243	54
<b>Regional</b>	4	-	-	-	-	-	-
<b>Nanning</b>	31	161	45	2	14	27	2
<b>Liuzhou</b>	24	52	43	2	10	25	6
<b>Guilin</b>	53	415	47	5	14	25	3
<b>Wuzhou</b>	15	27	35		2	19	14
<b>Beihai</b>	13	86	27	1	7	15	4
<b>Fangcheng gang</b>	11	39	19		3	16	
<b>Qinzhou</b>	12	13	16	1	1	13	1
<b>Guigang</b>	17	20	14		6	7	1
<b>Yulin</b>	17	24	22		7	10	5
<b>Baise</b>	26	21	24		7	17	
<b>Hezhou</b>	16	22	26		7	15	4
<b>Hechi</b>	34	37	46		12	29	5
<b>Laibin</b>	17	9	10	1	2	5	2
<b>Chongzuo</b>	20	11	45	1	17	20	7

Source: 2022 Guangxi Statistical Yearbook

As shown in Table 1.2, there are 661 scenic spots in Guangxi that have reached the national grade A standard for tourists to visit in 2021. These scenic spots are a strong proof of the diversity and richness of Guangxi's tourism resources. They cater for all types of visitors and are special attractions due to their beautiful natural environment, cultural heritage and recreational opportunities.

Table1.2

*National A-Grade Scenic Spots in Guangxi in recent years*

<b>Year</b> <b>Classification</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>5A scenic spots</b>	6	7	7	8
<b>4A scenic spots</b>	214	247	275	307
<b>3A scenic spots</b>	273	290	302	335
<b>2A scenic spots</b>	14	13	13	11
<b>Total</b>	507	557	597	661

Source: Guangxi Statistical Yearbook

In addition, both the number of tourists and tourism spending in Guangxi have been growing steadily in recent years. This shows that both domestic and foreign tourists find Guangxi quite attractive and that tourist satisfaction is increasing. This ensures stable market demand for tourism in Guangxi and suggests that there is still much room for expansion in the future. Both the number of tourists visiting Guangxi and the amount of tourism expenditure reached a peak in 2019 before the epidemic: 6,239,568 inbound tourists were received, 86.995 million tourists visited domestically, the foreign exchange earnings of international tourism were US\$3,511 million, and the domestic tourism expenditure was 999.88 billion yuan, with a total tourism expenditure of 1.02414 trillion yuan (see Table 1.3). This shows that Guangxi is particularly attractive for both domestic and international tourists, and that visitors are increasingly satisfied with their travel experience, ensuring stable market demand for the region's tourism sector.

Table1.3

*Number of Visitors & Tourism Consumption in Recent Years*

Year Item	2018	2019	2020	2021
Number of Oversea Visitor Arrivals (person-time)	5623253	6239568	246815	61909
Number of Domestic Visitors (10000 person-times)	67767	86995	66092	79832
Foreign Exchange from International Tourism(100 million dollars)	27.78	35.11	0.79	0.20
Domestic Tourism Consumption (100 million yuan)	7436.1	9998.8	7262.1	9063.0
Total Tourism Expenditure (100 million yuan)	7619.9	10241.4	7267.5	9064.4

Source : Guangxi Statistical Yearbook

While Guangxi has a wealth of tourism resources and plenty of potential for further expansion, there is also scope for further development, which includes improving the tourist experience, raising the level of services and preserving the region's rich cultural heritage. In these areas, the integration of FinTech is crucial.

### The Integration of FinTech in Guangxi's Online Tourism Development

Harnessing the potential of FinTech is critical to boost online tourism in Guangxi. The combination of FinTech with the large and dynamic tourist industry presents significant opportunities to improve the tourist experience, operational efficiencies and overall industry growth. By synergistically integrating cutting-edge technological innovations and the diversity of Guangxi's tourism landscape, this synergy has the potential to unlock new opportunities for travel and exploration. Here are concrete ways FinTech is being seamlessly integrated into Guangxi's online travel sector

**Mobile payments and contactless transactions.** FinTech solutions such as mobile payment apps and digital wallets can change the way tourists make transactions while travelling. By adopting platforms such as Alipay and WeChat Pay, tourists can securely and instantly pay for services, accommodation and attractions (Mombeuil & Uhde, 2021). This increases convenience and accessibility, eliminating the need to carry actual cash and meeting the needs of today's tech-savvy tourists.

**Smart tourism platforms.** These platforms can provide detailed information on nearby attractions, activities, transport options and even local cuisine, thereby increasing visitor engagement and exploration (Buhalis & Amaranggana, 2015). Such a personalized approach can lead to a more engaging and personalized experience, making trips more memorable.

