



Faculty of Economics and Business

**Destination Resources in Ecotourism on Satisfaction and Revisit
Intention: Digital Inclusion of Social Media Marketing in Sarawak
National Parks and Nature Reserves**

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Destination Resources in Ecotourism on Satisfaction and Revisit Intention:
Digital Inclusion of Social Media Marketing in Sarawak Tourist Destinations

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DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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ABSTRACT

This study addresses the need for innovative marketing strategies in Sarawak's ecotourism sector, focusing on how destination resources such as tourism infrastructure, service quality, natural resources and cultural heritage impact tourists' satisfaction and revisit intention. The specific objectives are to examine the relationships between these destination resources and tourists' satisfaction and revisit intention, and to assess the moderating role of social media marketing in these relationships. The study employs SPSS version 27.0.1.0 and Warp PLS 8.0 for descriptive statistics and the examination of measurement and structural models. The findings indicate that tourism infrastructure, service quality, natural resources, and cultural heritage positively influence tourists' satisfaction and revisit intention. However, social media marketing significantly moderates only the relationship between natural resources and tourists' satisfaction. These results suggest that while traditional destination resources remain crucial, integrating social media marketing can enhance the impact of natural resources on tourists' satisfaction, offering practical insights for ecotourism marketers and policymakers.

Keywords: Ecotourism, destination resource, tourist satisfaction, revisit intention, social media marketing

Sumber Destinasi dalam Ekopelancongan mengenai Kepuasan Pelancong dan Niat Melawat Semula: Peranan Pemasaran Digital Media Sosial di Taman Negara dan Rizab Alam Semula Jadi Sarawak

ABSTRAK

Kajian ini menekankan keperluan strategi pemasaran inovatif dalam sektor ekopelancongan Sarawak, dengan menumpukan kepada bagaimana sumber destinasi seperti infrastruktur pelancongan, kualiti perkhidmatan, sumber semula jadi, dan warisan budaya mempengaruhi kepuasan pelancong dan niat untuk kembali. Objektif khusus adalah untuk mengkaji hubungan antara sumber destinasi ini dengan kepuasan pelancong dan niat untuk kembali, serta menilai peranan moderasi pemasaran media sosial dalam hubungan ini. Kajian ini menggunakan SPSS versi 27.0.1.0 dan Warp PLS 8.0 untuk statistik deskriptif dan pemeriksaan model pengukuran dan struktur. Penemuan menunjukkan bahawa infrastruktur pelancongan, kualiti perkhidmatan, sumber semula jadi, dan warisan budaya secara positif mempengaruhi kepuasan pelancong dan niat untuk kembali. Walau bagaimanapun, pemasaran media sosial hanya secara signifikan memoderasi hubungan antara sumber semula jadi dan kepuasan pelancong. Hasil ini mencadangkan bahawa walaupun sumber destinasi tradisional tetap penting, integrasi pemasaran media sosial dapat meningkatkan kesan sumber semula jadi terhadap kepuasan pelancong, menawarkan pandangan praktikal untuk pemasar dan pembuat dasar ekopelancongan.

Kata kunci: *Ekopelancongan, sumber destinasi, kepuasan pelancong, niat melawat semula, pemasaran media sosial*

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CHAPTER 1

INTRODUCTION

1.1 Study Background

Tourism, a multifaceted phenomenon, is an array of activities, behaviours, entities, sectors or subjects that encompass the movement of people from one location to the other (Baggio, 2019). Tourists travelling to and from emerging countries, especially countries in Asia and South America, have driven immense industry growth. This is largely attributed by a greater desire for unwinding at tourist destinations (Sigala, 2020). It is evident from the rising trend of tourists who enjoy retreating to destinations with an abundance of natural and cultural resources.

The tourism industry has cemented its position as an economic cornerstone due to its significant contributions to the local gross domestic product (GDP) (Zhang, Song, Wen & Liu, 2021). As a booming industry, it is no surprise that tourists' expectations are constantly changing. This results in strong competition among tourism destinations globally. To remain competitive, developing economies have become savvier at destination marketing. As such, tourism has established itself as a part of the service sector. The dynamic nature of the service sector has made it necessary for continuous change through innovation to maintain its competitive advantage (Labanauskaitė, Fiore & Stašys, 2020).

1.1.1 Ecotourism

With tremendous attention drawn to the tourism industry, it is important to note the various forms of tourism are categorised by the purpose of visit and its alternative forms. One of these forms include "Ecotourism", which is the notion of guiding tourists to isolated

areas so they that they can learn more and appreciate the local nature, history, and culture (Tamrin, Muhafidin, Nurasa, & Muhtar, 2024; Khanra, Dhir, Kaur, & Mäntymäki, 2021; Liu & Li, 2020). Ecotourism is noted as one of the fastest growing forms of tourism, roping in roughly 8 billion visits annually to protected areas (Spencely, 2021). With the context of travel habits constantly shifting, ecotourism has established itself as an integral component in city life (Ali, Arman, Asrar, & Qadir, 2022). Moreover, ecotourism is proven time and again to benefit communities through economic benefits and indirect benefits (Zvikonyaukwa, Musengi, & Mudzengi, 2023). As a means to satiate vacation desires outside the usual environment, urban ecotourism is a hybrid of urban tourism and ecotourism. Urban ecotourism prompts tourists to place a higher value towards ecological resources and conservation (Lin, Wang, & Chiu, 2022). Tourism players also look towards sustainable development of infrastructure and the delivery of high service quality. The long-term contributions of nature, eco and adventure tourism will contribute to regional economies and general well-being (Buckley, Brough, Hague, Chauvenet, Fleming, Roche, Sofija, & Harris, 2019).

Due to its significant role, ecotourism has attracted attention from both governmental and non-governmental organizations, as well as industry players (Tamrin et al., 2024; Zoto, Qirici, & Polena, 2013). Ecotourism has also been gaining momentum in nature abundant hotspots due to its potential to boost both rural livelihoods and environmental conservation (Samal & Dash, 2023). Over the past three years, the global ecotourism market has experienced exponential growth and transformation, propelled by increasing awareness and demand for sustainable travel practices. Globally, the ecotourism market size was estimated to be worth USD185,87 billion in 2021 and is projected to develop a compound annual

growth rate (CAGR) of 15.2% from 2022 to 2030 (Grand View Research, 2022). By 2022, the market size reached approximately USD172.4 billion and is projected to reach USD374.2 billion by 2028, showcasing a CAGR of 13.79% during the period 2022-2028 (Research & Markets, 2023).

The shift towards ecotourism reflects a broader global trend towards sustainability, with tourists increasingly seeking experiences that are not only immersive and educational but also responsible and beneficial to the environment and local communities. This trend is evident across various segments of the market, including marine activities, group and solo travel, and bookings through direct and marketplace channels (Grand View Research, 2022). The ecotourism market's expansion is driven by factors, including the rise of social media, which has influenced millennials' values and attitudes toward travel, leading to an increased demand for unique and sustainable tourism experiences (Grand View Research, 2022). Strategic partnerships and collaborations among key players in the industry are also emerging as a crucial trend, aiming to enhance market position and offer more authentic experiences to eco-tourists (Research and Marketing, 2023).

Moreover, the significance of well-developed tourism infrastructure, high-quality services, conservation of natural resources, and preservation of cultural heritage cannot be overstated in the context of ecotourism. Well-developed tourism infrastructure, such as accessible transportation, comfortable accommodations, and visitor centres, ensures that tourists have a seamless and enjoyable experience, which enhances their overall satisfaction (Khan, 2020). High-quality services, including knowledgeable guides, efficient customer service, and clean facilities, further contribute to a positive tourist experience (Ali, 2018). The conservation of natural resources is crucial in maintaining the pristine environments that ecotourists seek, thereby ensuring that these destinations remain attractive and sustainable

in the long term (Buckley, 2012). Additionally, the preservation of cultural heritage allows tourists to engage with and appreciate the unique traditions and histories of local communities, fostering a deeper connection and respect for the destination (Timothy & Boyd, 2003; Mutanga, Kolawole, Gondo, & Mbaiwa, 2024). Together, these factors significantly enhance tourists' satisfaction and foster their intention to revisit, thereby promoting sustainable tourism and encouraging repeat visits. By focusing on these key variables, ecotourism destinations can create a more compelling and sustainable tourism offering that meets the evolving demands of modern tourists.

However, the COVID-19 pandemic has significantly impacted ecotourism, affecting wildlife conservation efforts and the livelihoods of communities dependent on ecotourism revenues. According to the United Nations Environment Programme (UNEP), ecotourism has historically played a crucial role in conserving nature and protecting endangered species by minimising human impact on natural areas and building environmental and cultural awareness. However, the pandemic led to the closure of ecotourism sites worldwide, cutting off vital sources of income for many protected areas. This financial crisis has heightened the risk of poaching and encroachment due to reduced law enforcement and community incomes. Local communities have turned to alternative means of income. However, the disproportional sharing of conservation costs and poor application of participator approaches jeopardizes the existence of protected areas as the conservations depend solely on a single source of income (Holland & Allen, 2022; Chebby, Mmbaga, & Ngongolo, 2024). There's an urgent need for the international community to establish emergency funds to offset tourism revenue losses (UN Environment Programme, 2020).

The pandemic has rushed the need for the tourism industry to offer various online services to find solutions to generate income and remain relevant (Li, Hong, & Guo, 2021;

Seyfi, Hall, & Saarinen, 2022). Conventional tourism is no longer sustainable as travel restrictions have caused a decline of revenues within the tourism value chain (Spenceley, 2021). Due to the pandemic, the infusion and adaptation of IT elements in tourism services, such as smart destinations, artificial intelligence, and several other digital advances, is reshaping the means of technology for tourism (Gretzel et al., 2020). A significant part of the recovery thinking must involve greater ways of ensuring destinations are equipped with relevant technology to attract tech-savvy tourist, be it at hotels, airports or restaurants (Swart, Nhamo, & Dube, 2024).

The integration of information communication technologies (ICTs) has been transforming the global tourism landscape. By altering the industry's structure, digital integration, specifically social media, has proven to have decisive impacts on consumer influence, thereby revealing potential threats and opportunities (Rosselló, Becken, & Santana-Gallego, 2020; Mehraliyev, Choi, & King, 2021). Social media platforms now empower consumers to exert their influence (Lie, Zhang, & Yao 2021) and for organisations to communicate brand-related information and develop marketing strategies (Cheung, Pires & Rosenberg, 2020). Additionally, the use of Extended Reality (ER) to engage with consumers in an integrated cyber and physical environment is used in marketing strategies to enhance tourism experience (Kwok & Koh, 2020). What were thought to pose a danger to the travel industry, VR-based site tours present itself as technological drivers that can reach a global audience. Tech-savvy tourism industries capitalise on the influence of social media platforms and innovate consumer-industry interactivity to achieve sustainability in an evolving market (Divisekera & Nguyen, 2018; Nzama & Ezeuduji, 2021). This integration would come to be known as smart tourism which will promote the sustainability and preservability of natural landscapes and culture.

To summarise, destination resources must remain relevant in the new norm while enhancing tourist's satisfaction by delivering high-quality experiences. High satisfaction will in turn be rewarded with loyal, returning tourists. In addition, digital integration is the contemporary design in the current tourism setting. Hence, the study intends to achieve the following: (a) to provide a better understanding of destination resources that achieve high levels of tourist satisfaction; (b) to establish the moderating impact of social media marketing between destination resources and tourist satisfaction; and (c) to make available implications for tourism stakeholders to sustainably develop tourism destinations.

1.1.2 The Malaysian Scenario

Tourism, in a nutshell, is leisure or company travel involving the philosophy and practice of attracting, hosting, and entertaining tourists, as well as the business operations of tours (Sayyad & Shinde, 2016; Ramyar & Halim, 2020). Tourism plays a significant role in Malaysia's economy. According to the Department of Statistics Malaysia (2023), Sarawak recorded the third highest total domestic tourism arrivals at 6,511 in 2021, although this was lower than the 21,070 arrivals recorded in 2019.

The tourism sector is the third largest contributor to Malaysia's GDP, following manufacturing and commodities (Hirschmann, 2020). Recognized as a focus area for Malaysia to become a high-income nation (Khor & Chua, 2018), the tourism sector has been identified as a key economic driver with significant potential for income generation and development (Cheuk, Lo, & Atang, 2015; Hirschmann, 2020). The Department of Statistics Malaysia (2020) reported that shopping was the largest contributor to tourism receipts at 42%, followed by automotive fuel at 16.7%, and food and beverage at 15.9%.

Despite a significant decline in tourist arrivals between 2020 and 2021, there was an increase in 2022-2023. However, international tourist arrivals have yet to surpass the previous peak of 27.44 million in 2014, and tourist receipts have not exceeded the peak of RM86.1 billion in 2019. The Tourism Satellite Account (TSA) report highlights that in 2023, domestic tourism spending soared to RM78.7 billion, compared to RM59.2 billion in the previous year¹. This underscores the resilience and growth potential of Malaysia's tourism sector, contributing significantly to the national GDP and supporting the country's economic development goals. Additionally, Table 1.1 indicates the tourist arrivals and receipts to Malaysia between 2018 and 2023.

Table 1.1: Tourist Arrivals and Receipts to Malaysia

Year	Arrivals (million)	Receipts (RM Billion)
2023	20.14	71.3
2022	10.07	28.23
2021	0.13	0.24
2020	4.33	12.7
2019	26.10	86.10
2018	25.83	84.10

Source: Tourism Malaysia (2024)

Tourism is one of the corner stone industries. Moreover, Malaysia is known for its' unique structures, heritage, terrain, flora, and fauna. Hence, ecotourism has become an increasingly preferred activity by tourists who seek to appreciate natural settings, enjoy local cultures, cuisine, and acquire knowledge about the indigenous species. This form of tourism incites increased environmental awareness, which can lead to heightened environmental protection and sustainable development to provide high-quality recreation experiences (Lee

& Jan, 2019). However, the increased number of tourists and travel agencies would have harmful effects if proper tourism practices were not adhered to. The Ministry of Tourism, Arts and Culture Malaysia had highlighted several proposals in its ‘National Ecotourism Plan 2020-2023’, which includes marketing and promotional eco-adventure activities, as well as control measures of ecotourism activity from tourist data and tourist management issues in protected areas. The same could be applied to promote and conserve the cultural and natural ecosystem located in urban settings.

Stretching along the northwest coast of Malaysia, Sarawak is known for its dense rainforest, and indigenous culture and species. Naturally rich with resources and owing to its vast geographical areas, Sarawak’s tourism stakeholders seek potential sources for wealth creation. Sarawak’s abundance in natural heritage and distinctive culture creates a foothold for the management and development of tourism. Additionally, it cannot be denied that Sarawak’s tourism core components are dependent on the natural and cultural aspects of Sarawak’s tourism development initiatives.

Table 1.2: Tourists arrival to Sarawak by Domestic and International arrivals

Year	Domestic Arrivals (million)	International Arrivals (million)
2023	1.59	1.85
2022	1.23	0.78
2021	0.21	0.24
2020	0.83	0.36
2019	2.57	2.08
2018	2.31	2.11

Source: Ministry of Tourism, Creative Industry and Performing Arts, Sarawak (2024)

However, despite Sarawak being a state with plentiful cultural and natural resources, these sites are not well promoted to create awareness to tourists regarding the uniqueness and existence of these destinations. Cheuk, Atang, Lo and Ramayah (2018) pointed out the fact that tourists were not aware of Sarawak's tourism potential prior to visiting the state. In order to put Sarawak destinations on the map and successfully develop tourism destinations, the right marketing strategies and resources are equally important (Vengesai, 2003; Trono, Palmi & Prete, 2021). Hence, to successfully give Sarawak the competitive edge and to keep up in the era of digitalisation, proper destination marketing efforts must be done by integrating tourists' point of views on resources that contribute to the competitiveness of Sarawak's tourism destinations.

Before COVID-19, cultural heritage tourists and nature-based tourists spent more time and money than any other kinds of tourists (Ojalere, 2019). Maintenance and conservations of natural resources and cultural sites to provide the best experience for tourists are a problem of the past. Currently, these sites are unable to reap the full benefit due to the travel restrictions and standard operating procedures required to protect and curb the spread of COVID-19.

Despite numerous stimulus packages and assistance from the Malaysian government, the future of Malaysia's tourism industry would require some time to get it back on its feet (Hanafiah et al., 2021). Previous Movement Control Order (MCO) and standard operating procedures hampered the recovery of the tourism industry. Additionally, with heightened levels of anxiety towards health concerns due to the COVID-19, tourism industry players must further seek solutions to understanding the tourist behaviours, preferences, and willingness to travel. Notably, the crisis would provide solutions and guidance to the future of tourism to rethink and innovate (Higgins-Desbiolles, 2020b). This means that the 'Cuti-

cuti Malaysia' marketing strategy must be fine-tuned to continue the spirit of tourism and move forward by innovating and incorporating technology into its marketing strategy.

Hence, the study intends to propose with the current conceptual framework to secure revisitation of tourists by introducing elements of destination resources after adaptation with digital tools such as social media marketing, to engage a global audience.

1.1.3 Tourism in Sarawak

Given the abundance of natural and cultural resources that Malaysia, and Sarawak in particular, are endowed with, ecotourism is a very advantageous, realistic, long-term, and sustainable type of travel. According to Boley and Green (2015), ecotourism has been suggested as a way to address the increasing number of tourists looking for an authentic environmental tourism experience while mitigating the drawbacks and maximizing the advantages of tourism in natural areas. This aligns with Bedford's (2018) observation that Borneo is an ecotourist's paradise.

Borneo's extensive rainforests, endemic flora and fauna, and diverse marine life (Rogos, Ngui & Jee, 2021) naturally support a thriving ecotourism industry. Ecotourism destinations in Sarawak offer a wide range of attractions for tourists, including hiking, kayaking, hot springs, caves, and jungle trekking.

Undoubtedly, tourism is a cornerstone of Malaysia's economy. Ecotourism, specifically, holds significant potential to drive Sarawak's economic growth and contributes to increased household incomes. Prior to the pandemic, Sarawak's 'Gross Value-Added in Tourism Industry' (GVATI) contributed RM6.7 billion (4.1%) to the state's economy, compared to Selangor (RM51.0 billion, 30.7%) and Kuala Lumpur (RM50.5 billion, 30.4%) (Department of Statistics Malaysia, 2020).

In comparison, Sabah's GVATI for 2022 stood at RM13.0 billion, contributing 10.7% to the state's GDP and 5.2% to Malaysia's GVATI (Department of Statistics Malaysia, 2023). This comparison highlights that while Sarawak is among the top 5 contributors to Malaysia's GVATI, the tourism industry still has significant room for growth compared to its neighbouring state.