**Blockchain transparency and security.** Integrating blockchain technology can ensure transparency and security of online transactions and reservations. A blockchain distributed ledger system can verify the authenticity of accommodation, tickets and reservations, thereby reducing fraud and increasing trust between tourists and service providers (Banerji et al.,

2021). Technology can also facilitate the secure exchange of sensitive data while protecting privacy, which is important in the tourism industry.

**Data-driven personalisation.** FinTech-enabled data analytics can enable online tourism in Guangxi to offer personalised itineraries based on user preferences and behaviour patterns. By analyzing historical data, such as past travel choices and activities, tailored recommendations can be created to improve the overall travel experience (Marín Díaz et al., 2023). This level of personalization fosters a deeper connection between the traveller and the destination.

**Augmented Reality (AR) and Virtual Reality (VR).** FinTech-enabled AR and VR applications can provide virtual tours of attractions, historical sites and natural landscapes, allowing potential tourists to familiarize themselves with a destination before actually visiting it. These technologies not only offer users personalized pre-travel planning based on their financial goals, risk tolerance or spending habits, but also create anticipation and excitement that ultimately attracts more visitors (Patterson, 2023).

### **Problem Statement**

An innovative experiment that could drastically change the tourism sector in Guangxi, China, is the integration of FinTech into the expansion of online tourism. However, such integration of technology and tourism also poses multifaceted challenges that require careful consideration. The three primary challenges described in this section highlight the necessity of carefully weighing the benefits and drawbacks of FinTech's contribution to the expansion of online tourism in Guangxi.

### **Digital Divide and Accessibility Gaps**

The rapid growth of FinTech has opened up new opportunities to improve the online travel experience. The digital gap, however, presents a problem for diverse people, like those in Guangxi, in terms of equal access to such technical advancements. According to the Statistical Report on Internet Development in China 2023 (CNNIC, 2023), as of December 2022, the number of internet users in China reached 1.067 billion, up 35.49 million from December 2021, and the internet penetration rate reached 75.6%. Among them, urban internet users were 759 million and rural internet users were 308 million. The number of online payment users reached 911.44 million and the online payment usage rate reached 85.40%. The number of Chinese people who utilize online travel insurance is 423 million, which represents just 39.6% of all Internet users.

Guangxi's digital infrastructure is catching up fast and the data-driven momentum is poised to develop. However, the overall level of Guangxi's urban infrastructure capacity, digital network penetration and arithmetic infrastructure service delivery capacity is at the national average level (Autonomous Region Information Center, 2023). Although internet penetration has increased significantly, some rural and older people in Guangxi may not be able to access these new online travel services due to low digital literacy, inadequate technical equipment and lack of internet access, exacerbating inequalities. In 2021, urban internet penetration in Guangxi is 98%, compared to 68% in rural areas. Digital financial services are used by 82% in urban areas, compared to 22% in rural areas; and mobile payments are used by 95% in urban areas, compared to 43% in rural areas (See Figure 2.1). By 2022, the number of digital economy enterprises in urban areas is eight times more than in rural areas (See

Figure 2.2). Second, digital economy enterprises in Guangxi are mainly concentrated in the cities of Nanning, Liuzhou and Guilin, and there is a large gap between the number of digital economy enterprises in the central cities and those in other cities (Digital Economy Subject Group, 2023). According to the data, in December 2020, the coverage of mobile phone users installing online travel apps in tier one cities nationwide was as high as 51.3%, while in tier three and lower cities it was only 18% (See Figure 2.3). In contrast, Guangxi has only 1 second-tier city, 2 third-tier cities, 2 fourth-tier cities and 9 fifth-tier cities (Tencent News, 2023). This is an obstacle to a wide range of tourists reaping the benefits of advanced online tourism services. This is due to the possibility that these services do not adequately reach all population groups, which increases the problem of the digital divide.

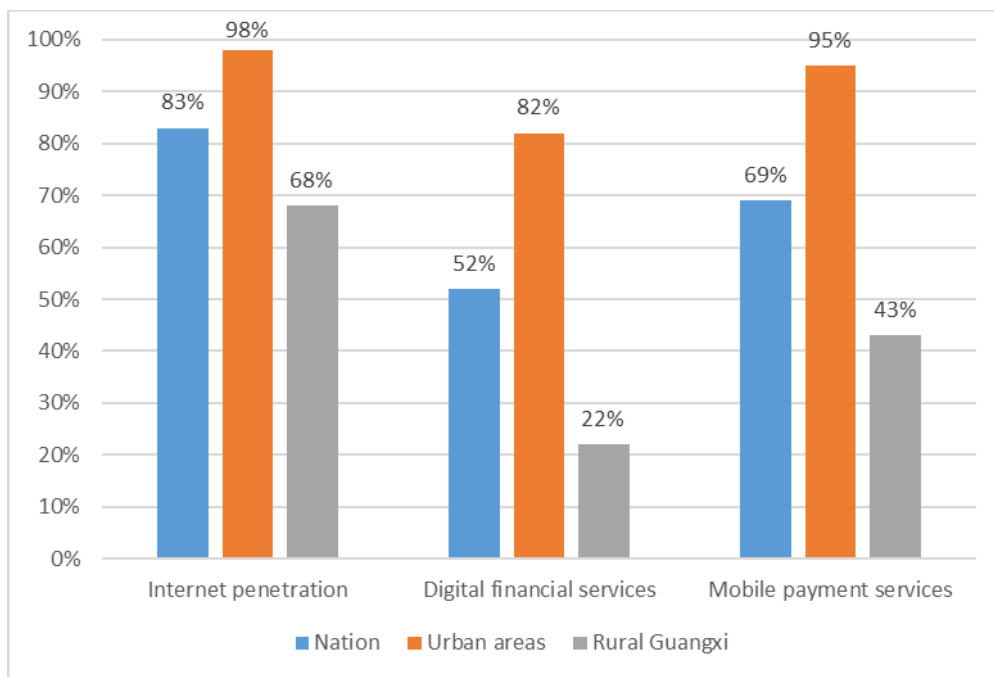


Figure 2.1 Usability of Digital Services in Guangxi in 2021

Source : Sina News

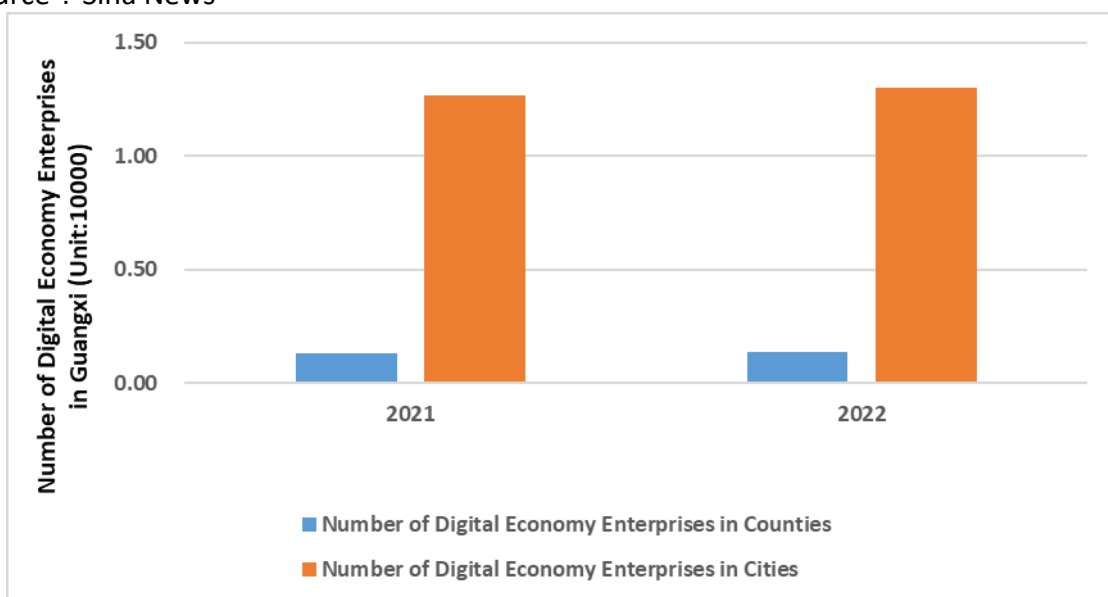


Figure 2.2 Number of Digital Economy Enterprises in Guangxi in 2021 & 2022

Source: Guangxi Digital Economy Enterprises Developing Steadily and Showing Resilience - Big Data Analysis Report on Guangxi Digital Economy Enterprises in 2022, <http://gxxxzx.gxzf.gov.cn/jczxfw/dsjfzyj/t15852244.shtml>