Currently, Sarawak aims to attract four million tourists by the end of 2024 and 5 million tourists in 2025 compared to the 3.9 million achieved in 2023 (Ten, 2024; Tawie, 2023; Ministry of Tourism, Creative Industry, and Performing Arts Sarawak, 2024). The development of Sarawak's ecotourism industry, given its rich natural heritage and unique cultural offerings, presents a key opportunity to strengthen the tourism sector. This can lead to increased income and a wider range of livelihood opportunities for local communities through job creation, income generation, and community-based ecotourism initiatives (Kim, Xie & Cirella, 2019).

Moreover, Sarawak's national parks and nature reserves have witnessed a surge in tourist interest since the 2020 pandemic. According to Daro Sri Abdul Karim Rahman Hamzah, these areas remain top choices for both local and international ecotourists (Ten, 2024). This is supported by increasing tourist arrivals to national parks and nature reserves, from 95,897 in March 2023 to 99,364 in March 2024.

Aligned with the Post COVID-19 Development Strategy 2030, tourism and services have been identified as key sectors and enablers of Sarawak's economic growth. The primary objective is to establish Sarawak as a leading destination for ecotourism and business events within the ASEAN region by 2030 (Economic Planning Unit Sarawak, 2022). Minister of Tourism, Creative Industries and Performing Arts Dato Sri Abdul Karim Rahman Hamzah emphasized that the Sustainable Development Goals (SDGs) will guide Sarawak's efforts to

become a popular tourist destination with empowered communities playing a crucial role in conserving the state's rich cultural heritage and biodiversity.

This study contributes to the development of ecotourism industry by investigating factors that can enhance ecotourism travel experiences, ultimately boosting tourist satisfaction and encouraging repeat visits.

1.2 Problem Statement

Malaysia is known for its unique environment, culture, and social elements domestically and internationally. However, the natural landscapes and environment are less appealing to tourists compared to urban tourism and community-based atmospheres (Fallah & Ocampo, 2020). This is supported by data from the Ministry of Economy Department of Statistics Malaysia, which lists visiting relatives and friends as the main purposes of domestic trips (Department of Statistics Malaysia, 2023). The lack of interest in natural landscapes is partly due to insufficient promotion on digital platforms, especially social media (Wok & Mohamed, 2016).

Additionally, the decreasing number of international tourist receipts is concerning. After receiving 2.6 million international tourists to Sarawak in 2017, international arrivals saw a dramatic decrease in 2018 and a continuous decline in 2019 (Ministry of Tourism, Arts and Culture, Sarawak, 2021). The tourism industry took a significant hit in 2020 and 2021 due to the pandemic, and despite recovery efforts, tourist arrivals and receipts remain below desired levels, with 2.1 million in 2023. Several factors related to tourism infrastructure, service quality, natural resources, and cultural heritage may have influenced this decline. Insufficient infrastructure in smaller districts, inadequate accommodation, accessibility, and facilities, as well as issues with trustworthiness and safety standards, can

deter tourists. The conservation of natural resources and preservation of cultural heritage are essential to maintain the appeal of ecotourism destinations. Additionally, high tourist volumes can lead to the degradation of natural and cultural sites. Addressing these issues by improving infrastructure, ensuring high-quality services, conserving natural resources, and preserving cultural heritage can enhance Sarawak's competitiveness in the global tourism market, promoting sustainable tourism and encouraging repeat visits.

Malaysia's National Tourism Policy 2020-2030 noted that Malaysia's tourism industry is stuck in its comfort zone due to a lack of creativity and innovation in existing tourism products. Poor destination management, deterioration of service quality, over-reliance on traditional markets, and dependence on local government necessitate a transformation to remain globally competitive. With globalization and the shift to a digital economy, leveraging social media marketing is crucial for destination development and promotion (Cronjé & du Plessis, 2020). Enhancing digital promotion through targeted social media campaigns can significantly increase tourism satisfaction and revisit intention by showcasing Sarawak's natural and cultural assets on platforms like Instagram, Facebook, and YouTube. Engaging content, such as virtual tours and traveler testimonials, can foster a sense of connection and trust, encouraging repeat visits. The COVID-19 outbreak should be seen as an opportunity to rethink and transform tourism at a macro level (Higgins-Desbiolles, 2020). Transformative e-tourism research that integrates value schemes, institutional logics, scientific paradigms, and technological notions needs to be more visible and actionable (Gretzel et al., 2020).

The freefall of the tourism industry has beckoned a need to be innovative (Nepal, 2020). Past research has shown the pivotal role of social media in influencing tourist choices

and its impact on tourists' decision-making processes through reviews and ad hoc availability of information (Lie et al., 2019; Schuckert et al., 2016; Xiang et al., 2015; Vakaris & Neuhofer, 2017). Thus, research is required to reshape destination resources to drive the tourism industry. Past studies revealed that high satisfaction is the main reason for international tourists to revisit (Assaker et al., 2011; Valle et al., 2006; Abdullah & Lui, 2018). Without enhancing destination resources to incite high satisfaction, tourists will be less likely to return (Xiaoxu et al., 2021). Ultimately, revisit intention remains an important measure to determine tourism growth and establish Malaysia as the preferred holiday destination.

1.3 Objectives

The present study intends to meet the following sets of objectives: (i) General Objectives and (b) Specific Objectives.

1.3.1 General Objectives

This research's overall objective is to explore the relationships between tourism infrastructure, service quality, natural resources, cultural heritage and perceived value with tourism satisfaction, tourist satisfaction and revisit intention. In addition, this study intends to examine the moderating relationship of social media marketing on the abovementioned independent variables and tourist satisfaction.

1.3.2 Specific Objectives

This research intends to build an empirical relationship between the independent constructs (i.e., tourism infrastructure, service quality, natural resources and cultural heritage), and tourist satisfaction and revisit intention to Sarawak's ecotourism destinations

in a single framework with social media marketing as a moderator. As such, the research's specific objectives are to:

- i. investigate the relationship between destination resources (tourism infrastructure, service quality, natural resources, and cultural heritage) and tourist satisfaction in ecotourism destinations in Sarawak.
- ii. investigate the relationship between tourist satisfaction and revisit intention in ecotourism destinations in Sarawak.
- iii. explore the tourists' perspective towards the moderating impact of social media marketing on tourism infrastructure, service quality, natural resources and cultural heritage, and tourists' satisfaction.

1.4 Research Objectives

Several questions require attention to find the outcome of the objectives:

- i. Does destination resource measures affect tourist satisfaction in ecotourism destinations in Sarawak?
- ii. Does high tourist satisfaction lead to high revisit intention of tourists to Sarawak ecotourism destinations?
- iii. Does social media marketing have a full positive or partial moderating effect on tourism infrastructure, service quality, natural resources, and cultural heritage as well as tourist satisfaction Sarawak's ecotourism destinations?

1.5 Significance of the Study

The study draws attention to the uprising trend of nature-based tourism. Ecotourism has received increasing attention among scholars and practitioners as this topic of study pays

attention to the sustainability of tourism development. Furthermore, the study intends to propose digital integration in the era of Industry 5.0.

While past studies have investigated determinants, environmental factors, tourism destination evaluation models, and variables involved in sustainable tourism development, the investigation of all these factors within a single framework is insufficient. This study aims to fill this gap by understanding tourists' perspectives on the factors that attract them to ecotourism destinations in Sarawak. The proposed framework, based on a comprehensive review of literature on tourism infrastructure, service quality, natural resources, and cultural heritage, provides a holistic view of sustainable tourism development. The research also aims to bridge the gap in utilizing social media marketing to enhance the relationship between these factors and tourists' satisfaction and revisit intention. This theoretical contribution advances academic knowledge by integrating social media marketing into the sustainable tourism framework, particularly in the context of Sarawak's ecotourism destinations.

The findings from this study offer practical benefits for tourism stakeholders, including industry players, local governments, local communities, and nature reserve management. By addressing issues such as insufficient infrastructure, service quality, conservation of natural resources, and preservation of cultural heritage, the study provides actionable insights to improve the competitiveness of Sarawak's ecotourism destinations. The integration of social media marketing as a moderator highlights its potential impact in enhancing tourists' satisfaction and revisit intention. This practical application can help stakeholders develop effective management strategies, utilize technology to its fullest, and promote sustainable tourism practices. Consulting tourists' opinions and experiences can

further aid in the development of national parks and nature reserves in Sarawak, ensuring sustainable growth and a competitive edge in the global tourism market.

1.6 Scope of the Study

This research investigates the relationship between hard and soft measures of tourism infrastructures, service quality, natural resources and cultural heritage on tourist satisfaction and revisit intention in Sarawak nature reserves. Further, this study adopted social media marketing as a moderator to examine its moderating effects on the proposed independent and dependent variables. This study was conducted in nature reserves in Sarawak, Malaysia. The targeted respondents included domestic and national tourists at the study locations. These locations include Niah National Park, Sama Jaya Nature Reserve, Semenggoh Wildlife Centre, Bukit Sembiling Nature Reserve, and Bukit Hitam Nature Reserve.

1.7 Operational Definitions

The general key and operational terms of the variables are discussed as follows:

- i. Ecotourism: A sustainable form of tourism that focuses on natural zones to instil a sense of responsibility in tourists while appreciating the richness of nature (Jaini, Robat, Anuar & Jamaluddin, 2019). In other words, ecotourism promotes sustainable travel by utilizing natural landscapes and cultural heritage as key attractions. In this study, ecotourism is examined within the context of Sarawak's tourism landscape.
- ii. Destination resource: The endowed and created resources that motivate and attract tourists to choose one destination over another (Ritchie & Crouch, 2010). Destination resources in this study include tourism infrastructure, service quality, natural resources, and cultural heritage as measurements to

determine tourists' satisfaction with Sarawak's national parks and nature reserves.

- iii. Tourism infrastructure: Defined by Ontario Ministry of Tourism (2009), tourism infrastructure is the improvement in quality of life for both the host and tourist of physical components created to cater for tourists such as developmental facilities and services. In this study, tourism infrastructure are the physical facilities and services developed to support tourism, such as transportation, accommodations, and amenities that enhance the experience for both tourists and locals.
- iv. Service quality: The overall assessment of service excellence or the overall perception of an organisation's service standards in comparison to other organisations (Prasuraman et al., 1988). It is the overall perception of how well a service meets or exceeds expectations, including aspects like reliability, responsiveness, and the professionalism of the service providers at the ecotourism destination.
- v. Natural resources: Dwyer & Kim (2003) describe natural resources as the environmental elements found in a destination that consists of flora and fauna, climate, destination cleanliness and the unspoiled natural environment of a destination. Within this study, natural resources refer to the natural elements of a destination, such as plants, animals, climate, and the overall cleanliness and preservation of the environment.
- vi. Cultural heritage: Culture and history are a second component of destination attractiveness (Crouch and Ritchie, 1999). Dilenschneider (2018) adds that art, history and culture have become significant tourist attributes that attract

tourists to cultural or historical locations to spend their holiday (Dilenschneider, 2018). These are unique cultural and historical features of a destination, including art, traditions, and historical sites, that draw tourists and provide a rich, educational experience that can be found in the nature reserves and national parks of Sarawak.

- vii. Social media marketing: Defined as a platform to communicate brands and network the brand to consumers and prospects (Chi, 2011) via Internet forums, Wikis, consumer review sites, content community sites (Zeng & Gerritsen, 2014). In the context of Sarawak's ecotourism destinations, the use of online platforms like social media sites, blogs, and review sites would be integrated to promote and engage with these sites with the aim of increasing visibility and interaction of potential tourists.
- viii. Tourists' satisfaction: In the context of tourism, satisfaction is achieved when the experience that is compared to the expectation produces feelings of pleasure (Haji, Surachman, Ratnawati, & Rahayu, 2021) which then leads to loyalty and the intention to revisit (Adinegara, 2018). In this study, it refers to the level of contentment tourists feel when their travel experiences meet or exceed their expectations, leading to positive feelings and loyalty towards the ecotourism destinations.
- ix. Revisit intention: The intention to revisit is a behavioural intention that denotes the preparation to perform a certain behaviour (Oliver, 2014; Jansri, Hussein, & Loo 2020). In this study, the likelihood that tourists will return to a destination is based on their previous experiences that are either positive or negative.

1.8 Organization of Chapters

This thesis is divided into five major parts. Chapter 1 deliberates the background of the study (both globally and in the Malaysian context), the problem statement, the research objectives, the research questions, and the definition of key terms. In addition, it includes the significance and the scope of the study, as well as explains the organization of the chapters.

Next, Chapter 2 deliberates a comprehensive review of the literature based on the selected constructs. The definitions of the models are explained alongside the underlying theories of this study and the gaps in the literature, the conceptual framework and the justification of the conceptual framework, and the hypothesis development.

Chapter 3 discussed the methodology used to carry out this research. This includes the decision made for research site selection, the research design and the sample used for the research, the data collection procedure, and the research questionnaire and measurements adopted for the research.

In chapter 4, the statistical findings of the research were reported based on the respondents' profile, statistical overview, and the assessment of the measurement and structural model.

Finally, the discussion of the findings and its alignment with past research is reported in Chapter 5. Additionally, the theoretical and practical implications are surmised based on the finding from Chapter 4. Next, the directions for future research, and the current and potential limitations of this research

1.9 Summary

Hence, the chapter presented the outline of the study. The chapter initially presented the background of the study in both the international and Malaysian context. The chapter then introduced in brief and provided key definitions of each of these constructs. The research sites were also introduced briefly. Additionally, this chapter explained the problem statement, research objectives and questions that intends to be addressed by the current study. The significance of the study was provided to emphasize the need to carry out the study. Lastly, the scope of the study determined the boundaries of the research which will be considered in the current study. Moving forward, Chapter 2 will deliberate the constructs in a comprehensive literature review with relevance to the area of study.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

Previous research that examined the Malaysian tourism industry had identified factors such as tourism infrastructure, service quality, natural resources and cultural heritage that had affected tourists' satisfaction and consequently their revisit intention. Past research had been conducted from the perspectives of local communities and tourists, who are the relevant tourism stakeholders. However, limited past research was found that incorporated these factors in a single framework from the perspective of tourist using the moderating factor of social media marketing, especially in the context of tourism in Sarawak. In addition, the use of social media as a platform to promote tourism activities in through electronic word-of-mouth. Additionally, past studies had developed the service quality framework to study service quality in theme parks and national parks and its implications on tourists' satisfaction. This study adopts the model to national parks and nature reserves of Sarawak to study service quality and satisfaction of tourists.

Thus, a holistic framework is provided by the study by introducing tourism infrastructure, service quality, natural resources and cultural heritage as the independent variable and its effects on tourists' satisfaction on national parks and nature reserves in Sarawak and consequently their intention to revisit selected tourism destinations in Sarawak, which serve as the dependent variables. Social media marketing is adopted to moderate the relationship in its effects to fortify the relation between the ecotourism factors towards tourists' satisfaction. The idea behind the selection of these variables to identify a practical and sustainable method to amplify the reach of urban ecotourism.

To provide a foundation for the conceptual framework, this chapter will first highlight and define the proposed research constructs. The variables include tourism infrastructure, service quality, natural resources, cultural heritage, tourists' satisfaction, and revisit intention. Next, the underlying theories adopted in the present study will be discussed alongside the theoretical framework, gaps in the literature, the justification of the framework and the development of hypotheses.

2.2 Underlying Theories

This section reviews the two theoretical perspectives that underpin the rationale for the relationships between tourism infrastructure, service quality, natural resources, cultural heritage and tourists' satisfaction alongside revisit intention, as well as social media marketing. These underlying theories included Competitiveness Theory and Theory of Reasoned Action. The summary of these theories is listed in Table 2.1.

Table 2.1: Summary of Underlying Theories

Theories Variables	Competitiveness Theory	Theory of Reasoned Action
Tourism Infrastructure	/	
Service Quality	/	
Natural Resources	/	
Cultural Heritage	/	
Tourist Satisfaction		/
Revisit Intention		/

2.2.1 Competitiveness Theory

The competitiveness theory is applied in the current study as a foundation to build upon the research framework and explain the development of nature-based tourism at nature reserves in Sarawak to remain relevant in the tourism market during and post pandemic. Despite the increasing challenges and sustainability of profit creation, competitiveness in the marketplace is still a key factor to the success of a tourism destination, and in turn significant to its sustainability (Solana-Ibáñez, Para-González, & Nieves-Nieto, 2016).

The competitiveness theory is a combination of comparative and competitive advantage (Ricardo, 1891). This conceptual foundation of the competitiveness theory oscillates between the Ricardian theory of comparative advantage and the Porterian framework of competitive advantage (Croes & Kubickova, 2013). The two paradigms initially appear to be mutually exclusive; the former emanates from international trade paradigms while the latter is a part of management theory. Previous studies have emphasised the use of comparative resource and competitive advantage in enhancing tourism competitiveness (Poon, 1993; Ritche & Crouch, 1999; Mihalic, 2000; Navickas & Malakauskaite, 2009; Zhang et al., 2020).

A proprietary study conducted by Crouch and Ritchie (1999) expanded on Richardson's (1987) competitive advantage as internationally tradable and that to understand the competitiveness of tourist destinations, the basic elements of comparative advantage and more advance elements of competitive advantage must be taken into consideration. On the other hand, comparative advantage (Porter, 1990) focuses on the endowment factors of a destination (both naturally occurring and created). In addition, it is only appropriate that the

historical and cultural resources be added to expand the infrastructure category. It was then summed that comparative advantages constitute the availability of resources at a

destination while competitive advantage relates to the ability of the destination to effectively use the resources in the long run.

Thus, in the context of the current study, it is only apt that the competitiveness theory is incorporated to study the both the availability of resources in terms of tourism infrastructure, service quality, natural resources and cultural heritage, and how it is effectively applied to achieve tourists' satisfaction and ultimately revisit intention

2.2.2 Theory of Reasoned Action

The theory of reasoned action (TRA) has been refined time and time again by Fishbein and Ajzen (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1972, 1975). The theory of reasoned action is used to understand human behaviour. A study conducted by Sheppard, Hartwick and Warshaw (1988) examined the effectiveness of the theory through meta-analysis studies and determined that the model possesses strong predictive utility despite the contradictory environment and boundary conditioning. The current theory is widely applied to the field of social sciences, specifically in the social psychological study of attitudes.

The attitudes of an individual have always been assumed to act as a predictive behaviour (Armitage & Christian, 2017). Fishbein's model of reasoned actions identify that individuals may possess large number of beliefs regarding a particular behaviour or object, but only one subset is likely to be salient at a time. Hence, it was concluded that salient underlying beliefs determine both attitudes and subjective norms. According to Fishbein's (1967a, 1967b) work, outcome beliefs are based on the rationale that only valued outcomes are likely to impact one's attitude, and that normative beliefs are comprised of referent beliefs and motivation to comply.

Hence, the concept of intention is aligned with the theory of reasoned action (Lam & Hsu, 2004). The motivation to engage with a particular behaviour is related to intention. The study by Fishbein and Ajzen (1975) explains a person's attitude toward an object is identified through the measurement of their beliefs of salient attributes that the object possesses and their evaluation of each attribute. Therefore, it is believed that the initial determinant of intention is the overall positive or negative evaluation of a behaviour derived from their beliefs (Montaño & Kasprzyk, 2015; Hale, Householder, & Greene, 2002). The second determinant of intention is defined by Fishbein (1967b) as the perception of general social pressures to perform or not to perform certain behaviours and that subjective norm (SN) is supported by two components. The first component is the perceived social pressure and the second is the motivation to comply with the former. It is then concluded that individuals are expected to behave a certain way when they perceive the presence of higher social pressure from salient referents to behave a certain way.

In this study, the theory of reasoned action is linked closely with the destination resource factors in satisfying tourists which leads to their intention to revisit. The predictive validity of the current theory suffices in assuming that intentions consistently lead to behaviour due to the behavioural intention construct.

2.3 Definition of Tourism

Tourism is a complex phenomenon and an extensive social system that has asserted itself as an important factor to a person as a means to fill their leisure time (Mosalev, Kryukova, Mukhomorova, Egorova & Khetagurova, 2018). Over centuries-old in its existence, tourism is a socio-economic and culturally cognitive experience that still does not possess a clear definition.

The studies of the definition of the term “tourist” and “tourism” is usually interpreted differently depending on the area of study. Past study by Miraliyevna (2024) stated that studies of tourism in the field of economics views the tourism through its contribution to socio-economic indicators of the country or state, while experts or studies in geography study tourism through spatial aspects such as natural resources or environmental changes post-visitation of tourists.

When speaking of the classifications of tourism, it is generally divided into domestic and international tourism. The former is referred to as travel within their own home country while the latter divided into two, outbound and inbound tourism. The difference in the types of international tourism lies in the direction of tourist flow. This means that outbound tourism is the act of leaving the country of residence to visit a different country while inbound tourism is the arrival of a person(s) to a particular country.

As a dynamic sector, the types of tourism presented vary based on the needs of its objectives, the level of cultural and the availability of its infrastructure. Six categories of tourism were identified in the early stages of the industry, namely, professional tourism, reduced distance tourism, relaxing tourism, visiting tourism, relaxing and health care tourism, and transit tourism (Tureac & Anea, 2010). In more recent study by Miraliyevna (2024) had also listed several forms of tourism, as listed in Table 2.2.

Table 2.2: Forms of Tourism

No	Types of Tourism	Description	Author
1	Archaeological Tourism	An alternative form of cultural tourism which can be conducted in groups or independent travel. This form of tourism helps people increase their knowledge of excavations, preserve historical sites,	Corpas and Castillo, 2019; Kement, Erkol Bayram, Valeri, Basar, and Tuce Günğör, 2023.

Table 2.2 continued

		discover the new and unknown in their country, and uncover mysteries buried underground. One of the goals of archaeological tourism is to popularise public interest in excavations. This tourism implies the act of visiting various infrastructure, such as museums or other architectural monuments, or active participation in excavations.	
2	Heritage Tourism	Alternatively known as ‘Cultural Heritage Tourism’, this form of tourism primarily focuses on the culture of the destination of tourism. As the main object of travel, cultural heritage has significant impacts on tourism at all levels, ranging from global landmarks to attractions that lie at the heart of local identity. Heritage tourism includes historical or industrial site visits with the goal to gain insight into a country’s past.	Park, 2013; Bonn, Joesph-Matthews, Dai, Hayes and Caves, 2007; UNESCO, 2021.
3	Pilgrimage Tourism	This type of tourism is of great importance to religious people as it relies on a person’s faith and spiritual commitment. It implies visiting various holy places and sources of power globally. For example, holy grounds such as Judaism, Christianity and Islam are the centre of pilgrimage.	Barber, 1993; Collins-Kreiner, 2018; Musleh, Subianto, Tamrin and Bustami, 2023.
4	Adventure Tourism	This form of tourism is directly related to exoticism and travel to countries that are radically different from an individual’s country of origin. In essence, it is one of the more interesting and exciting types of tourism. Notably, ‘Adventure Tourism’ is gaining edge as tourists are beginning to seek various types of recreation. To be classified as ‘Adventure Tourism’, two conditions must be met: 1) physical activity; and 2) cultural exchange.	Buckley, 2006; Rantala, Rokenes and Valkonen, 2016; Janowski, Gardiner and Kwek, 2021.
5	Agritourism	‘Agritourism’ typically takes place on farms. As the name suggests, this form of tourism provides an opportunity for tourists to experience agricultural work when visiting a destination. Such activities	Barbieri and Mshenga, 2008; Philip, Hunter and Blackstock, 2010.

Table 2.2 continued

		include, but are not limited to, planting trees, picking fruits and vegetables, and feeding livestock. It also includes tasting various products such as wine, honey, homemade cheese or goat milk, and purchasing local farm products and souvenirs.	
6	Excursion Tourism	The term ‘excursion’ typically refers to trips made by groups of people for educational or recreational purposes. More commonly, ‘Excursion Tourism’ is used by state-owned businesses or companies that issue such tickets at reduced prices to attract people. Typically, the tickets sold are made within off-peak seasons with minimal occupancy, such as weekdays or business hours.	Royo-Vela, 2009; Yusufbeknova, 2023
7	Medical Tourism	This form of travel is originally invented by travel agencies to highlight the popular trend of seeking medical care internationally. Aside from ‘Medical Tourism’, it is also known as ‘Medical Travel’, ‘Health Tourism’, or ‘Global Health’. These services are normally complex specialized operations that involve consultation with a specialist not found within an individual’s home country.	Reed, 2008; Malhotra and Dave, 2024.
8	Ecotourism	Otherwise known as ‘Nature-based Tourism’, this type of tourism strives to leave minimal impact on the local culture and natural environment while generating income and job creation for the local economy. As one of the fastest and largest growing industries, the continued growth of ‘Ecotourism’ puts great pressure on the remaining biodiverse habitats and indigenous cultures	Das and Chatterjee, 2015; Ramyar and Halim, 2020.
9	Wellness Tourism	Commonly, ‘Wellness Tourism’ is a voluntary travel to global destinations mainly for promoting health and well-being via spiritual, physical, and psycholo-	Smith and Kelly, 2015; Al-Ansi, Kim, Xu, Chen, Chua and Han, 2024.

Table 2.2 continued

		gical activities. It aims to control stress levels and promote a healthy lifestyle, specifically, meditation, yoga, and medication (conventional, alternative, complementary, herbal, or homeopathic).	
10	Wildlife Tourism	In its simplest sense, ‘Wildlife Tourism’ is the act of wild animal observation in its natural habitat. It can be both eco-friendly and friendly to wild and captive animals. In recent years, this form of tourism has been actively developing globally. It offers tailor-made tour packages, such as safaris, parks, and wildlife sanctuaries.	Reynolds and Braithwaite, 2001; Fennel and Moorhouse, 2024.

As Sarawak is home to an abundance of natural resources and cultural heritage, nature-based tourism is an emerging trend of study. The Ministry of Tourism, Creative Industry, and Performing Arts of Sarawak stressed the importance of developing ecotourism destinations in Sarawak. Moreover, the Minister of Tourism, Creative Industry, and Performing Arts has indicated the importance of natural parks and nature reserves which was supported by the increasing number of tourists to ecotourism destinations among local and foreign tourists (Ten, 2024). Thus, the present study investigates destination resources at ecotourism sites that can incite tourist satisfaction and revisit intention among tourists to Sarawak.

2.3.1 Ecotourism

First introduced by Ceballos-Lascurain (1987), the concept of ecotourism is continuously seen hand-in hand with sustainable tourism. Since then, the ecotourism literature has been largely developed over the years. As tourism is notably one of the largest industries in the service sector (WTO, 1991), ecotourism has been gaining momentum to study and curb environmental management issues (Buckley, 1994). It is without a doubt that

ecotourism is currently one of the fastest growing subsectors (Matthews, 1993) with researchers summarizing ecotourism as a nature-based tourism whereby destinations provide flora, fauna and cultural heritage as the primary attractions (Ramyar & Halim, 2020).

The definition of ecotourism varies according to location, unique regional characteristics and ecotourism facilities and nature of activities, in addition to the varying views from experts and organizations. Moreover, the definition of ecotourism is continuously changing. Past scholars have attempted to define ecotourism, ranging from a means to achieve specific conservation and development goals (Lindberg, Enriques & Sproule, 1996), to breaking down the motivation factor and purpose of visits (Ziffer, 1989; McCornick, 1994), and as a travel practice primarily driven by the destination's flora, fauna, and cultural heritage while conserving the destination's environments (Lee & Jan, 2019; Ramyar & Halim, 2020).

Ecotourism was initially an untested idea whereby past researchers hoped that it would contribute to nature conservation (Wood, 2002). One of the earliest research conducted in Kenya by Thresher (1981) demonstrated the economic benefits of wildlife tourism. The international nature-based business began thriving in the 1980s, attributed by the increasing interest for outdoor travel and environment. The local economy and political resources were devoted to ecotourism early in the 1990's under the assumption that it would achieve local and global conservation and development objectives (Lindberg, Enriquez, & Sproule, 1996; Wallace & Pierce, 1996). In terms of economical contributions, the potential to generate higher economic returns compared to other resourced activities and the benefit it could bring to local economies to provide sustainable use of biodiversity were studied by many past researchers (Thresher, 1981; Tobias & Mendelsohn, 1991; Doan, 2000; Anup,

2017). Additionally, ecotourism can attract funds and increase revenue, which in turn improve and enhance accommodation and transportation of these destinations. Duffy (2008) also stated that ecotourism focuses on alleviating poverty, wildlife conservation and environmental protection, and community development.

Ecotourism represents an emerging trend of incorporating wildlife with tourism (Jhahhria, 2021). It is a tool used in efforts to preserve natural resources and cultural heritage of a destination. Ecotourism places sustainable development within the tourism industry as a priority to conserve nature in order to benefit local communities and educate tourists sustainably (Anup, 2017). Honey (2008) explains that the focus of ecotourism is on responsible travel to nature areas through environmental conservation, improving the well-being of local communities, natural area travels, minimize impact, spreading environmental awareness, and empowering local communities by providing financial benefits and respecting their culture. The principle of ecotourism is based around minimising impacts of tourism while building environmental and cultural awareness to provide positive experiences (Tripathi, 2016).

However, ecotourism has both advantages and disadvantages. Extensive literature has suggested that ecotourism provides environmentalists and tourists with the ability to gain more knowledge about the destination's biodiversity, ecology, and geology. Fennell (2020) states that greater understanding in preserving various ecosystems and natural structures is caused by better understanding of an ecosystem's component. Furthermore, ecotourism provides travellers with first-hand experience of environmentally friendly practices and sustainable living. The economic gain from ecotourism also plays a part in reforestation and repopulation efforts of endangered flora and fauna species (Ramyar & Halim, 2020).

Despite the advantages, ecotourism faces drawbacks and challenges. Some of these challenges include relocation of aboriginal communities and cultural traditions. Berglund (2015) also pointed out that relocating indigenous communities may cause local people to begin rejecting old practices to survive due to the lack of resources. The natural freedom of cultural expression is also impacted by the increasing number of tourists, causing natives to be objectified and promoting stereotyping of a local culture (Diekmann & Smith, 2015). Similarly, tourist-local relationships cause subtle changes to the society as natives are exposed to tourists and adapt to interact and respond to tourists' cultural behaviour (Fennell, 2020).

2.4 Destination Resource

The Resource-Based View (RBV) is a fundamental theory that explains how a firm's resources significantly influence its performance and competitive advantage (Savino & Shafiq, 2018). According to this theory, resources that are imitable, rare, and non-substitutable are important for establishing a firm's competitive edge (Barney, 1991). In the context of tourism, a destination is viewed as a multi-resourced organisation, where various resources such as hotels, restaurants, transportation, and natural and cultural assets play a vital role in providing tourist satisfaction and generating profits (Pike & Page, 2014; Ritchie & Crouch, 2003). These resources are categorised into different types, including competitive, complementary, and substitutable resources, each contributing uniquely to the destination's attractiveness and competitiveness (Liu, 2019; Jiang, Zhang, Zheng, Zhang, & Zhang, 2020; Ness, Haugland, & Aarsad, 2019).

Competitiveness models in tourism have been developed to understand the factors that enhance a destination's appeal. These models include macro and microenvironment

factors, such as core resources, supporting factors, destination management, and qualifying determinants (Crouch & Ritchie, 1999). Sustainable competitive destinations focus on improving local living standards without depleting natural resources (Nematpour & Faraji, 2019), while other models emphasize the importance of demand orientation, comparative advantage, industry structure, and environmental commitment (Hassan, 2000; Heath, 2002; Dwyer & Kim, 2003). Despite the development of these models, there is still a need for practical applications, especially in developing countries, to link destination competitiveness with sustainability (Goffi, Cucculelli, & Masiero, 2019; Barbosa, Fischmann, & Costa, 2024).

Empirical studies have extensively linked destination resources with destination competitiveness, highlighting their importance in various disciplines such as economics, marketing, and management (Athiyaman & Robertson, 1995; Dwyer & Kim, 2001; Al-Masroori, 2006). These studies have developed models that emphasize the role of destination resources in enhancing competitiveness and attracting tourists. For instance, research has shown that the combination and association of different resources can significantly influence tourists' perceptions and satisfaction (Zhang, Zhao, Zhang, Liu, & Luo, 2021).

Specific studies focusing on Sarawak's tourism landscape have identified gaps in the literature regarding the enhancement of local destination resources and global publicity (Jun-Zhou, Jia-Lie, & Yin-Sing, 2020; Wong, Kler, & Laison Sandoh, 2017; Leow, Mohamad, Lo, Ramayah, & Chin, 2024; Chin et al., 2014; Law & Lo, 2016; Chong, Mohamad, Tan, Lo, & Ramayah, 2018; Ching, Lo, Suaidim, Mohamad, & Chin, 2019). While some studies have examined destination competitiveness and image, there is limited research on the specific impact of destination resources on tourist satisfaction and revisit intention in

Sarawak. Recent developments in the classification of resources, such as operand and operant resources, provide new insights into how these resources can be leveraged to improve tourist experiences (Lusch, Vargo, & O'Brien, 2007; Vargo & Lusch, 2008; Zhang et al., 2021).

In conclusion, destination resources are vital economic components that determine a destination's competitiveness and attractiveness. By focusing on the impact of tourism infrastructure, service quality, natural resources, and cultural heritage, this research aims to fill the gap in the literature and provide practical insights for enhancing Sarawak's tourism sector. Future research should continue to explore the linkages between destination resources, tourist satisfaction, and revisit intention to develop effective marketing strategies and improve the overall competitiveness of tourist destinations.

2.5 The Concept of Tourism Infrastructure

In light of the importance of nature-based tourism for generating income to assist locals and promote sustainable tourism development, tourist arrivals are a significant concern for tourism stakeholders. Inskeep (1991) defines tourism infrastructure as the physical elements that cater to the needs of tourists. The term tourism infrastructure is closely linked to accommodation, facilities, gastronomy facilities, and transport (Crouch & Ritchie, 1999; Panasiuk, 2007; Ramyar & Halim, 2020; Tukamushaba, Xiao, & Ladkin, 2016). Tourism infrastructure forms the basis for developing tourism and plays a crucial role in utilizing existing destination resources. It includes necessary services to meet tourists' needs and increase their satisfaction during their stay at the destination (Kršák et al., 2015; Ramyar & Halim, 2020). Past research notes that tourism infrastructure requires goods and services, and institutions offering these facilities are considered part of the tourism industry (Benur &

Bramwell, 2015). Generally, tourism infrastructure encompasses power, telecommunication, water supply, roads, and production parts such as medicines, sports equipment, and cosmetics (Bimonte & Grilli, 2016).

ast studies (Lamb, Hair, McDaniel et al., 2004; Wadawi, Breseler & Herbst, 2011; Lo, Chin, & Law, 2019; Panasiuk, 2007; Ramyar & Halim, 2020; Provotorina, Kazmina, Petrenko, & Ekinil, 2020) have listed accommodation, accessibility, and facilities as core components of infrastructure. Zeinali and Jarpour (2015) stated that facilities are one of the main attractions influencing tourists' satisfaction. Researchers such as Wondowossen et al. (2014) and Lo et al. (2019) emphasized the importance of tourism infrastructure in influencing tourists' decision-making processes. Additionally, the availability of efficient transportation facilities, enhanced by the quality of accessibility, can reduce costs for tourists (Quac, 2013). Abdullah et al. (2015) explained that the Malaysian government recognizes the importance of tourism infrastructure in the growth of the tourism industry and national development. Past literature also emphasized the necessity of providing a well-developed and efficient transport network to ensure smooth tourist flow to and from destinations, enhancing their experience (Crouch, 2011; Dwyer & Kim, 2003; Gomezelj & Mihalič, 2008). To ensure sustainable development of nature-based tourism, tourism infrastructures must be well-developed to facilitate seamless travel from one destination to the next.

Accommodation is a fundamental need in tourism activities, as travelers and tourists require a place to rest, preferably low-budget and of decent quality. Accessibility is also crucial for ensuring seamless travel for tourists, including those with disabilities, by providing access to the environment, information, transportation, and other facilities throughout the location (Suanmal, 2014). Ghose and Johann (2018) defined accessibility as

the availability, affordability, and convenience of transport facilities provided by the destination. Thong (2023) explained that accessibility involves the ease, convenience, and smooth connectivity of public transportation and access to information. Facilities, on the other hand, require systems and services to be offered in the form of innovative experiences to add value to tourism activities. Throughout the literature, Biswas, Omarm, and Rashid-Radha (2020) explained that accommodation, accessibility, and facilities are important categories in tourism infrastructure. Therefore, this study focuses on evaluating the components of accommodation, accessibility, and facilities in tourism infrastructure and their impact on tourist satisfaction.