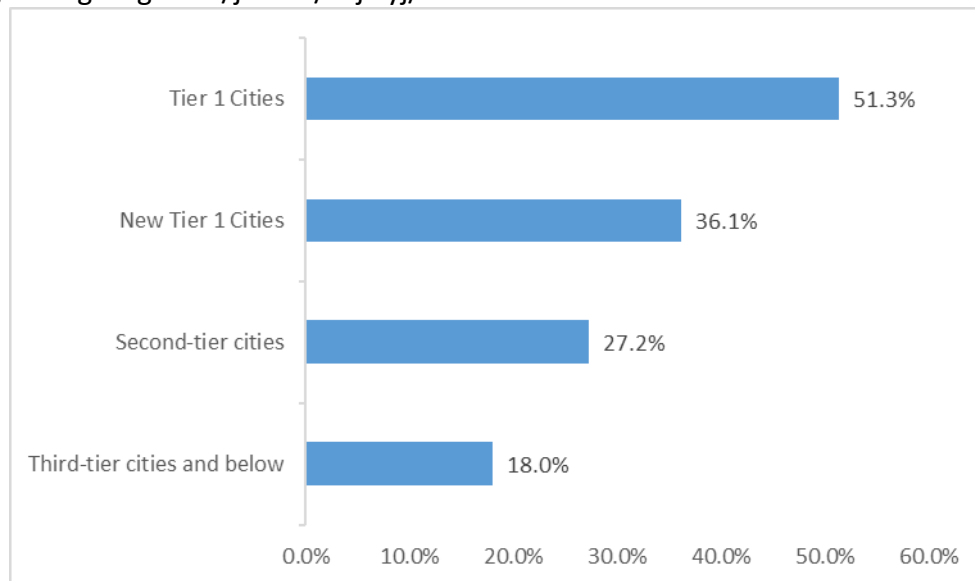


Figure 2 .3 Online Travel App Installation Coverage of Mobile Phone Users in Different Cities in China, 2022

Source: Compiled by Qianzhan Industry Research Institute

### Cultural Preservation and FinTech Implementation

Balancing the revolutionary potential of integrating FinTech with the preservation of Guangxi's cultural heritage in the online tourism and digital sectors is a complex challenge. Chhabra (2010) argues that care must be taken when integrating technology into cultural tourism activities to avoid diluting or commodifying the region's specific cultural identity. To ensure the veracity of cultural narratives, their study stresses that technological development should be coordinated with efforts to preserve cultural traditions. This harmonization is particularly important for culturally diverse areas such as Guangxi, which prides itself on its traditions, rituals and historical significance. One example that illustrates the complexity of this challenge concerns the implementation of digital guides. While tourists can enjoy convenience and interesting experiences thanks to digital guides, it can be difficult to communicate cultural stories and history in a suitable way. A study by Fan & Deng (2023) warns against oversimplifying cultural narratives to fit technological formats, as this may distort the underlying historical significance and cultural nuances of Guangxi's heritage. Furthermore, virtual reality (VR) experiences as part of FinTech integration can bring tourists to historic sites and provide them with unprecedented encounters with the past. However, the design of such experiences must be based on thorough research to ensure the authenticity of cultural representations. Failure to do so could inadvertently perpetuate cultural stereotypes or inaccuracies, leading to a loss of cultural authenticity.

### Data Security and Privacy Concerns

The integration of FinTech and tourism development sectors can lead to breaches of personal and transaction data. Given the central role of data protection in the smooth deployment of FinTech solutions, this challenge stems from the urgent need to foster trust between tourists and stakeholders. The vulnerability of this new digital frontier has been



exposed by horrific data breaches and cyber-attacks in the global banking sector (Garon, 2022). Against the backdrop of a booming online travel industry in Guangxi, data security and privacy issues are becoming increasingly important, with PWC (Price Waterhouse Coopers Consulting) finding in a study that while technology brings convenience, in some ways it also brings financial risks and makes the accumulation, spread and propagation of risks more rapid and deadly, it argues. In May 2019, Verizon in the United States published "'Verizon 2019 Data Breach' Investigation Report", which revealed that 68% of data breaches were targeted at extortion; 69% of cyberattacks came from the outside; 34% involved insider theft and 2% involved partners; and more than half of breaches took months or longer to detect. As a result, cybersecurity and data protection are gradually becoming a top priority for the financial sector (Mughairi et al., 2019; Zhu & Yang, 2019). As FinTech mechanisms are increasingly integrated into the online tourism sector in Guangxi, data security risks will also increase. The digital footprint of tourists, including transactions, preferences and behaviours, is becoming more sophisticated with each FinTech-based interaction.

In order to prevent future breaches and protect customer privacy, it is important to use strong data encryption algorithms, reliable data storage methods and thorough cyber security measures. This dilemma is further exacerbated by the enactment of China's Personal Data Protection Law, which emphasizes the primacy of data security in FinTech integration. This legal framework emphasizes the right of individuals to control their personal data and requires companies to manage and use this information in strict compliance with the law. Adherence to these legal criteria is one of the key commitments of online tourism in Guangxi, demonstrating the sector's commitment to protecting data integrity and promoting a culture of trust.