2.6 The Concept of Service Quality

The service quality model is a widely outlined concept by researchers. It is the user's satisfaction with the services provided (Ahn et al., 2007). The multi-dimensional literature of service quality has been expanded on time and time again (Parasuraman et al., 1985; 1988; Stevens et al., 1995; Raajpoot, 2002; Ryu & Jang, 2008). Numerous researchers have attempted to provide a definition of service quality. Early literatures defined service quality as the overall product or service that can satisfy the customer's needs (Ryan, 1996) and how well these services meet their expectations (Booms, 1983). In the current literature of service, the tangible aspect is stressed upon to understand the importance of cleanliness / tidiness, among other tangible aspects, towards customer satisfaction during the pandemic. In general, few are more known service quality models than others. These literatures are outlined below:

2.6.1 SERVQUAL Model

The widely used SERVQUAL model revolves around five dimensions, namely tangibility, reliability, responsibility, assurance and empathy (Strawderman & Koubek, 2008). The model developed by Parasuraman et al. (1985) consists of 22 items whereby the model initially introduced 10 dimensions, namely tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding to customers. Later, Parasuraman, Zeithaml and Berry (1990) regrouped the 10 dimensions into five fundamental components, reliability, assurance, tangible, empathy, and responsiveness. The findings of said study explains that the service quality perceived by customers is a result of the comparison of their expectations and their reaction to the actual delivered service. This multiple-item scale is commonly used in measuring the perceptions of consumers towards service quality (Kvist & Klefsjö, 2006; Canny & Hidayat, 2012). Due to the popularity of the SERVQUAL model, various researchers have theoretically and empirically studied and expanded the topic into many disciplines and cultures globally (Chen, 2014; Crick & Spencer, 2011; Ladhari, 2009; Stefano et al., 2015).

2.6.2 DINESERV Model

Adapting the SERVQUAL model and LODGSERV model to the restaurant industry, Stevens et al. (1995) developed the DINESERV model. The model, originally used to study customer perception on the quality of restaurant services, has been developed over time to be adapted to place emphasis on the cleanliness factor (Barber & Scarcelli, 2010) and used to redefine hospitality operations amid the COVID-19 pandemic (Pillai, Haldorai Seo & Kim, 2021; Yu, Seo, & Hyun, 2021; Sirimongkol, 2021). The concept of the physical environment is part and parcel of the service experience (Kotier, 1973). Using the DINESERV model, past researchers investigated the restaurant industry in relation to the

service quality model to seek improvement (Berry et al., 2006; Gu & Heung, 2012; Ryu & Han, 2011). By analysing the perceptions of the customers, it was concluded that the customers were influenced by the perceptions of the overall quality of the physical environment, cleanliness, quality of the food and employee behaviours. Truong, Nisar, Knox and Prabhakar (2017) deduced that physical settings played a significant role in the quality of perception of the customers. In that relation, the significance of cleanliness should not be neglected. Hygiene and safety factors can be perceived as a motivator whereby positive reactions and pleasant experiences are rewarded with trust towards the service (Yavetz and Gilboa, 2010).

While the SERVQUAL model provides five dimensions with 22 standardised items, the DINESERV model employs 10 items to measure tangibles, four to measure reliability, two to measure responsiveness, three to measure assurance and four to measure empathy (Stevens, Knutson, & Patton, 1995). Despite the use of the DINESERV model in the restaurant industry, it is arguable that the model should influence other service models to investigate more on cleanliness factors (Barber & Scarcelli, 2010). The concern of hygiene and cleanliness is an emerging topic of discussion due to the increasing concern of the rise of the pandemic despite vaccination efforts. Best hygiene practices and cleanliness perspectives must be studied in depth to provide an understanding of the way forward for tourism stakeholders to remain relevant.

2.6.3 THEMEQUAL Model

The THEMEQUAL model is a modification of the SERVQUAL model to fit theme park settings. This modification was introduced by Tsang, Lee, Wong and Chong (2012) to address the concerns of Babakus and Boller (1992) and Fick and Ritchie (1991) that criticise

the universality of the SERVQUAL approach. As such, the THEMEQUAL model serves as an adaptation to measure service quality of theme parks to help theme park operators identify what is important from the viewpoint of tourists and how service quality can be improved. The THEMEQUAL model also measures the level of satisfaction of tourists.

In constructing the THEMEQUAL model, Tsang et al. (2012) modified the original five-dimensional model of SERVQUAL to six dimensions, by adding the courtesy dimensions, while adding subtle differences to the original five dimensions. Unlike other services in the hospitality industry, safety and security of facilities in theme parks is a significant factor that decides the success of theme parks (Pikkemaat & Schuckert, 2007; Milman, 2001). Moreover, the reliability dimension implicates the ability of the promised service to perform accurately, thus linking safety and security of theme parks as an important dimension. The study by James (2021) also reinforced the need for safety elements within the service quality framework. Courtesy, in the same vein, was reintroduced in THEMEQUAL as services represent the anticipation of customer's needs and the endeavour to accommodate to their requests (Saleh & Ryan, 1991). As courtesy is defined as the employee's polite and friendly response that provides pleasant experiences to tourists (Parasuraman et al., 1985; Carman, 1990), employees must go above and beyond to ensure tourists feel welcomed at the destination.

From the perspective of national parks and nature reserves, the THEMEQUAL model is a relatively unexplored model that could be adapted to further identify the satisfaction levels of tourists on the service quality of both national parks and nature reserves. As theme parks are artificially created landscapes and recreational facilities (Smolina, 2020b). Furthermore, modern theme parks, or Arborsculpture, have been found to

incorporate cultural, spiritual, and natural designs as part of their preservation of natural fauna (Smolina, 2020a, Gale, 2011). Hence, the present study adopts the THEMEQUAL model and adapts the survey into the nature reserve and national park settings.

2.7 The Concept of Natural Resources

Natural resources were defined by Crouch and Ritchie (1999) as the core resources of the environment which include both the flora and fauna. Natural resource is a vital element of ecotourism, or nature-based tourism, as priority is given to ecological resource integrity, environmental conservation and community development (Anup, 2017). However, a recent study by Jaini, Robat, Annuar and Jamaluddin (2019) indicated an increase in strain towards the destination by an increased number of tourists, causing violation and damages towards numerous wildlife species. The study by Alamgir et al. (2017) also indicated the damages done to protected flora and fauna species during the development of roads and dams in the area of Borneo.

As such, past scholars have looked to the necessity of natural resource conservation to sustain natural attractors for generations to come (Alamgir et al., 2017; Auty, 1997; Kamri, 2013; Nathaniel & Adedoyin, 2020; Son, Nguyen, & Hoang, 2023). The availability of natural resources in high numbers are vital in competitiveness in tourism industry, leading a tourist to choose one destination over the other (Tyrväinen, Uusitalo, Silvennoinen, & Hasu, 2014), an ultimately delivering pristine and undamaged natural environments to tourists will lead to satisfaction (Lo, Mohamad, Chin, & Ramayah, 2017). Moreover, a recent study by Nguyen et al. (2023) investigated the role of natural landscape as an essential component of tourism resources and its influence on the flow of tourists to a destination in agritourism. The study found that natural landscape indeed attracts tourists to a destination. This was also

supported by Vuong and Huyen (2021) and Dung (2023) that stated higher levels of satisfaction is influenced by the level of attraction and novelty of the natural landscape.

The quality of natural resources is monumental to the destination, especially in the expediting the decision-making process among tourists (Kamri, 2013; Lo et al., 2017). Hassan (2010) explained that the competitive advantage of tourism destination first conceptualised by Ritchie and Crouch (2000) can be enhanced if the destination possesses an abundance of natural resources (Jaafar & Maideen, 2012; Law & Lo, 2016). As a result, it can be presumed that the relationship between natural resources and contribution to destination competitiveness is significant. Henceforth, natural resources of the destination should be well-preserved by local communities and tourists (MacDonald & Jolliffe, 2003; Scales, 2014; Kamri, 2013; Lo et al., 2017).

2.8 The Concept of Cultural Heritage

Cultural heritage, or cultural tourism was first defined by the UNWTO (1985) as the movement of people motivated by cultural attractions, such as folklore or art and pilgrimages, cultural tours, festivities, arts and cultural performances, study tours, and visits to sites and monuments. Pioneering studies regarding cultural tourists were conducted since the early 1800s (Tighe, 1985). Literatures conducted were focused towards identifying the market size to identify the destination attraction. Richards (1996) stated that the UNWTO reported that 37 per cent of the tourists comprised of cultural tourists and some more fascinating studies suggested 70 per cent or more of international cultural tourists.

The World Bank (1998) defines culture in the tourism context as a whole of a material which possess distinctive, intellectual and emotional features which lead to a characterisation of society. On the other hand, Burnett (2001) defined heritage as the identity

or memory of a place containing historical significance of heritage properties. The UNESCO (1972) convention on world heritage explained that it encompasses both a living expression and the traditions of surmountable communities globally. Additionally, it was added that tangible heritage contains both physical objects such as buildings, monuments and archaeological nature, whereas intangible heritages are non-physical in nature such as languages, philosophical beliefs and artistic expressions (Phaicharnchit, 2007; National Heritage Act, 2016). Mustafa and Saleh (2017) pointed out the significance to preserving intangible heritage can no longer be enjoyed when it is lost or missing. In the same, it was propounded that cultural heritage is extinct for two main reasons, namely due to the transition into a modern era which caused an abandonment and extinction of intangible cultural heritage.

In addition, cultural heritage more than attracts tourists. Chu and Uebergang (2002) and Vong and Ung (2012) mentioned that by packaging heritage tourism products from a service-oriented perspective, tourists will be able to connect with the destination's history and culture. The diversity of identity and cultures will turn into added value of the destination to attract tourists to learn local cultures and practices. Hence, researchers indicated a need to conserve cultural heritage for the preservation of future-generations of cultural and adventure seeking tourists (Liu, 2013; Park, 2014; Anup, 2017).

2.9 The Concept of Social Media Marketing

In a digitised era, the Internet serves as a decisive platform that paves the way for people-centred heritage conservation (Ginzarly, Roders & Teller, 2019). The Internet, specifically social media, empowers the stakeholders to become increasingly involved in cultural heritage protection (Diaz-Andreu, 2020; Kitchin & Dodge, 2011) which is crucial cultural heritage planning and conservation (Corallo et al., 2018; Muhammad & Kim, 2017).

Similarly, Jashi (2013), Amaro and Duarte (2015) and Onu (2018) provided a definition of social media marketing, that is the extent that social media affects individuals in terms of their expectations, development of a destination's image and their travel decisions.

Despite various definitions of social media marketing, the present study adopts Tuten and Solomon (2018) whereby social media platforms and software are utilised to establish, deliver and exchange valuable offerings. According to Gaffar et al., (2021) the five dimensions of social media marketing are online community, interaction, content sharing, accessibility, and credibility.

Online communities are a shared group of individuals that commune temporarily or permanently and communicate in a shared problem or interest space through an electric medium (Plant, 2004). Culnan, McHuch and Zubillaga (2010) suggests creating online communities on social medias to encourage progressive discussions amongst consumers or tourists to lead to loyalty (Gaffar et al., 2021). Similarly, online communities have begun emerging in the wake of Web 2.0 era (Ginzarly & Roders, 2019; Garduño Freeman, 2010; Giaccardi, 2012). Online community communications create opportunities to break operational boundary for collaboration between local communities and professionals to build mutual trust between people of culturally diverse backgrounds (Psomadaki et al., 2019; Lafreniere et al., 2019; Nummi, 2018; Shaw et al., 2017) and enable memory-sharing and a “sense of place” to people globally (Dhonju et al., 2018). It also provide a space for professional knowledge sharing in the field of cultural heritage (Claisse et al., 2017; Sanders & Strappers, 2008) and educational outreach (Champion & Rahaman, 2019). Due to real-time connectivity, stakeholders possess an effective platform to stay informed and receive

feedback (Deng et al., 2015) while communicating with relevant authorities to ensure smooth flow of collaboration.

Interaction on the other hand is a reciprocal event that requires at least two objects and actions each (Wagner, 1994). As such, social networking sites should offer and communicate significant and up-to-date relevant information. Content is the information contained or communicated through delivery channels such as websites or applications (Halvorson & Rach, 2012) which people can easily access to read, learn or experience. Holliman and Rowley (2014) explained that content is the core to effective inbound marketing. Kotler and Keller (2016) explained that good content on social media is categorised by the richness and interactivity of the content itself. Accessibility is defined by

Levine and Garb (2002) as the ease of arriving at destinations, whereby tourists can easily find and navigate the official social media site of the tourist destination. Whiting and Williams (2013) stressed the importance of the speed of accessibility on social media sites as a strength in competitiveness. Finally, credibility is focused on how a business is able to deliver a clear message to the targeted consumers, build emotional connection, motivate potential buyers and produce loyal customers (Dick & Basu, 1994; Tarmedi, Sulastri Sumiyati, & Dirgantari, 2018). Credibility of a social media site is gained through trust and expertise of individuals in a target group.

Social media marketing research have revealed its significance in promoting successful development of tourism industry and enhancing destination competitiveness (Wethner & Ricci, 2004; Kiralova & Pavlicecka, 2015). Previous social media marketing research revealed concerns on its role in changing behavioural intentions (Leung, Sun, & Bai, 2019). Studies by Steur (1992), Hill, Provost and Volinsky (2006), Nadaraja and

Yazdanifard (2013) proposed several positive impacts of social media marketing on tourism industry which include better market targeting, reduced promoting costs, improved customer service, enhanced interactivity and promoting social interaction. The impact of word-of-mouth, electronic user-generated content, and electronic destination marketing strategies were also found to have a positive effect on destination image and tourist destination decision-making (Vu & Tran, 2024). However, a separate study stated that tourism destinations are failing in the currently competitive industry due to the lack of innovative promotional activities. Hence, the aid of social media marketing towards tourism development is required as a low-cost alternative to reach a larger audience than conventional marketing efforts (Kiraliva & Pavlicecka, 2015).

Additionally, the study of ICT in fostering community engagement and collaboration in urban planning and heritage conservation received increasing attention. Frontier scholars have begun integrating tourism management and heritage conservation with digital interactive applications (e.g., AR, VR, 3-D modelling, GIS) following the technological progress which integrates digitized presentation and crowdsourcing technology in terms of communication for cultural heritage (Sroczynska, 2012). Immersive technologies, virtual heritage, and 3D modelling and printing technologies are becoming more prevalent in promoting the value of heritage (Arrigoni et al., 2019; Spacca et al., 2018) and as a means to preserve tangible and intangible structures (Jeffery et al., 2020; Champion & Rahman, 2019).

Studies by Kilipiri, Papaioannou and Kotzaivazoglou (2023), Jaya and Prianthara (2020) and Leung, Law, Hoof and Buhalis (2013) added the involvement of social media influences and travel bloggers in the tourism and hospitality field. interactions of these

influencers and their followers though information sharing of tourism services can help these destinations effectively reach their destination goals. Hence, the global reach of social media as a marketing tool that cannot be overlooked. It's ability to influence decision-making via photography, video, and e-word of mouth must be investigated with the tourism destination resources and how it can improve its impact on satisfaction and inciting an intention to revisit.

2.10 The Concept of Tourists' Satisfaction

Satisfaction is a positive attitude or positive feeling towards an object of focus by an individual (Siregar, Syahputra, & Nasution, 2020). Tourists' satisfaction is regarded as a primary goal for every industry (Law & Lo, 2016). Heightened feelings of satisfaction will lead to higher customer retention. This concept is similar for the tourism industry. Tourists show loyalty by repeated visits to similar destinations within a country (Hussein, 2016). It was noted that tourists feel satisfied when the experiences from tourism activities at the destination create meaningful memories and sensations (Carù & Cova, 2003; Coudounaris & Sthapit, 2017).

Zeithaml et al. (2006) explained customer satisfaction to be related to specific transactions in contrast with attitudes. In the case of tourist satisfaction, ample literature has proposed theories including the expectation theory, the equity theory and perceived overall performance theory (Yoon & Uysal, 2005). A study conducted by Kozak and Rimmington (2000) discussed the importance of tourist satisfaction due to the influence it holds over decision-making of a holiday maker.

Furthermore, Oliver (1997) explained satisfaction as the extent to which customers feel happy that their needs and expectations are met. Similarly, a more prominent definition

was proposed whereby satisfaction is a result of the overall evaluation of difference in the received quality and expectations. Song, Van der Veen, Li and Chen (2011) argue that satisfied tourists are vital in tourism marketing as it brings about profits, loyalty and repeat future interactions. Tourists are usually asked about pull attributes which are considered positive and often associated to the reason they choose a destination (Jenkins, 1999; Oh, 2001; O'Leary & Deegan 2005; Alegre & Garau, 2010). The studies on tourists pull attributes often ignore the existence of negative features which could lead tourist to reject the holiday destination (Law, 2006).

Previous studies indicate a multitude of factors that influence tourist satisfaction, including but not limited to destination image and motivation (Devesa, Laguna, & Palavios, 2010; Choi, Lehto, & Morrison, 2007; Shafiee et al., 2016), destination competitiveness and attractions (Biswas et al., 2020), and perceived value (Kim & Ko, 2012). However, limited studies focus in specifically to each destination resource and the methods that can be used to improve satisfaction of tourists towards each destination, without the inclusion of destination competitiveness factors (Mihalič, 2013; Chen et al., 2016)

Tourist expectations continue to evolve and demand for higher quality infrastructure, innovative and unique deliverables, and better service quality. The expectations of tourists directly affect their satisfaction (Jusoh, Abd Hamid, & Najib, 2015) and the ability to realise compatibility between destination products (Battour, Ismail, & Battor, 2011) will be a key success factor in tourist destinations. Hence, it is imperative that destinations determine factors that can meet tourist expectations and enhance their experiences at destinations.

2.11 The Concept of Revisit Intention

Revisit intention, defined as a tourist's desire to return to a destination and recommend it to others (Baker & Crompton, 2000; Som & Badarneh, 2011), is a critical area of tourism research (Lam & Hsu, 2006). Understanding the drivers of revisit intention is essential for tourism businesses to forecast future demand (Jansri, Hussein, & Loo, 2020). Repeat tourists are not only more cost-effective to attract (Wang, 2004) but also tend to spend more than first-time visitors (Lehto, O'Leary, & Morrison, 2004; Li et al., 2010).

Revisit intention is often linked to destination loyalty and the desire to return (Chi & Qu, 2008; Chen & Chen, 2010; Sadat & Chang, 2016; Rosid et al., 2020). From a behavioural perspective, it represents an intention to repeat a specific behaviour (Oliver, 2014), such as repurchasing tourism and leisure services or revisiting a destination (Akama & Kieti, 2003). Numerous studies have established a strong link between tourist satisfaction, revisit intention, and positive word-of-mouth (Som & Badarneh, 2011; Jansri et al., 2020). Destination image and satisfaction have also been shown to significantly influence behavioural intentions (Kandampully & Suhartanto, 2000). In essence, revisit intention is closely tied to behavioural loyalty, post-purchase intentions, attitudinal loyalty, and destination image.