In summary, the intrusion of FinTech into the development of online tourism in Guangxi underscores that data security and privacy protection is imperative. Driven by the urgency of overcoming vulnerabilities and the authority of the law, efforts to protect tourists' data are paramount to building solid trust, the cornerstone of sustainable growth in the digital sphere.

### **Limitations**

This paper acknowledges a number of limitations that affect the scope and generalizability of the results. The qualitative research method, which includes a literature review, case studies, and key informant interviews, provides valuable insights but has its limitations in terms of sample size and generalizability. The results of this study may not be representative of the entire online tourism landscape in Guangxi. The dynamic nature of FinTech and online tourism introduces time constraints as the field is evolving rapidly. The study reflects the current situation, which may not fully capture future developments. Quantification of certain results is difficult due to the qualitative approach. Although this approach is context-rich, there are no precise numerical measurements for quantitative impacts. The inclusion of key informants leads to potential bias, despite efforts to diversify perspectives.

Finally, recommendations, despite a collaborative approach, may face implementation problems due to practical, regulatory and economic factors. Interaction between stakeholders makes harmonization of the strategy more difficult.

## **Literature Review**

A paradigm shift in the way visitors interact with services in a dynamic global tourism business has occurred as a result of the FinTech approach. There has been an intense debate on the concept, development and use of FinTech in online tourism at global and regional level with academic attention. This literature review looks at both global and local issues, starting with the international debate on the use of FinTech in online tourism and ending with its impact in Guangxi, China. The possibilities, obstacles, and chances for change in the interaction between FinTech and the expansion of online tourism are highlighted in this literature study.

## **Global Studies**

FinTech has generated extensive debate on its conceptual foundations, characteristics, trends and implications for online tourism. Koesworo et al (2019) highlight the central role of FinTech in the era of Industry 4.0, underlining its revolutionary impact on the financial services landscape. Purnomo et al (2023) provide a panoramic overview in their bibliometric mapping of the FinTech research literature spanning decades, revealing a steady growth of academic interests and contributions in the field.

The involvement of FinTech in the online tourism industry has led to a fundamental change in the way visitors use services. Almeida et al (2019) explored the discourse surrounding perceptions and trends related to online payment methods in the tourism sector, highlighting dynamic changes in tourists' payment preferences. Rosyid's (2019) study delves deeper into the rise of FinTech in enhancing the efficiency of online travel agencies, particularly evident in their analytical exploration of the repertoire of Indonesian online travel agencies and their services. The emergence of artificial intelligence (AI) in the field of smart tourism further highlights the transformative potential of FinTech (Tsaih & Hsu, 2018). In line with the broader trend towards personalised connections, this framework describes a customised and enhanced travel experience provided by AI.

The empirical study by Boiko et al (2022) resonates well, highlighting the digitisation efforts of the Ukrainian tourism sector and demonstrating the multifaceted impact of FinTech adoption. These international studies show the dynamic environment and potentially disruptive potential of integrating FinTech into the online tourism.

## **Local Studies**

From the local perspective of Guangxi, China, the study on the integration of FinTech into the development structure of online tourism is of deep significance. The study by Shi and Wang (2023) offers narratives that reflect international discourses and fully explores the prospects and challenges of FinTech in Southeast Asia from a dual perspective. Li et al (2020) uses big data from multiple sources to forecast tourism demand, providing deep contextual insights, shedding light on the effectiveness of FinTech in understanding tourism behaviour at the local level. Domestic research is unlocking complex discourses on personalized recommendation frameworks, a complement facilitated by FinTech. Wang's (2020) in-depth study on the complexity of tailoring travel recommendations to individual preferences highlights the central role of technology in enhancing user experiences. Zheng et al (2022) investigate the catalytic effects of smart technology on visitors' visitation intentions, with a particular focus on the behavioural factors underlying tourist decision-making.

This congruence with the broader international trend towards strengthening tourist behaviour analysis through technology remains evident. Chen's (2018) study on the integration of Chinese mobile payment services into the Swiss tourism sector highlights a local perspective on the integration of FinTech into service standards.

Overall, the juxtaposition of international and local literature highlights the transformative opportunities, challenges and possibilities inherent in FinTech integration in online tourism. In-depth insights into how FinTech is transforming the online tourism environment in Guangxi, China will come from navigating both the global and local landscape.

### **Research Questions**

In order to investigate the complex dynamics of FinTech integration in the development of online tourism in Guangxi, this study presents the following key research questions:

What are the potential prospects arising from the incorporation of FinTech solutions into online tourism development in Guangxi, China?

What are the main obstacles and problems that arise when attempting to integrate FinTech into the development of online tourism in Guangxi, China?

In the light of the identified challenges, what strategic recommendations can be formulated to effectively address and mitigate the complexities associated with FinTech integration into online tourism development in Guangxi, China?

### **Research Objectives**

Based on the study's research questions, the following research objectives are created to investigate in depth the various aspects of FinTech integration in the expansion of online tourism in Guangxi, China:

To systematically categorize all the potential advantages and prospects brought about by the integration of FinTech in Guangxi's framework for the expansion of online tourism.

To thoroughly investigate the various challenges, obstacles and barriers to the smooth integration of FinTech technologies into the online tourism development framework in Guangxi, China.

To explore viable strategies, solutions and approaches that can effectively mitigate the challenges associated with FinTech integration into China Guangxi's online tourism development, thereby promoting sustainable and successful implementation.

### **Research Methodology**

The thorough research approach utilized to examine the challenges of integrating FinTech into the growth of online tourism in Guangxi, China, is described in this paper. The research method included literature review, case studies and key informant interviews, all designed to provide a solid understanding of the prospects and challenges of such integration.

### **Literature Analysis**

The present study was based on a comprehensive literature review, which included an extensive review of academic publications, research articles, conference papers and reports related to the integration of FinTech in the development of online tourism. This analysis helped to expand the existing knowledge base, identify trends and provide insight into the theoretical framework and practical implications of FinTech integration in tourism. The literature review provides a contextualisation of the findings and raises relevant research questions.

**Case Study**

On the integration of FinTech and the growth of online tourism in Guangxi, this study has used a case study method to provide a distinctive perspective. Representative online tourism platforms in Guangxi were selected as case study objects for the study. The case study includes a nuanced exploration of the strategic integration of these platforms with FinTech solutions, user experience, economic impact and regulatory considerations. This strategy will contribute to a deeper understanding of the actual manifestations of FinTech integration and how they fit into the specificities of the region by examining specific situations.

**Key Informant Interview**

The key informant interview method is a qualitative research method, which is an important aspect of this study. Involvement of individuals with specific expertise and experience in the research question can increase the depth and authenticity of the research. To this end, a key informant interview was conducted with the relevant business leader of Guangxi Cultural and Tourism Development Bureau. This informant plays a key role in the formulation of tourism development strategies and policies in the region. The goal of this interview was to compile basic data on the opportunities, difficulties, and strategic direction of FinTech integration in the Guangxi online tourist sector. The qualitative data from the interviews add authenticity and richness to the research findings.

The synergy of multiple methodologies - literature review, case study and key informant interviews - provides a comprehensive framework to explore the prospects and challenges of integrating FinTech in the development of online tourism in Guangxi, China. The outcomes of these methodological triangulations increase the study's credibility and help us grasp the research topic completely.

**Data Analysis Plan**

In the following chapters, we describe the steps taken to analyse the data obtained from the three different methodologies - literature review, case study and key informant interviews. Together, these processes contribute to unlocking the diverse landscape of FinTech integration in online tourism development in Guangxi, China.

The literature analysis involves systematic data collection from reputable sources, categorization of topics, content synthesis, comparative analysis and identification of emerging themes. Such a holistic approach allows critical insights to be extracted from existing research, forming the basis for further analysis.

Case study analysis will involve collecting data from a variety of sources, contextualising it in the unique context of the platforms, identifying patterns and assessing impacts. This approach delves deeper into real FinTech cases to understand the exact impact on online tourism platforms in Guangxi.

The qualitative data from the key informant interviews undergo transcription, thematic coding, content analysis, cross-case comparison and pattern synthesis. This approach enhances the holistic nature of the research, exploring insights, discovering patterns and validating results through an expert's perspective.

This study intends to offer a thorough and nuanced assessment of the integration of FinTech into the growth of online tourism in Guangxi, China, through the implementation of these approaches and their different stages. The combination of these methods improves the validity and richness of the conclusions and allows a holistic understanding of the opportunities, difficulties and proposals that this changing situation offers.

## Data Analysis

### Case Study

In this section, we examine three representative case studies, namely the "One-Click Travel to Guangxi" App, Guilin-Yangshuo Alipay Smart Tourism and Blockchain Validation in Detian Waterfall Ecotourism. By analyzing these case studies, we can gain a clearer understanding of FinTech's prospects and challenges in developing online tourism in Guangxi, China.