The importance of revisit intention for business growth and sustainability is well-documented (Abbasi et al., 2021; An et al., 2019; Loi et al., 2017; Ngoc & Trinh, 2015). Repeat visits reduce marketing costs and contribute to profitability (Alves et al., 2019). Providing quality experiences is crucial in this service-oriented industry, as it directly impacts tourists' destination assessments and decision-making (Gani et al., 2019).

Tourist satisfaction is a key determinant of future behavioural intentions (Abdullah & Lui, 2018; Nam & Lee, 2011). Travel decision-making is a complex process influenced by psychological, social, and perceived behavioural control factors (Abbasi et al., 2021). Revisit intention is a crucial component of destination loyalty, influencing attitudes and satisfaction levels (Cui et al., 2019), and is often seen as an extension of satisfaction itself (Um et al., 2006). Tourists are more likely to return when satisfied with their experience (Koazk, 2001; Nguyen, 2020). However, it's important to acknowledge that some tourists may prioritize exploring new destinations despite prior satisfaction (Gitelson & Crompton, 1984). Therefore, strategically positioning destinations to maximize satisfaction is essential for fostering revisitation.

2.12 Conceptual Framework

The framework, as depicted in Figure 2.1, consists of seven variables, namely tourism infrastructure, service quality, natural resources, cultural heritage, tourists' satisfaction, revisit intention and social media marketing.

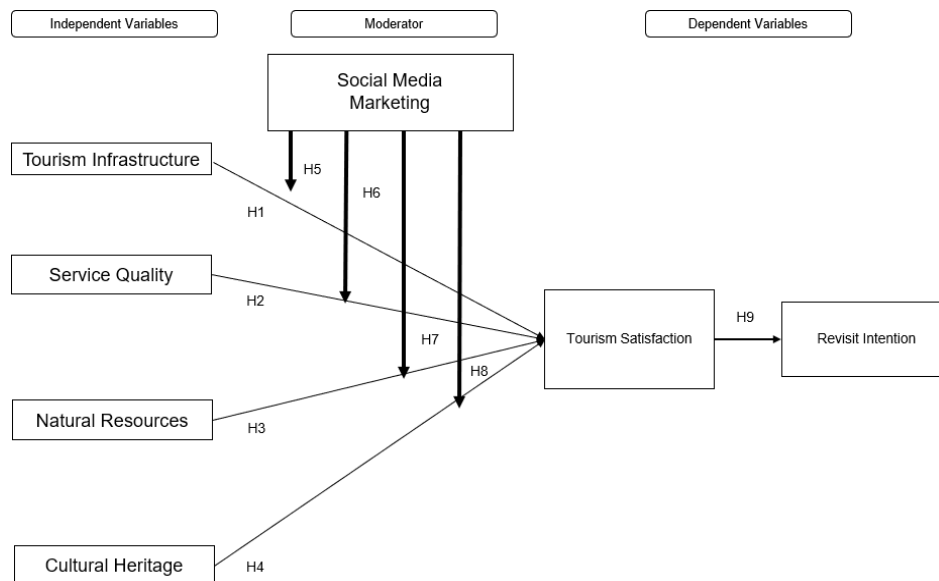


Figure 2.1: Conceptual Framework

2.12.1 Gaps in Literature

The present study pursues the model of destination resource towards tourists' satisfaction and revisit intention in an era of social media marketing and its influence in tourists' decision-making. There is presently limited literature that provides tourism stakeholders with a direction to cope with the modernisation of tourists' expectations and demands within the destinations.

Moreover, empirical studies have investigated the conventional method of tourist destination competitiveness and destination image, including literature modified to assist nature-based tourism. However, despite empirical recent literature contributing towards the effects of health pandemics towards tourism as a health and economic detriment, there is limited study contributing to the competitiveness, resource, satisfaction and revisit intention in the ecotourism literature to provide guidance to nature-based tourism destinations.

Undoubtedly, a tsunami of recent literature have studied towards tourism sustainability; incorporating metaverse into the tourism framework (Wei, 2024; Chen, 2024; Go & Kang, 2023; Buhalis, Leong, & Lin, 2023; Monaco & Sacchi, 2023); a reflection on COVID-19 and its positive and negative effects on tourism (Filep, King, & McKercher, 2024; Fotiadis, Polyzos, & Huan, 2021; Sigala, 2020; Yeh, 2020); leveraging on ChatGPT and artificial intelligence in tourism (Dwivedi, Pandey, Currie, & Micu, 2024; Carvalho & Ivanov, 2024; Gursoy, Li, & Song, 2023; Sudirjo, Diawati, Riady, Ausat, & Suherlan, 2023), and so on. However, the groundworks destination resource must be strongly established and improved upon from time to time before a destination can move towards developing more advanced and complex frameworks to build a competitive advantage. As a baseline, past literature (Ching et al., 2019; Croes et al., 2020; Lesmana & Sugiarto, 2021; Marasigan &

Borbon, 2020) have studied the antecedents of competitiveness, focusing on competitive factors for improvement at resorts or hotels that ultimately increases the competitive advantage of the overall tourism industry, and tourism competitiveness in terms of capabilities.

Furthermore, the literature towards utilisation of social media platforms to attract tourists to the destination, especially its moderating effects, are still limited. The pandemic, if anything, provides an opportunity for tourism destinations to create and develop social media sites to share photos and videos to provide point of views to tourists internationally. Additionally, there is an opportunity to integrate virtual reality, such as 360o street view, to incite the need to travel. Comments received and communicated via sites and social media platform can also affect tourists' decision making (Sahin & Şengün, 2015). Based on past literature, the study of social media is studied in terms of its influence on travel decisions (Wong, Lai & Tao, 2019), brand engagement and brand knowledge (Cheung et al., 2020) and social media inciting the intention to visit a destination (Gaffar et al., 2021). More recently, social media and word of mouth studies have involved the role of social media influencers in shaping the decision-making and intention to visit a destination (Hernández-Méndez & Baute-Díaz, 2024; Omeish, Sharabati, Abuhashesh, Al-Haddad, Nasereddin, Alghizzawi, & Badran, 2024; Jaya & Prianthara, 2020). Limited literature investigated the current framework in a single literature, especially in the context of Sarawak ecotourism. There is also a gap in literature whereby tourism studies placed emphasis on economic rather than health-related crisis (Novelli, Burgess, Jones & Ritchie, 2018).

Moreover, the present study intends to employ the THEMEQUAL model introduced by Tsang et al. (2012) that is used in theme parks and adapts the model to test its suitability

in identifying service quality at nature reserves or national parks. As the model had also been adapted to amusement parks in the study by James (2021), the present study intends to adapt the THEMEQUAL model to identify the service quality provided at the selected tourist destinations to study the suitability of the model to further measure the quality of services provided at these destinations.

Hence, the present study intends to provide guidance by understanding the impact of destination resources, with an adaptation of the THEMEQUAL model in measuring service quality, while adopting social media marketing as a moderator in an attempt to bridge the current gap in literature and contribute to the existing literature the outcome of the moderation effects of social media marketing.

2.13 Development of Hypotheses

In the tourism context, destinations comprise of a multi-resource tourism organisation (Pike & Page, 2014). This tourism organisation consists of various resources, such as hotels, restaurants, transportation, culture and natural resources (Ritchie & Crouch, 2003) that support the destination's service capabilities that satisfy tourists' needs while generating profit for tourist stakeholders (Croes & Kubickova, 2016). A destination's resource can be categorised into competitive resources, or core resources, such as culture and natural resources (Jiang et al., 2020; Liu, 2019), and complementary resources (Ness et al., 2019). The study by Zhang et al. (2021) and Bruce et al. (2019) stated that the interplay between resources is vital in integrating core and complementary resources as a means to counterbalance the lack of either resource. Thus, a comprehensive understanding of the combination of resources at a destination can offer new perspectives to discuss the factors that can influence tourist satisfaction.

2.13.1 Tourism Infrastructure and Tourists' Satisfaction

Tourism infrastructure is a vital resource in tourism development and the utilization of subsequent destination resources. Increasing the number of foreign tourist arrival to a destination means that the destination must be well-equipped to fulfil the demand of tourist arrivals. Past studies identified transportation infrastructure as fundamental components in enhancing tourism destination competitiveness (Wilde & Cox, 2008; Aref & Gill, 2009; Goffi, 2013; Ching et al., 2019). In the context of ecotourism, infrastructures would rely heavily on showcasing and appreciating the environmental principles of the destination while maintaining the natural environment without altering things that could counter this goal (Boley & Green, 2016). The relation between infrastructure and tourism has been highlighted in various technical studies, emphasizing the unique position of tourism growth in the modernisation of infrastructure and produce a multiplier impact of the creation of infrastructure on tourism (Bayati, Zeinali, & Shojaeivand, 2015).

Moreover, the studies of tourism infrastructure and satisfaction generally include attributes of attractions, lodging, dining, accessibility, shopping, activities, events and environment (Khuong & Luan, 2015). Past research had also studied the relationship between attributes like comfort facilities, safety and infrastructure, cultural attractions and shopping, tourist attractions and ambiance, and the various accessibility effects on tourist satisfaction (Yusof, Harun, Wafa, Kler, & Abd Majidab, 2017). Previous studies had also explained the significance of accommodation (Nam, Ekinci, & Whyatt, 2011; Chin et al., 2018), accessibility (Ramyar & Halim, 2020; Guiver & Stanford, 2014) and amenities/facilities (Marzuki, Khoshkam, Mohamad & Kadir, 2016; Ramyar & Halim, 2020) in increasing tourists' satisfaction. A lack of necessary facilities will directly impact tourism operations and negatively impact tourist satisfaction (Abdullah, Arman & Mastura,

2014; Wani, Peer, Rizvi, & Malik, 2023). Hence, in this study, the following hypothesis was developed:

H1: Tourism infrastructure (i.e., accommodation, accessibility and facilities) is significantly and positively related to tourists' satisfaction.

2.13.2 Service Quality and Tourists' Satisfaction

The constructs of service quality and satisfaction have been dominating yet constant constructs (Gallarza & Saura, 2006; Oh & Park, 1997). Empirical study has been conducted in the context of consumer satisfaction and brand image by focusing on the five dimensions of the SERVQUAL model of Parasuraman et al. (1985). However, past scholars questioned the universality of the SERVQUAL approach (Babakus & Boller, 1992; Fick & Ritchie, 1991) and the incorporation of cleanliness factors (Barber & Scarcelli, 2010) into the service model.

Currently, tourism players must consider the impact of the physical environment towards the safety and satisfaction of the tourists and consider their selection process in decision making. Through the years, the service model has evolved to suit various services sectors. LODGSERV is designed to improve the quality of service for the lodging industry (Knutson et al., 1991) and DINESERV which is aimed at restaurants' services but enriches the tangible aspect of the SERVQUAL model (Stevens et al., 1995), and THEMEQUAL modified the base model of SERVQUAL to better suit service quality measurement at theme parks and amusement parks (Tsang et al., 2012; Valčić, Komšić, & Simpson, 2015; James, 2021).

In this study, the THEMEQUAL model was adopted to measure the service quality of Sarawak tourist destination in relation to the satisfaction of tourists. The tourist's perception of the quality of the services available at the destination are important determinants for the success and development of said destination. Hence, the following hypothesis was developed:

H2: Service quality is significantly and positively related to tourists' satisfaction.

2.13.3 Natural Resources and Tourists' Satisfaction

Natural resources, as defined by Crouch and Ritchie (1999) are main assets of tourism destinations, especially in nature-based tourism. Ceballos-Lascurain (1993) explained that ecotourism involves nature-based tourism whereby tourists travel to natural areas. Tourists who seek nature as a means to relax are more likely to be attracted to wildlife tourism (Patbak & Ashish, 2003; Wray, Espiner, & Perkins, 2010). Past scholars have explained that the preservation of natural resources of a destination is important maintain competitive advantage and contribute to the destination competitiveness development (Alamgir et al., 2017; Gomezelj & Mihalič, 2008; Kamri, 2013; Lo et al., 2017).

Furthermore, Croes and Kubickova (2016) emphasised the importance of natural resources to attracting tourists to a destination. The overall nature and landscape and the naturally occurring resources have caused a debate among scholars about its importance from the aspect of tourism demand and supply (Mariotti, 1938; Tisdell, 1991; Ritchie & Crouch, 2000; Dwyer & Kim, 2003; Mihalič, 2013) indicating positive relations between natural resources and its implication on tourists' experience. A study by Coghlan (2012), added that satisfaction measures are key outcomes at protected areas. Hence, the collective discussion led to the formulation of the below hypothesis:

H3: Natural resources are significantly and positively related to tourists' satisfaction.

2.13.4 Cultural Heritage and Tourists' Satisfaction

Cultural heritage is a mixture of antiquities, artworks, ethnographic materials, monuments, heritage sites and historical buildings which contain an intrinsic mixture of culture and values (Letrit, 2004, Maneenet, & Tran, 2014). Past researchers highlighted the importance of cultural heritage in determining tourism destination competitiveness (Dugulan, Balalure, Popescu, & Veghes, 2010; Ezeuduji & Rid, 2011; Ching et al., 2019). As culture and history acts as a powerful attracting factor, if a destination can provide unique experiences and is complemented by historical environments in contrast to a home setting (Crouch & Ritchie, 1999). Moreover, Zhang et al., 2021 added that tourists that travel with the intent of experiencing different cultures and understanding various cultural connotations make cultural heritage a principal driver in their journey for leisure.

In this study, object authenticity of cultural heritage is a driving factor of tourists' satisfaction. This is driven by the observations made by Zhang, Cho, Wang, and Ge (2018) and Tian, Wang, Law, and Zhang (2020) that argue that intangible and tangible cultural heritage are important tourism resource attractors that influence satisfaction. As Sarawak is teeming with diverse cultures and communities, defining them is pivotal cultural resource, the following hypothesis was formulated:

H4: Cultural heritage is significantly and positively related to tourists' satisfaction.

2.13.5 Social Media Marketing as a Moderator

With social media marketing, companies are able to extend their customer base widely (Khan & Jan, 2015) and pave way for new markets (Tsimonis and Dimitriadis, 2014)

making it a worthwhile marketing tool. Additionally, Rathore et al. (2017) added that social media has been used by tourists to create travel plans. A study by Leung (2019) had also indicated that Facebook pages are able to affect the visit intentions of tourists. Similarly, Kim et al. (2019) conducted a study on the intention of US tourists to South Korea and found that the destination familiarity boosts tourist knowledge and perceptions, thus concluding that positive experiences means that there is a higher chance for them to revisit the destination. Especially in this age of smart tourism, mobile technologies provide tourists with the ability to share their experiences on social media throughout their visit (Munar & Jacobsen, 2014) and are carefully constructed to act as memories that can be recalled after a trip (Zhang, Wu, & Buhalis, 2018). Wong et al., (2019) and Minazzi and Mauri (2015) explains that information and memories shared moves on to post-trip stage as the tourists continue to share their experiences on social media. Concerns were also raised on the role of social media in changing behavioural intentions through the influence of Facebook (Leung et al., 2019). Further studies also indicated the impact social media has on influencing a tourist's intention to visit.

2.13.5.1 Social Media Marketing Moderates the Relationship Between Tourism Infrastructure and Tourists' Satisfaction

The development of tourism infrastructure indicated large contribution toward creating competitive advantage (Hankinson, 2004; Aref & Gill, 2007). Social media marketing serves as a tool to communicate tourism accommodation, accessibility and facilities effectively to tourists (Kumar et al., 2015; Mangold & Faulds, 2009). Despite past literature providing evidence of the significance of social media toward tourism development (Nizeyimana & Kalulu, 2017; Zhang, 2014; Kiralova & Pavlicecka, 2015), literature regarding the use of social media to market and promote tourism infrastructure in specific is

still limited. It is important to effectively communicate accommodation, accessibility and facilities provided at destinations during the pandemic. Additionally, social media platforms were proven to have a dramatic impact towards brand perception (Kim & Ko, 2012). In the context of tourism, the perception of safety and security, and the price and value of a destination can be influenced by the photos and comments shared on social media sites (Hua, Ramayah, Ping, & (Jacky), 2017). Hence, it was hypothesised that:

H5: Social media marketing moderates the relationship between tourism infrastructure and tourists' satisfaction.

2.13.5.2 Social Media Marketing Moderates the Relationship Between Service Quality and Tourists' Satisfaction

One of the most significant online links between tourism destination websites and customers is the emergence of innovative IT management of e-service quality and social media channels to improve competitiveness (Buhalis, 1998; (Vo et al., 2020). Furthermore, support shown from tourism websites and social media were found to influence online bookers (Ferguson, 2014) due to the information, interface and trustworthiness of the tourism sites (Ahmad & Sun, 2018). In the long-term, combined interactivity between tourism websites and social media platforms would enable tourism destination and products to reach tourists directly without the need to go through third-party travelling agencies. Hence, the following hypothesis was formed:

H6: Social media marketing moderates the relationship between service quality and tourists' satisfaction.

2.13.5.3 Social Media Marketing Moderates the Relationship between Natural Resources and Tourists' Satisfaction

By taking into consideration the importance of social media marketing platforms as a tool for successful tourism destination, nature-based tourism can be enhanced by demonstrating the abundance of natural resources and contribute to the development of destination competitiveness (Xiang & Gretzel, 2010; Hays et al., 2018; Hussain et al., 2018). Tourists may not necessary be aware of the resources offered by a tourist destination unless these natural resources are communicated to the tourists. Nizeyimana and Kalulu (2017) explains that social media is a tool that enables tourism marketers to enhance the reputation of tourism destinations effectively while communicating the availability of its resources to existing and potential customers. Thus, the study hypothesized that:

H7: Social media marketing moderates the relationship between natural resources and tourists' satisfaction.

2.13.5.4 Social Media Marketing Moderates the Relationship Between Cultural Heritage and Tourists' Satisfaction

Cultural heritage is indubitably a predominant factor in determining the destination's competitiveness. Studies consistently prove time and time again that cultural heritage travellers stay longer and spend more in comparison to other kinds of travellers (National Trust, 2014), which is evidenced by the uncovering of cultural heritage in tourism destinations (Olalere, 2019). Existing studies have also introduced innovative cultural museum services (Trunfio, Lucia, Campana & Magnelli, 2021) and virtual exhibitions (Pascoal, Tallone, & Furtado, 2020) and its effects on the overall tourist satisfaction. Prior to the pandemic, researchers such as Asante, Villano and Battese (2014), and Kaur (2017) indicated the involvement of social media marketing in the development of tourism

competitiveness development. Additionally, a sustainable approach is needed to preserve and make cultural heritage relevant to modern society and the younger generation (Olalere, 2019).

In the study conducted by Liang, Lu and Martin (2021), it was found that digital tools and technologies provided improved conservation and promotion techniques while enriching cultural heritage archives through interactive media. However, it was argued that social media tools tend to be biased towards museums instead of urban heritage buildings (monuments), and landscapes. Additionally, there is a lack of information on the moderating effects of social media marketing between cultural heritage and tourist satisfaction, especially in a nature reserve setting. Thus, the following hypothesis was formulated:

H8: Social media marketing moderates the relationship between cultural heritage and tourists' satisfaction.

2.13.6 Tourists' Satisfaction and Revisit Intention

Past literature in regards of tourist satisfaction and revisit intention are vast. Past scholars, such as Kozak and Rimmington (2000), and Whipple and Tach (1988), suggested that when studying overall satisfaction, factors related to both the attraction and the services provided must be examined (Operinde & Praise, 2020). As such, it is important to study and analyse satisfaction in tourism to get a clear view of the current performance of the tourism destinations and to provide information about the tourists' needs. The literature of tourists' satisfaction and revisit intention are widely expanded on. Researchers such as Sriarkarin and Lee (2018), Wang et al., (2016) and Ramyar & Halim (2020) have stated the importance of studying the attributes of satisfaction towards the consumer's decision about a service, product, perceived value and social benefit. Hence, the following hypothesis was derived:

H9: Tourists' satisfaction is positively related to revisit intention.

2.14 Summary

To conclude, Chapter 2 discussed the independent, dependent and moderating variable(s) of the study in detail. Generally, the five independent variables discussed included tourism infrastructure, service quality, natural resources, and cultural heritage. Additional components under destination competitiveness such as destination enhances, and comparative and competitive advantage were discussed. The chapter also described the underlying theories namely the Competitiveness Theory, Theory of Reasoned Action, and Theory of Planned Behaviour that were used to support the proposed research framework. The gaps in the literature, theoretical framework and the development of the hypotheses were also presented in the chapter. The following chapter intends to highlight the research methods of the study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to discuss the methodology used to achieve the research objectives. Hence, the research sites, data collection procedure, research measurements and questionnaire were explained. In addition, this chapter explains the usage of statistical analysis such as descriptive statistics, factor analysis, reliability analysis and factor independent analysis of the study. Lastly, the justification for using each of the method is given.

3.2 Research Site

Sarawak, a state located in East Malaysia, has emerged as a prominent ecotourism destination, offering travellers a diverse array of natural wonders and cultural experiences. The growing popularity of ecotourism in Sarawak has prompted researchers to investigate the factors contributing to destination competitiveness and tourists' satisfaction.

It is also home to a vast number of national parks and nature reserves, each with its unique features and attractions. National parks are defined as protected areas set aside for conservation, recreation, and research, while nature reserves are designated areas focused on preserving specific natural habitats or resources (Alemu, 2015) while nature reserves are defined as areas set aside for the protection of specific habitats or resources (Abdurahman et al., 2021). A similarity of both Sarawak national park and nature reserves is that they have been well-recognized for their natural resources, which play a significant role in attracting tourists, particularly nature lovers (Thong et al., 2019).

One critical aspect of ecotourism in Sarawak is the role of destination resources, which encompass both natural and built resources. Tourism in Sarawak has been increasingly focused on nature-based activities, with the government's efforts to develop rural areas for tourism purposes. The Semenggoh Nature Reserve, for instance, is a well-recognized destination that attracts a significant number of tourists, including nature enthusiasts, due to its unique natural resources and the presence of endangered species like orangutans.

The current study selected a handful of ecotourism sites in Sarawak as samples for investigating the relationship between destination resources, tourist satisfaction, and the moderating role of social media marketing. Moreover, the current study selected sites that covered Kuching, Serian, Limbang, and Miri which are prominent visit sites in Sarawak for nature-based tourists. The choice of these sites are justified based on the lack of promotional activities and empirical research on destination resources and tourist satisfaction in these areas, as well as the potential to contribute to the understanding of the role of social media marketing in ecotourism (Cheuk et al., 2018; Thong et al., 2019; Abdurahman et al., 2021). Additionally, these sites received a rating on TripAdvisor and Google of at least 4 stars.

Furthermore, these sites are one of the primary ecotourism attractions in Sarawak that have been experiencing increased visitation over the past years. There have been a growing number of social media posts from nature-based travellers, but the extent to which social media marketing influences the relationship between destination resources and tourist satisfaction remains unclear (Ubaidillah et al., 2018). For instance, this study intends to identify the role of social media marketing in either reinforcing or diminishing the impact of destination resources on tourists' satisfaction.

However, the growth of tourism in Sarawak's protected areas has also led to concerns about the degradation of the environment, including issues such as pollution, noise, and water contamination (Thong et al., 2019). Effective tourism management is crucial to ensure the sustainability of these ecotourism sites and maintain their destination competitiveness.

Another essential factor in the success of Sarawak's ecotourism is tourists' satisfaction, which is influenced by various elements, including the quality and attractiveness of specialized tourism content, as well as the overall experience. These ecotourism research sites serve as samples to understand the role of destination resources and tourists' satisfaction, with the potential moderating influence of social media marketing. The overall locality of the national parks is illustrated in Figure 3.1.



Figure 3.1: Research Sites

3.2.1 Niah National Park

Niah National Park is located in the northern region of Sarawak, known for its rich biodiversity and cultural heritage. The park is home to one of the world's largest cave

systems, the Niah Caves, which have been inhabited by humans for over 40,000 years. The Niah Caves are renowned for their archaeological significance, containing some of the oldest human remains found in Southeast Asia (Abdurahman et al., 2021). Ample images of Niah National Park exist on the internet, but its promotion through social media channels remains limited (Cheuk et al., 2018).



Figure 3.2: Niah National Park

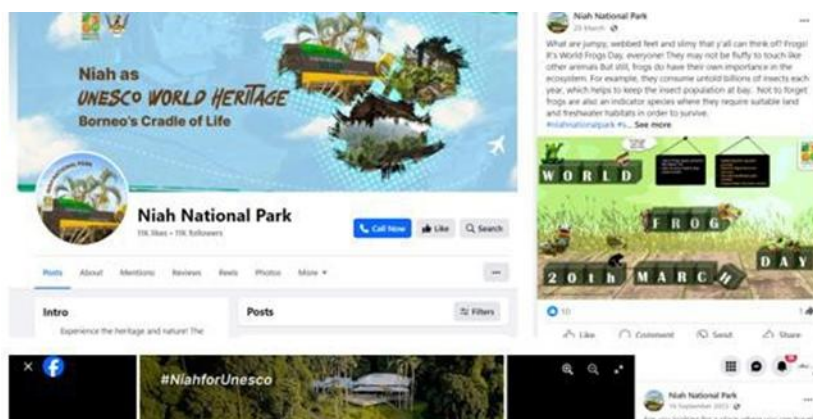


Figure 3.3: Niah National Park Promotional Activities on Facebook

3.2.2 Sama Jaya Nature Reserve

Sama Jaya Nature Reserve is situated in the heart of Kuching, the capital city of Sarawak. The reserve is known for its diverse flora and fauna, including a wide variety of bird species. The reserve is a popular destination for nature lovers and birdwatchers, but there is limited information available online about its ecotourism offerings and social media presence. The nature reserve is also a location for many university-based research activities, especially in terms of biodiversity and environmental studies. Most promotional activities on social media are only depicted through these research institutions and rarely by tourists, the tourism board or local authorities.



Figure 3.4: Sama Jaya Nature Reserve

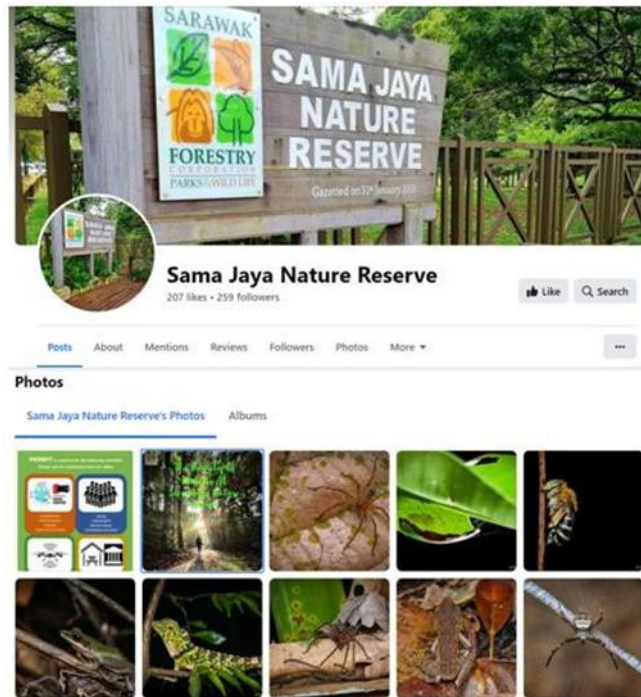


Figure 3.5: Sama Jaya Nature Reserve Promotional Activities on Facebook

3.2.3 Semenggoh Wildlife Centre

The Semenggoh Wildlife Centre is a renowned ecotourism destination in Sarawak, primarily known for its population of semi-wild orangutans. The centre serves as a rehabilitation and reintroduction site for orphaned or displaced orangutans, offering tourists the opportunity to observe these endangered primates in their natural habitat. The Semenggoh Wildlife Centre has a strong online presence, with numerous social media posts and images shared by both local and international tourists. However, its ability to leverage social media to enhance the destination's competitiveness through its resources and tourists' satisfaction remains an area for further investigation.



Figure 3.6: Semenggoh Wildlife Centre



Figure 3.7: Semenggoh Wildlife Centre Promotional Activities on Facebook

3.2.4 Bukit Sembiling Nature Reserve

The Bukit Sembiling Nature Reserve is situated in the Limbang Division of Sarawak, known for its diverse ecosystem, including lowland forests, freshwater swamps, and mangrove forests. The nature reserve is home to various wildlife species, such as proboscis monkeys, long-tailed macaques, and a wide variety of bird species. Despite its ecological

significance, the Bukit Sembiling Nature Reserve has received limited attention in terms of social media promotion and research on ecotourism development.



Figure 3.8: Bukit Sembiling Nature Reserve

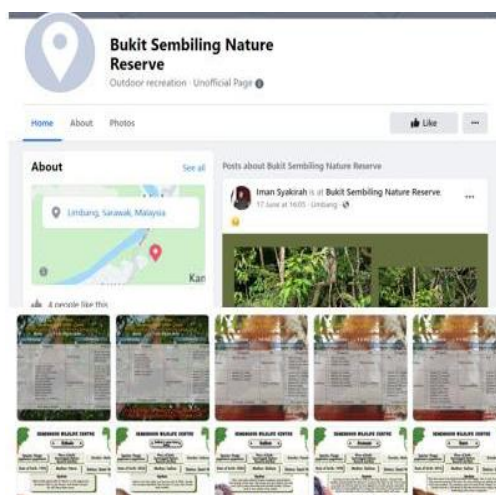


Figure 3.9: Bukit Sembiling Nature Reserve Promotional Activities on Facebook

3.2.5 Bukit Hitam Nature Reserve

The Bukit Hitam Nature Reserve, located in the Miri Division of Sarawak, is a protected area known for its unique geological formations, including limestone outcrops and caves. The nature reserve is a popular destination for hikers and adventurous tourists, offering opportunities for exploring the rugged terrain and discovering the area's natural

wonders. However, the reserve's online presence and social media marketing efforts remain limited, which may impact its overall destination visibility and tourist satisfaction.



Figure 3.10: Bukit Hitam Nature Reserve

3.3 Research Design and Sample

The study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to analyse the relationships between the chosen variables. PLS-SEM is particularly suitable for this study due to its ability to handle complex models with multiple constructs and indicators, as well as its robustness with small sample sizes and non-normal data distributions. The research model includes the following variables: tourism infrastructure, service quality, natural resources, and cultural heritage as independent variables; tourists' satisfaction as the dependent variable; and social media marketing as the moderating variable. This model fits with the research questions by examining how these destination resources influence tourists' satisfaction and revisit intention, and how social media marketing moderates these relationships.

This study utilised international and domestic tourists who visited nature reserves in Sarawak as its population. The target population includes tourists who have experienced the ecotourism offerings in Sarawak's national parks and nature reserves. A judgemental sampling method was employed, where respondents were approached at various ecotourism sites and asked to participate in the survey. The sample size was determined using G*Power analysis, resulting in a minimum requirement of 160 respondents to ensure sufficient explanatory power. The demographic characteristics of the respondents, including gender, age, education level, occupation, recurrency of visit, purpose of visit, and survey location, were collected to provide a comprehensive profile of the sample

The questionnaire was prepared using Google forms. Through the Google form, respondents were required to scan the QR code to retrieve the questionnaire. To determine the sample size of the study, recent development suggests the usage of power analysis (Hair et al., 2018; Hair et al, 2019; Ringle et al, 2018; Liengaard et al, 2020). Hence, in utilizing the G* power 3.1.9.7 software, the study uses G*Power Analysis to determine the minimum sample size.

Cohen (1988) suggested that the minimum power is 0.80 and that there is a relationship between the constructs when the statistical tests generate significant results when high power (>0.80) is achieved. The calculations shown in Figure 3.11 indicate that a sample size of 109 ($N=109$) is required to achieve a power of 0.80, with the assumption that the significance level is 5% and the effect size is 0.15. Sekaran (2000) proposed that a sample size between 30 to 500 is adequate for academic research. The justification for selecting $N=109$ is based on Cohen's (1988) recommendation that a minimum power of 0.80 is necessary to detect significant relationships between constructs. The figure illustrates the

power analysis output, confirming that a sample size of 109 is sufficient to achieve the desired statistical power.

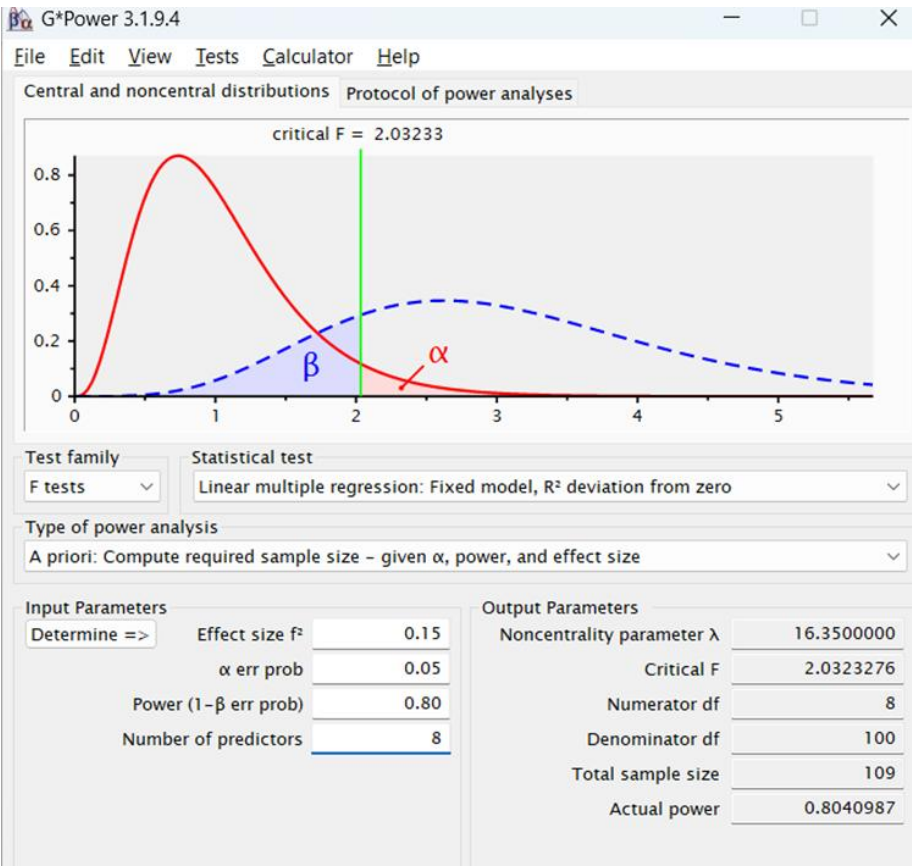


Figure 3.11: G*Power Analysis Results for Minimum Sample Size

Additionally, WarpPLS (version 8.0) was used to conduct the PLS-SEM analysis. Warp PLS is a powerful statistical tool that can be utilized to conduct minimum sample size analysis and assess the predictive relevance of a moderator in research studies (Suhartanto et al., 2020; Emerson et al., 2022). PLS regression is particularly useful when researchers need to predict a set of dependent variables from a large set of independent variables or predictors (Abdi, 2007). One of the key advantages of PLS is its ability to handle small sample sizes and non-normal data, which is often the case in social science research (Goodhue et al., 2012).

Regarding the predictive relevance of a moderator, PLS regression can be used to assess the extent to which the inclusion of a moderating variable improves the model's ability to predict the dependent variable(s). This information is valuable for researchers seeking to understand the boundary conditions and contextual factors that influence the relationships between variables in their studies. To explore the minimum sample size needed for the study's research model, the following assumptions were loaded into Warp PLS 8.0: (1) minimum absolute significant path coefficient in the model was 0.197; (2) significance level of 0.05; and (3) power level of 0.8. Based on this assumption, the minimum sample size based on inverse square root method minimum required sample size is 160, while the suggestion from the gamma-exponential method minimum required sample size is 146.

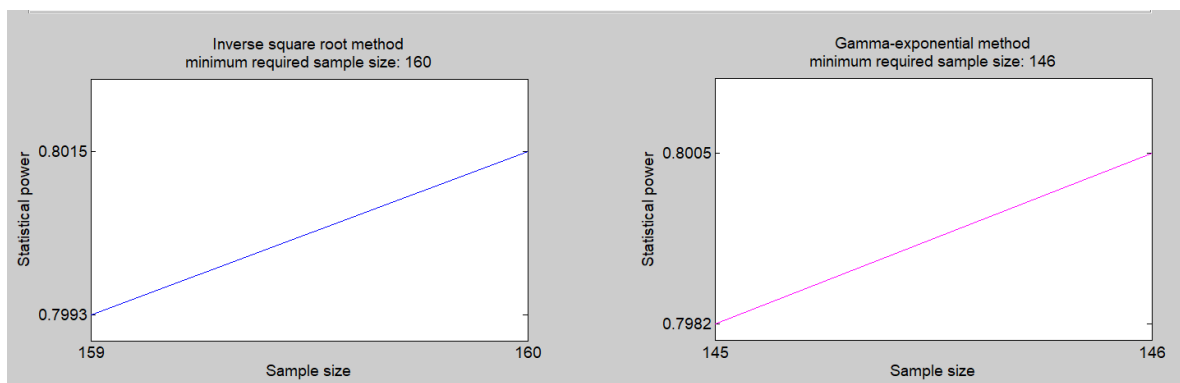


Figure 3.12: Minimal Sample Size using Warp PLS 8.0

To summarise, based on the different techniques used to estimate the minimum sample size, the minimum sample size ranged between 109 respondents and 160 respondents. Hence, it was determined that the minimum sample size for the study should be 160 respondents to provide sufficient explanatory power to test the framework of the study.