Table 9.1

*Three Cases of FinTech Integration into Online Tourism*

Cases	"One-Click Travel to Guangxi" WeChat App	Guilin-Yangshuo Alipay Smart Tourism	Blockchain Validation in Detian Waterfall Ecotourism
Time Period	2021-present	2019-present	2020-Present
Scope of application	Various destinations in Guangxi	Guilin & Yangshuo	Daxin County
FinTech Integration Model	Integration of mobile payments, e-ticketing, and AI algorithms	Integration of Alipay payment system, location-based services	Implementation of blockchain for ticket validation
Characteristics	A comprehensive smart tourism service platform integrating Guangxi's cultural and tourism industries of "eating, living, travelling, touring, shopping and entertainment"	Integration of Alipay payment system, location-based services	Secure and transparent ticket verification
Effects	Streamlined payments, personalized itineraries	Enhanced visitor experience, data-driven insights	Increased visitor trust, reduced fraud, sustainability

Source: Information collated from corresponding platforms

*From the table above we understand*

The scope of the "One-Click Travel to Guangxi" application reflects the deep integration of FinTech and online tourism development. By integrating various FinTech tools, tourists can benefit from more convenient and personalised services when travelling in Guangxi. Among other things, the use of mobile payment, e-ticketing system and artificial intelligence recommendation algorithms not only simplifies the payment process, but also provides tourists with personalized travel advice, thus improving their overall experience.

The case study Guilin-Yangshuo Alipay Smart Tourism demonstrates the innovative application of fintech in tourism development. Integrating Alipay payment system and location-based services provides tourists with a seamless payment experience and real-time navigation. In this way, tourists can make payments more conveniently and at the same time benefit from personalized travel recommendations, enhancing their travel experience in the Yangshuo area of Guilin.

The Blockchain Validation in Detian Waterfall Ecotourism case showcases the application of blockchain technology in the tourism sector. The project achieves ticket authenticity verification using blockchain technology, ensuring that tourists can trust the validity of their tickets. This approach will boost ecotourism's long-term development while also reducing ticket fraud and boosting visitor confidence.

### **Key Informant Interview**

In this section, an insightful interview with an important representative of the Guangxi Department of Culture and Tourism is analyzed in detail. The insights gained provide a comprehensive understanding of the complex merging of FinTech and online tourism development in Guangxi.

### **Role and objectives: guiding tourism development**

The interviewee highlighted the important role that the Department plays in guiding Guangxi's growing tourism industry. With a focus on enriching visitor experiences, preserving cultural heritage, and promoting sustainable growth, their goals go beyond mere promotion to cultivating an ecosystem of sustainable prosperity.

### **Integrating FinTech: Catalyst for Transformation**

The convergence of FinTech and online tourism is hailed as a transformative catalyst. It not only facilitates seamless transactions, but also customizes services, builds personalized travel itineraries and delivers data-driven insights, thereby boosting the sector's competitive advantage.

### **Pioneering initiatives: leading the way**

The department's proactive stance is demonstrated through pioneering initiatives aimed at the seamless integration of FinTech. Efforts such as digital payment gateways, unified reservation systems and interactive mobile apps demonstrate their commitment. An integrated booking platform, for example, brings together multiple attractions into a single user-friendly interface.

### **Vision and promise: Enhancing experiences**

FinTech integration promises enriched online tourism experiences. Mobile payments, AI-based recommendations and data analytics are in line with the cultural and natural attractions of the region and encourage personal engagement and harmonious discovery of different attractions.

### **Challenges and solution: Navigating complexity**

Recognizing the challenges, the interviewee identified data security, fair access and regulatory harmonization as the main challenges. Addressing these issues will require robust cybersecurity measures, digital literacy campaigns and concerted efforts to ensure compliance with evolving regulations.

### **Looking ahead: technological developments**

The interviewee sees the development of FinTech as a key driver in the evolution of online tourism. Assuming the integration of blockchain and other advanced technologies, the

trajectory will be characterized by increased security and innovation. This underlines the need for continuous research and adaptation to evolving trends.

### **Recommendations: Promoting synergies**

Drawing on their experience, interviewees recommended the cultivation of partnerships, continuous training and a balance between innovation and cultural preservation. These recommendations provide a roadmap for stakeholders on how to utilize the potential of FinTech while protecting local cultural heritage.

In summary, the interview findings provide guidance for the harmonious integration of FinTech into online tourism in Guangxi. Guangxi's proactive strategies, skilful problem solving and recipes show a promising path to sustainable and prosperous development of online tourism.

### **Finding and Conclusion**

This study gives vital insights that illuminate the opportunities and difficulties related to this endeavor by closely examining the integration of FinTech solutions in the growth of online tourism in Guangxi, China.