3.4 Development of Research Questionnaire

Presently, the study intends to examine the connection between tourism infrastructure, service quality, natural resources and cultural heritage in terms of tourists' satisfaction, and the moderating effects of social media marketing.

A close-ended questionnaire containing four sections was developed. Section I identified the demographic profile of the respondents. The measurement items in Sections II, III and IV were adapted from past literatures (Table 3.1). The questionnaire was constructed in English then translated into Bahasa Melayu. Hence, the questionnaires were distributed bilingually as some tourists may be more familiar with Bahasa Melayu over English.

The questionnaire was designed into four sections. Section I was designed to gather the demographical profile of the respondents. Section II gathers the perceptions on the factors that influence tourists' satisfaction. Section III gathers the respondent's perception on social media marketing as a moderator, and Section IV collects tourists' satisfaction on revisit intention. A multiple scale item measurement was adapted from past research which was altered to adapt to the Malaysian context (refer to Appendix A for details).

Table 3.1: Summary of the Construct's Measurement Item

Section	Dimensions	Number of Items	Sources	Rating Scale
I	Demography	9	-	-
II	Tourism Infrastructure	12	Enright and Newton (2004) as cited by Lesmana and Sugiarto (2021).	1=Strongly Disagree 2=Slightly Disagree 3=Disagree 4=Neutral 5=Agree 6=Slightly Agree 7=Strongly Agree

Table 3.1 continued

	Service Quality	7	Tsang et al. (2012), James (2021) as adapted by Luo and Li (2024).	1=Strongly Disagree 2=Slightly Disagree 3=Disagree 4=Neutral 5=Agree 6=Slightly Agree 7=Strongly Agree
	Natural Resources	6	Dwyer and Kim (2003) as cited by Marasigan and Borbon (2020).	1=Strongly Disagree 2=Slightly Disagree 3=Disagree 4=Neutral 5=Agree 6=Slightly Agree 7=Strongly Agree
	Cultural Heritage	6	Dwyer and Kim (2003) as cited by Marasigan and Borbon (2020).	1=Strongly Disagree 2=Slightly Disagree 3=Disagree 4=Neutral 5=Agree 6=Slightly Agree 7=Strongly Agree
III	Social Media Marketing	10	Chen and Lin (2012) as cited by Kuric (2016).	1=Strongly Disagree 2=Slightly Disagree 3=Disagree 4=Neutral 5=Agree 6=Slightly Agree 7=Strongly Agree
IV	Tourists' Satisfaction	5	Fuchs (1999), Xu and Zhang (2016), and Canny and Hidayat (2012).	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree
	Revisit Intention	6	Taylor (1998). Som, Marzuki, Yousefi and AbuKhelifeh (2012) and Artuğer (2015).	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree

3.5 Pre-Test

A pre-test is the questionnaire development that determines the questionnaire's potential effectiveness (Reynolds, Diamantopoulos, & Schlegelmilch, 1993). Tull and Hawkins (1990) explained that pretesting is necessary to capture the respondent's understanding towards the questionnaire as well as the potential problems encountered by the interviewers. Hence, in order to ensure the understandability of the questionnaire, a pre-test was conducted. From the pre-test, it was seen that certain statements were either too wordy or could not be understood easily by the participants. After receiving feedback, several respondents gave feedback to improve the questionnaire. The outcomes of the pre-test are depicted in Table 3.2. In addition, it was found that Bahasa Melayu was used more than English. This was because the target respondents were domestic tourists. Hence, the Bahasa Melayu version of the questionnaire was revised to ensure that there were minimal grammatical errors. Additionally, as the majority of the questionnaire was adopted from past studies, the understandability of the general questionnaire was fair.

Table 3.2: Pre-Test Questionnaire Outcomes

Item	Respondent 1	Respondent 2	Modification
The staff at national park and nature reserve have neat appearances.	Perhaps can remove the specific statement of “national park” and “nature reserve”.	The question is too lengthy.	The staff have neat appearances.
My overall visit to Kuching is satisfactory.	The sentence may not be good as the first question.	The arrangement of the sentence should be changed because it sounds ambiguous.	The statement has been changed to “Overall, I am satisfied with my visit to Sarawak, Malaysia.”

3.6 Statistical Analysis

The study uses a quantitative approach to test the proposed hypotheses. To analyse the demographic data, version 27.0.1.0 of the Statistical Package for Social Sciences (SPSS) was used. In addition, SPSS was used to determine the missing values and straight lining procedure prior to measurement analysis. Then, the goodness of measure was examined using confirmatory factor analysis (CFA) and composite reliability (CR). Finally, WarpPLS 8.0 was used to assess the developed model using path modelling then bootstrapping by running a partial least squares-structural equation modelling (PLS-SEM).

3.6.1 Preliminary Analysis

Preliminary analysis is required to ensure the quality of the results. By using SPSS version 27.0.1.0, the data will be screened and validated. Specifically, missing data, suspicious response patterns, common method bias and normality of the data will be assessed.

Firstly, preliminary analysis will be used to identify missing data. Missing data set more than 15 per cent or if it is indicated that many responses are missing from a single construct will result in dropping an individual case or observation (Hair et al., 2014). After recognizing the missing data patterns, Little (1998) suggests three types of missing data. Namely, missing completely at random (MCAR), missing at random (MAR), and non-random missing (NRM). There are several methods to handle different types of missing data (Mooi et al., 2018). When using MCAR, listwise deletion is recommended when there are less than 10% of missing values or employ multiple imputations with $m = 5$ when there are more than 10% of missing values. Multiple imputations with $m = 5$ are recommended when

using MAR. Additionally, listwise deletion is recommended and the researcher should acknowledge any limitations arising from the missing data when using MAR.

Secondly, the researcher is required to assess suspicious response patterns. Straight lining and inconsistency are two types of common suspicious response patterns. The former refers to a respondent's tendencies to provide the same response over various questions while the latter refers to the vastly different answer provided to similar questions (Hair et al, 2014; Hair et al, 2020). Both these response patterns tend to be present when respondents have either lost interest or the motivation to participate in the survey, leading them to rush through the questions without paying attention. As these response patterns can affect the quality of the data, it is highly recommended that any data with straight lining and inconsistency be removed from the data set (Mooi et al, 2018).

Next, despite the lack of severity of this in PLS-SEM, data normality issues still need to be assessed (Hair et al, 2014). Skewness, which is a statistical measure to determine the data distribution's symmetry, and kurtosis, which is the statistical measure to assess the relative peakedness of data distribution (Pallant, 2007) are part and parcel of the assessment for data normality. Data distribution is considered to be perfectly normal when both values of skewness and kurtosis are zero, although this situation is unlikely to occur within the research of social sciences (Pallant, 2007; Hair et al., 2017). Arguably, the skewness and kurtosis values of more than +1 or less than -1 are acceptable (Hair et al., 2017).

Finally, the study tested for common method variance, a potentially detrimental bias that can undermine the relationship between constructs and is more likely to be present when the data is collected from a single informant survey (Podsakoff et al., 2003). Following the method of past scholar, steps have been adopted to minimize common method bias before

data collection (Podsakoff et al., 2003). Thus, the data utilized Harman's single-factor test and full collinearity variance inflation factor to assess for common method bias after data collection (Podsakoff et al., 2003; Kock & Lynn, 2012).

3.6.2 Descriptive Statistics

The current research uses descriptive statistics to summarize the report of the demographic characteristics of the respondents. The reported calculations included the frequency, mean, percentages and standard deviation of the analysed demographical data. This data included the respondent's gender, age, education, occupation, recurrency of visit and purpose of visit.

3.6.3 Factor Analysis

Measures or indicators are grouped into smaller number of latent variables or constructs from a complex data set using factor analysis (Bhattacharjee, 2012). Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are the main types of factor analysis. Each factor analysis has their respective functionalities. EFA is suitable when the number of constructs and measures that make up the constructs are unspecified while CFA is used when the constructs and their respective measures have been pre-specified by past literature with empirical and theoretical foundations.

As the constructs of this study have been adapted from past studies, CFA will be used to determine the validation and reliability of the study (Hair et al., 2017; Hair et al., 2020). The criteria of the study are reliability, convergent validity and discriminant validity (Hair et al., 2018).

3.6.4 PLS-SEM

Structural Equation Modelling (SEM) is a multivariate data analysis method that tests and evaluates the causal relationships of multivariates (Haenlein & Kaplan, 2004; Fan, Chen, Shirkey, John, Wu, Park & Shao, 2016). PLS-SEM maximises the variance of the dependent variables (Hair et al., 2012). The statistical model of SEM consists of two elements, the inner model (structural model) and the outer models (measurement models) (Hair, Matthews, Matthews, & Sarstedt, 2017). Wright (1921) stated that SEM was initially created as a causal modelling based on path analysis, but it later integrated with factor analysis and increased in popularity among the social sciences. Kline (2010) and Byrne (2013) stated that path analysis was later developed to quantify relationships among multiple variables and confirmatory analysis was used to measure latent variables.

In conducting analysis using PLS, two-steps analyses must be performed namely measurement models and structural models (Barroso, Cepeda-carrion, & Roldán, 2010; Roldán & Sánchez-Franco, 2012; Felipe, Roldán, & Leal-Rodríguez, 2016). In order to assess the measurement model, confirmatory factor analysis (CFA) is firstly employed via PLS Algorithm to assess the reliability, validity (convergent and discriminant) of the measurement scales. Chin (2010) stated that all item loadings should exceed the minimum cut-off point (0.50) to achieve internal consistency. In addition, the cut-off point for composite reliability (CR) should be above 0.70 (Hair et al., 2019), and the average variance extracted (AVE) should meet the minimum criteria of 0.50 (Fornell & Larcker, 1981). In discriminant validity, Henseler, Ringle and Sarstedt (2015) suggests to apply the Fornell-Larcker criterion to analyse the ratio of correlations. A measurement model will be considered to have achieved satisfactory results once reliability, and convergent and discriminant validity have achieved the criterions.

Next, the researcher must analyse the structural model. Bootstrapping was done to produce standard errors, t-statistics and p-values to test the proposed hypothesis. The t-value must exceed the minimum cut-off point of 1.645 ($p < 0.05$) or $t > 2.33$ ($p < 0.01$). The predictive relevance of the structural model was assessed by performing the blindfolding procedure as suggested by Chin (1998).

The study uses WarpPLS (version 8.0) software to perform the PLS estimation procedure to examine the developed hypotheses. This software enables the researcher to use both the classic PLS algorithms and factor based PLS algorithms which generates estimates of true composites and factors for SEM (Kock, 2017). As the research model presents six direct hypotheses and five moderation hypotheses, WarpPLS is suited to analyse the complex research model.

3.6.4.1 Measurement of the Moderating Variable

The High-Low method in WarpPLS 8.0 was used to analyse moderation by dividing data into two groups based on the moderating variable's values, namely "high" and "low." This involves several steps: data preparation, determining a cutoff point, creating the high and low groups based on this cutoff, running separate WarpPLS analyses for each group, and then comparing the resulting path coefficients between the independent and dependent variables. A significant difference in these path coefficients between the groups indicates a moderating effect. For instance, a stronger relationship in the "high" group suggests the moderator strengthens the effect of the independent variable on the dependent variable.

3.6.5 Measurement Model

The measurement model, or confirmatory factor analysis, is the relationship between both measurement and construct. The purpose of this model is to assess the reliability and

validity of both measurement and construct in the study in terms of indicator reliability and internal consistency reliability, while the validity of the study's data is assessed in terms of convergent validity and discriminant validity (Hair et al., 2017; Hair et al., 2020; Sarstedt et al., 2014).

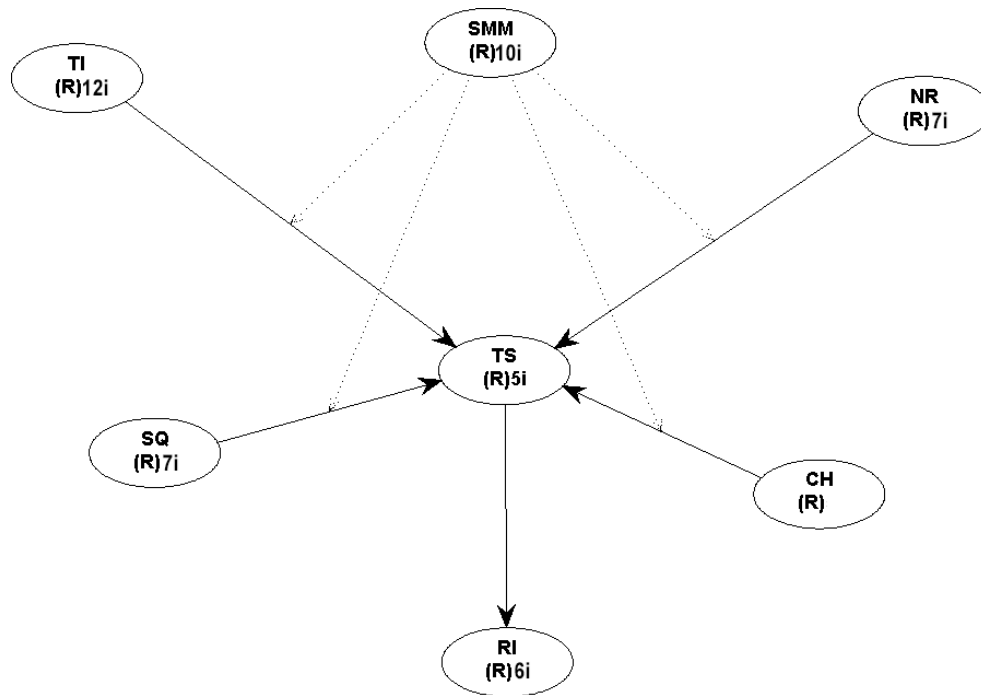


Figure 3.13: Research Model of the Study

3.6.5.1 Indicator Reliability

Using Jöreskog's (1971) composite reliability, the internal consistency reliability of the constructs is assessed. According to Hair et al. (2019), higher values indicate higher reliability as 0.60 and 0.70 are considered acceptable while 0.70-0.90 are satisfactory. However, values of 0.95 are problematic due to redundancy (Diamantopoulos et al., 2012; Drolet & Morrison, 2001). Hence, the current study uses composite reliability to ensure that internal consistency is achieved by ensuring that the CR values of the variables meet the minimum cut-off point of 0.70.

3.6.5.2 Composite Reliability

According to Bagozzi and Philips (1982), convergent validity relies on using both CR and AVE to measure the indicator's reliability and construct reliability. The minimum cut-off point, as indicated by Nunnally (1967) and supported by Taherdoost (2016), is 0.70 for CR. The minimum cut-off value for AVE should be 0.5 (Fornell & Larcker, 1981; Teo & Koh, 2010). Additionally, items loaded more than 0.40 (the minimum recommended value in research) need to be considered for in-depth analysis while cross-loadings above 0.40 should be deleted (Straub, Bourdreau, & Gefen, 2004).

3.6.5.3 Discriminant Validity

The discriminant validity can be evaluated using three methods, that is, by looking at the cross-loadings. The Fornell-Lacker criterion and Heterotrait-monotrait (HTMT) ratio of correlation. In the case of discriminant validity, Fornell, Tellis and Zinkhan (1982) state that the Fornell-Lacker criterion was used to analyse the degree to which the items differ between the constructs and to assess the correlation between measures which could potentially overlap. This method compares the square root of the AVE with the correlation of latent constructs. The square root of each construct's AVE should have a greater value than the correlations with other latent constructs (Hair et al., 2014). Lastly, the HTMT ratio of correlation can achieve higher specificity and sensitivity rates (97% to 99%) compared to cross-loadings criterion (0.00%) and Fornell-Lacker (20.82%). Using the HTMT criterion involves comparing the values to a predefined threshold, with values close to 1 indicating a lack of discriminant validity. Past authors suggest that the threshold of below 0.90 is good (Gold et al., 2001) but threshold below 0.85 is best (Kline, 2011).

3.6.6 Structural Model

The structural model represents the relationships between the constructs present in the present study's research model. Its purpose is to test the hypothesised relationship between each construct and the predictive capabilities of the research model. The assessment of the structural model involves coefficient of determination, effect size, and predictive relevance.

3.6.6.1 Coefficient of Determination (R^2)

The coefficient of determination (R^2) was reported in this study to indicate the substantiality of the model. Hair, Sarstedt, Pieper and Ringle (2012) and Cohen (1988) suggests that the R^2 value of 0.67, 0.33 and 0.19 indicate a substantial, moderate and weak model respectively. The coefficient of determination is examined after determining that collinearity is not an issue (Hair et al., 2019). R^2 measures the variance, with higher values indicating greater explanatory power.

3.6.6.2 Effect Size (f^2)

Effect size (f^2) is calculated and reported to measure the strength of the independent variables to explain the dependent variables (Chin, 1998; Fern, 1996). Cohen (1988) suggests that the effect size values of 0.02, 0.15 and 0.35 as small, medium and large respectively (Kura, 2016). Reporting the values of the effect size is essential in PLS-SEM in order to statistically prove the relationship between two variables are significantly related. The effect size is meaningful in order to strengthen the quality of the PLS path model estimations (Hair, Hult, Ringle & Sarstedt, 2017). Hence, the study reported the effect size of the research model to indicate whether the relationship among the variables was strengthened or weakened with the presence of the moderating variable.

3.6.6.3 Predictive Relevance (Q^2)

The predictive relevance of the research model is assessed using Q^2 . Introduced by Stone-Geisser, the value of the model is obtained via blindfolding. These models are considered to have predictive relevance when the model has a value of more than 0. Weak, moderate and strong predictive relevance are represented by values of 0.02, 0.15 and 0.35 respectively (Cohen, 1988; Hair et al., 2017).