### **Prospects for FinTech integration**

The integration of FinTech solutions into the development of online tourism in Guangxi has great potential to promote the tourism industry. According to research, implementing FinTech innovations can enhance consumer experiences by enabling tailored services, simplified booking procedures, and effective payment methods. In addition, the use of data analytics and AI-based technologies can contribute to data-driven decision making, enabling tourism stakeholders to better understand tourists' preferences and tailor their offerings accordingly. Promising outcomes of FinTech integration are also the prospects of increased efficiency, reduced operating costs and improved resource allocation. Taken together, these prospects indicate that FinTech has the potential to transform the online tourism ecosystem in Guangxi and promote growth and competitiveness.

### **Challenges and barriers to FinTech integration**

However, the integration of FinTech solutions into Guangxi's online tourism sector is not without challenges. The findings of the study highlight the existence of regulatory barriers and policy inconsistencies that hinder the smooth adoption of FinTech technologies. Privacy and security concerns related to the handling of sensitive customer data also pose significant obstacles. Furthermore, in some rural areas of Guangxi, the digital divide (information gap) may limit access to fintech services and exacerbate existing inequalities. In addition, resistance to change among traditional tourism businesses and limited technological literacy may slow down integration efforts. Addressing these challenges will be crucial to realizing the full potential of FinTech in Guangxi's online tourism development.

### **Recommendation**

Given the challenges identified, a number of strategic recommendations are proposed for the successful integration of FinTech solutions into the framework of online tourism development in Guangxi, China:

### **Strengthening the Regulatory Framework**

To overcome regulatory barriers, policymakers and competent authorities should work with industry stakeholders to develop a clear and adaptable legal framework for FinTech market integration. This framework should take into account challenges such as data security, cybersecurity and international trade, while promoting innovation and protecting consumers.

### **Public-private cooperation**

It is important to encourage cooperation between public authorities, financial institutions, technology providers and tourism businesses. Public-private partnerships that pool their expertise and resources to address infrastructure, digital literacy and market access challenges can facilitate the development and implementation of FinTech programmes.

### **Capacity Building and Training**

Efforts should be focused on increasing the digital skills and literacy of stakeholders in the tourism sector, in particular small and medium-sized enterprises (SMEs) and local communities. Training programmes and workshops can enable these stakeholders to effectively adopt and use FinTech solutions, thus reducing resistance to technological change.

### **Inclusiveness and Accessibility**

To bridge the digital divide, efforts should be launched to ensure FinTech services reach most population groups, including those living in rural and underserved areas. To enable more people to benefit from FinTech, infrastructure development, mobile connectivity and awareness-raising campaigns are essential.

### **Innovation sandboxes**

The creation of innovation sandboxes can provide a controlled environment for testing and refining new FinTech solutions. These sandboxes allow firms to test innovative technologies, gaining insight into their feasibility and impact before full-scale deployment, thus reducing the risks associated with untested applications.

In summary, the integration of FinTech solutions into the development of online tourism in Guangxi, China, offers both promising prospects and significant challenges. By addressing these challenges through strategic recommendations, stakeholders can overcome the complexities of FinTech integration and harness its transformative potential, promoting sustainable growth and competitiveness in Guangxi's tourism industry. Progress requires a concerted effort, driven by an adaptive regulatory framework and a commitment to inclusive and accessible technological development.

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## **Appendix A**

### **Interview Questions**

1. What is the role and purpose of the Guangxi Department of Culture and Tourism in promoting and developing the tourism industry in the region?
2. From your perspective, how do you think the integration of FinTech in online tourism development will contribute to the growth and promotion of the tourism industry in Guangxi?
3. What specific initiatives or strategies have been implemented by the Guangxi Department of Culture and Tourism to promote the integration of FinTech into the online tourism industry? Could you share examples of successful implementation?
4. What do you think are the main prospects and opportunities offered by FinTech integration to improve online tourism in Guangxi? How do you see that these prospects are in line with the cultural and natural characteristics of the region?
5. As with any transformative endeavour, challenges may arise. What are the main challenges or obstacles that the department has encountered or foresees in integrating FinTech into Guangxi's online tourism sector? How are these challenges being addressed?
6. Looking ahead, how do you see the role of FinTech evolving in the development of online tourism in Guangxi? Are there specific areas where you think further research or innovation is needed?
7. Based on your experience and insights, what suggestions would you offer to stakeholders in the department and in the Guangxi tourism industry to effectively utilize the opportunities of FinTech integration while addressing the challenges associated with the development of online tourism in Guangxi?