3.7 Summary

To summarise, this chapter explained in detail the methods used to carry out this study. The research sites were first discussed followed by the data collection procedure. In addition, this chapter elucidated the adaptation of the measurement items and the questionnaire development. Further, this study highlighted the statistical analysis software used, namely Statistical Package for Social Sciences (SPSS) version 27.0.1.0 to analyse the demographic profile of this study and WarpPLS version 6.0 to carry out a two-step analysis. In detailed, the PLS Algorithm tested the measurement models, followed by Bootstrapping procedures to test the structural models. The next chapter will deliberate the findings of this study.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter analyses the study's results using Statistical Package for Social Sciences version 27.0.1.0 (SPSS v.27) for Microsoft Windows and WarpPLS 8.0. The chapter first presents the demographic profiles of respondents, then continued with the analysis of statistical and theoretical models.

4.2 Preliminary Data Analysis

The data is first screened using SPSS v.27 to identify any errors, followed by data correction. Generally, the preliminary data analysis focuses on testing common biases, missing data, and suspicious response patterns.

Of the 258 responses, no missing data was found as the surveys were distributed via QR code and Google surveys at the sites for a duration of six months, between the months of June 2023 to December 2023. Next, the survey was screened for suspicious response patterns. Of the 258 survey, 24 respondents were identified to have straight-lining responses. In general, it was found that these respondents' input similar answers in their respective surveys. These cases were eradicated from the total responses, providing a remainder of 234 responses. Straight-lining was found to reduce the quality of data and affected the final result of the data (Kaminska, McCutcheon, & Billiet, 2010; Reuning & Plutzer, 2020)

Lastly, the application of 'Construct Level Correction' and 'Item Level Correction' were used to test the CMV of the study. Any factor exceeding 50% of the total variance indicated the existence of common method bias (Podsakoff et al., 2003; 2012). The present

study investigates 7 factors, of which 53 items in total were used. Based on the study by Kock and Lynn (2012) and Kock (2017), the full collinearity VIF value that exceeds 5 indicates the existence of common method bias. As indicated in Table 4.1, the values of all constructs are lower than 5, thus indicating that common method bias does not exist in the present study.

Table 4.1: Variance Inflation Factors

No.	Constructs	Full Collinearity VIF
1.	Tourism Infrastructure	1.067
2.	Service Quality	1.597
3.	Natural Resources	1.598
4.	Cultural Heritage	1.737
5.	Tourist Satisfaction	2.040
6.	Revisit Intention	1.987
7.	Social Media Marketing	1.132

4.3 Respondent Profile

The total number of questionnaires distributed amounted to 258 to five ecotourism sites in Sarawak, Malaysia. As previously stated, 234 questionnaires were returned while 24 responses were discarded due to the excessive straight-lining responses. Thus, Table 4.2 depicts the demography of the remaining sample size used for hypothesis testing.

Table 4.2: Demographic Profile of Respondents

Demographic Variable	Category	Respondents (N=234)	
		Frequency (n)	Percentage (%)
Gender	Male	149	63.7
	Female	85	36.3
Age	16-20 years old	18	7.7
	21-30 years old	87	37.2
	31-40 years old	64	27.4
	41-50 years old	32	13.7
	≥ 51 years old	33	14.1
Country of Residence	Malaysia	224	95.7
	Others	10	18.8
Ethnic Group	Malay	145	62.0
	Chinese	44	18.8
	Indian	10	4.3
	Dayak	30	12.8
	Caucasian	5	2.1
Education	High School	103	44
	Undergraduate	121	51.7
	Postgraduate	9	3.8
	Others	1	0.4
Occupation	Government	92	39.3
	Private Organisation	63	26.9
	Self-employed	6	2.6
	Not employed/Retiree	73	31.2
Are you	Revisiting	22	9.4
	First time visiting	212	90.6
Purpose of Visit	Personal Trip	202	86.3
	Business Trip	4	1.7
	Studying	28	12.0
Location	Niah National Park	59	25.2
	Sama Jaya Nature Reserve	57	24.4
	Semenggoh Wildlife Centre	42	17.9
	Bukit Sembiling	36	15.4
	Bukit Hitam	40	17.1

Based on the survey, it was noted that 149 of the respondents were female (63.7%) and 85 were male (36.3%). Additionally, a majority of the respondents age ranged between 21-30 years old, accounting for 87 (37.2%) of participants, followed by the age range of 31-

40 years old at 64 (27.4%), then 51 years old and above at 33 (14.1), 41-50 years old at 32 (13.7%), and lastly 18 respondents (7.7%) aged 16 to 20 years old. It was also noted that a majority of respondents were Malaysians (224 or 95.7%), while only 10 (4.3%) were non-Malaysians.

Next, a majority of the survey's respondents consisted of 145 Malay ethnicity (62%), followed by 44 (18.8%) Chinese ethnicity, 30 (12.8%) Dayaks, 10 (4.3%) Indians, and 5 (2.1%) Caucasians. In terms of education, 121 (51.7%) respondents graduated with an undergraduate degree, 103 (44%) graduated from high school, 9 (3.8%) were postgraduate, and 1 (0.4%) listed others. Most of the respondents that visited the selected destinations were found to be Government employees, 92 participants (39.3%), followed by the 'Not-Employed/Retiree' category at 73 participants (31.2%). Next, 63 participants, or 26.9%, work for private organisations while 6 participants, or 2.6%, were self-employed.

The survey also revealed that it was most of the respondents' first time visiting the destinations, a total of 212 participants or 90.6%, while the remaining 22 participants (9.4%) were revisiting. Finally, 202 respondents (86.3%) stated that they were on a personal trip, 28 respondents (12 %) stated they were studying, while 4 respondents (1.7%) stated they were on a business trip.

Lastly, the survey includes the destinations the survey took place. A total of 59 respondents (25.2%) participated at Niah National Park, 57 respondents (24.4%) participated from Sama Jaya Nature Reserve, 42 respondents (17.9%) participated from Semenggoh Wildlife Centre, 40 respondents (17.1%) participated from Bukit Hitam, and 36 respondents (15.4%) participated from Bukit Sembiling nature reserve. The survey's complete demographic profile is illustrated in Table 4.2.

4.4 Assessment of the Measurement Model

In assessing the measurement model, CFA was applied to determine construct and discriminant validity, the average variant extract and construct reliability (Brown, 2015; Thurstone, 1931; Hair et al., 2020). Based on past scholars, variables with outer loading of 0.7 or higher were considered acceptable (Chin, 1998; Hair, William, Barry & Anderson, 2010; Lasaiba, Lasaiba, Arfa, & Lasaiba, 2023). However, several studies also suggest that the threshold value for item loading should be, at a minimum, 0.50 (Bagozzi et al., 1991; Tambun & Cahyati, 2023). The results of the measurement model of the study are indicated in Table 4.3.

Furthermore, past scholars recommend that the minimum cut-off point of the internal consistency of the construct, or composite reliability, should be at the minimum of 0.70 (Chen & Chen, 2010; Memon & Rahman, 2014; Baharum, Ismail, Awang, McKenna, Ibrahim, Mohamed, & Hassan, 2023). Additionally, the minimum value of the average variance extracted of 0.5 should be met (Fornell & Larker, 1981; Bagozzi & Yi, 1988; Manafe, Rizani, Purnawati & Harsono, 2024).

Table 4.3: Results of the Measurement Model

Model Construct	Measurement Items	Loadings	CR	Cronbach's Alpha (α)	AVE
Tourism Infrastructure	TI_1	(0.752)	0.882	0.820	0.651
	TI_2	(0.803)			
	TI_3	(0.709)			
	TI_4	(0.789)			
	TI_5	(0.889)			
	TI_6	(0.731)			
	TI_9	(0.688)			

Table 4.3 continued

	TI_10	(0.810)			
	TI_11	(0.761)			
	TI_12	(0.757)			
Service Quality	SQ_2	(0.706)	0.837	0.737	0.570
	SQ_3	(0.860)			
	SQ_4	(0.849)			
	SQ_5	(0.751)			
	SQ_6	(0.763)			
	SQ_7	(0.784)			
Natural Resources	NR_2	(0.709)	0.799	0.620	0.576
	NR_3	(0.738)			
	NR_4	(0.788)			
	NR_5	(0.853)			
	NR_6	(0.871)			
	NR_7	(0.811)			
Cultural Heritage	CH_1	0.742	0.810	0.705	0.465
	CH_2	0.707			
	CH_3	0.692			
	CH_4	0.759			
	CH_5	0.892			
	CH_6	0.765			
Tourists' Satisfaction	TS_1	0.701	0.849	0.778	0.530
	TS_2	0.708			
	TS_3	0.772			
	TS_4	0.746			
	TS_5	0.751			
Revisit Intention	RI_1	0.770	0.887	0.840	0.610
	RI_2	0.773			
	RI_3	0.749			

Table 4.3 continued

	RI_4	0.808			
	RI_5	0.808			
Social Media Marketing	SMM_1	0.721	0.821	0.728	0.482
	SMM_2	0.715			
	SMM_3	0.787			
	SMM_6	0.711			
	SMM_7	0.739			
	SMM_8	0.731			
	SMM_9	0.601			
	SMM_10	0.626			

Note: Items TI_7, TI_8, SQ_1, NR_1, RI_6, SMM_4 and SMM_5 were eliminated due to low loadings.

4.4.1 Internal Consistency Reliability

Internal consistency reliability is measured by composite reliability and Cronbach's alpha. The recommended values of both internal consistency reliability measurements should be between 0.70 to 0.95 (Hair et al., 2017). However, Shi, Mo and Sun (2012) added that values between 0.6 to 0.8 is deemed acceptable. The results, as shown in Table 4.3 indicate that the composite reliability values ranged between 0.799 to 0.887, while the Cronbach's alpha values ranged between 0.620 to 0.840. Thus, results support the internal consistency reliability of the measurement model.

4.4.2 Convergent Validity

Past scholars iterated that convergent validity is achieved when AVE is more than 0.50 (Chin, 2010; Hair et al., 2017; Fornell & Larker, 1981). However, the value of 0.4 is acceptable if the AVE value is less than 0.5, but the composite reliability is higher than 0.6

(Fornell & David, 1981; Muhamad Safiih & Nor Azreen, 2016). As depicted in Table 4.3, the AVE values of the model ranged from 0.465 to 0.651. This established that the measurement model had achieved convergent validity.

4.4.3 Discriminant Validity

Using the square rooted values of average variance extracted, the intercorrelations among constructs were examined to assess the discriminant validity in the research model, in which the values should exceed the correlations of each construct (Fornell & Bookstein, 1982; Chin, 2010). Thus, the value after square root for hard measures of tourism infrastructure listed in Table 4.4. Additionally, Table 4.5 illustrates the HTMT ratio of correlation. As suggested by Kline (2011) and Hamid (2017), the HTMT ratios of less than 0.85 is best. The results of the study indicate that all the measures were below the threshold of 0.85, indicating that discriminant validity was established.

Table 4.4: Discriminant Validity of Constructs

	TI	SQ	NR	CH	TS	RI	SMM
1. TI	0.807						
2. SQ	0.124	0.755					
3. NR	0.091	0.465	0.759				
4. CH	0.007	0.491	0.529	0.682			
5. TS	0.165	0.414	0.374	0.424	0.728		
6. RI	0.117	0.428	0.347	0.444	0.667	0.781	
7. SMM	0.018	-0.023	0.119	0.046	0.257	0.208	0.694

Note: Diagonals represents the square root of the Average Variance Extracted (AVE) while the other entries represent the correlation.

* TI = Tourism Infrastructure, SQ = Service Quality, NR = Natural Resources, CH = Cultural Heritage, TS = Tourists' Satisfaction. RI = Revisit Intention, SMM = Social Media Marketing

Table 4.5: HTMT Ratio of Correlation

	TI	SQ	NR	CH	TS	RI	SMM
1. TI							
2. SQ	0.174						
3. NR	0.148	0.720					
4. CH	0.103	0.681	0.849				
5. TS	0.213	0.534	0.540	0.567			
6. RI	0.145	0.531	0.489	0.570	0.824		
7. SMM	0.114	0.112	0.181	0.113	0.349	0.277	

4.4.4 Full Collinearity

Prior to assessment of structural model, full collinearity or multicollinearity was also examined. Scholars (Kock, 2011; Kock & Lynn, 2012) have recommended average block variance inflation factor (AVIF) and average full collinearity VIF (AFVIF) in full collinearity assessment of the model. In order to ensure that the model is free of full collinearity issue, Kock (2017) suggested that the values of both AVIF and AFVIF should be equal to or lower than 3.3. In this study, it was discovered that the AVIF has the value of 1.790, while AFVIF has the value of 1.620. Thus, it was identified that both values of AVIF

and AFVIF were lower than the threshold value of 3.3 (Kock, 2017). Overall, these results revealed that there was no full collinearity issue in the present study.

4.5 Assessment of the Structural Model

As demonstrated in Section 4.4, the measurement model was satisfactory through the listed criteria. The next step is to analyse the structural model involved in testing the hypotheses of the study and evaluation on the predictive capabilities of the model. Subsequently, the evaluation on significance of the path coefficients, predictive relevance Q^2 , effect size f^2 , coefficient of determination R^2 . The following sections provide further descriptions of the criteria of assessment

4.5.1 Hypotheses Testing

The current study proposed 11 hypotheses to answer the research questions. Hypotheses H1 to H4 examine direct relationships between destination resources and tourists' satisfaction, while H9 examines the direct relationship between tourists' satisfaction to revisit intention. The remaining hypotheses H5-H8 examined the moderating effects of social media marketing on the direct relationship between destination resources and tourists' satisfaction.

The hypotheses were tested using WarpPLS 8.0 and the tested results comprised of path coefficients and p-values, as demonstrated in Figure 4.2 and Table 4.6. From the 9 hypotheses, the significance of H1 and H3 were identified at the significance level of 0.05, while four hypotheses, namely H2, H4, H7 and H9 were identified at the significance level of 0.01.

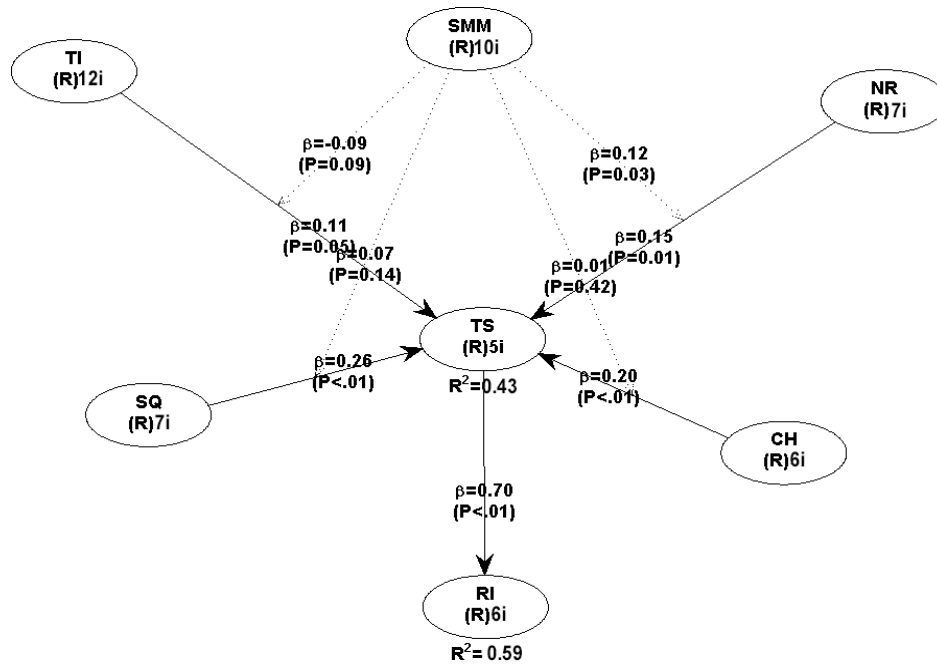


Figure 4.1: Results of Path Analysis

*TI = Tourism Infrastructure, SQ = Service Quality, NR = Natural Resources, CH = Cultural Heritage, TS = Tourists' Satisfaction. RI = Revisit Intention, SMM = Social Media Marketing

Table 4.6: Summary of Path Coefficients and Hypotheses Testing

Hypotheses	Relationship	Standard Beta	p-value	Decision
Direct Relationships				
H1	TI → TS	0.11	0.049*	Supported
H2	SQ → TS	0.26	<0.001**	Supported
H3	NR → TS	0.15	0.010*	Supported
H4	CH → TS	0.20	<0.001**	Supported
H9	TS → RI	0.70	<0.001**	Supported
Moderating Effects of Social Media Marketing				
H5	SMM*TI → TS	-0.09	0.093	Not Supported
H6	SMM*SQ → TS	0.07	0.139	Not Supported
H7	SMM*NR → TS	0.12	0.027*	Supported
H8	SMM*CH → TS	0.01	0.422	Not Supported

Note: $p < 0.01$ **, $p < 0.05$ *

4.5.1.1 Direct Relationship

Four hypotheses were proposed to examine the direct relationship between destination resources, namely tourism infrastructures, service quality, natural resources and cultural heritage, and tourists' satisfaction, while another direct hypothesis examines the direct relationship between tourists' satisfaction and revisit intention.

Hypothesis 1 (H1) states that tourism infrastructure (i.e. accommodation, accessibility and facilities) is positively related to tourists' satisfaction. The results indicated that the relationship between both variables was significant, with a path coefficient of 0.11 ($p = .049$). Thus, H1 was supported. The results are in line with past studies from Ramyar and Halim (2020) and Wani et al. (2023) that indicated the importance of tourism infrastructure, specifically accommodation, accessibility and facilities or amenities, towards tourists' satisfaction as tourism infrastructure is a vital source of tourism development and utilization

Hypothesis 2 (H2) service quality is positively related to tourists' satisfaction and the results indicated significance at path coefficient 0.26 ($p < 0.001$). Thus, H2 was supported.

Hypothesis 3 (H3) suggests that natural resources are positively related to tourists' satisfaction. The results indicated a positive relationship between the variables with path coefficient of 0.15 ($p = < 0.001$). Thus, H3 was supported. Hypothesis 4 (H4) suggests that cultural heritage is positively related to tourists' satisfaction. The hypothesis was supported at the significance level of $p < 0.001$ and path coefficient 0.20.

Hypothesis 9 (H9) suggests tourists' satisfaction is positively related to revisit intention. The results showed a positive and significant relationship at $p < 0.001$. Hence, the hypothesis was supported.

4.5.1.2 The Moderating Effects of Social Media Marketing

Four hypotheses were proposed to investigate the moderating effects of social media marketing between the four destination resource dimensions and tourists' satisfaction.

i. Social Media Marketing Moderates the Relationship Between Tourism Infrastructure and Tourists' Satisfaction

In the present study, Hypothesis 5 (H5) suggests that social media marketing positively moderates the relationship between tourism infrastructure and tourists' satisfaction. The results showed that the moderating effect between the variables was not significant ($\beta = -0.09$; $p = 0.093$). Thus, H5 was not supported.

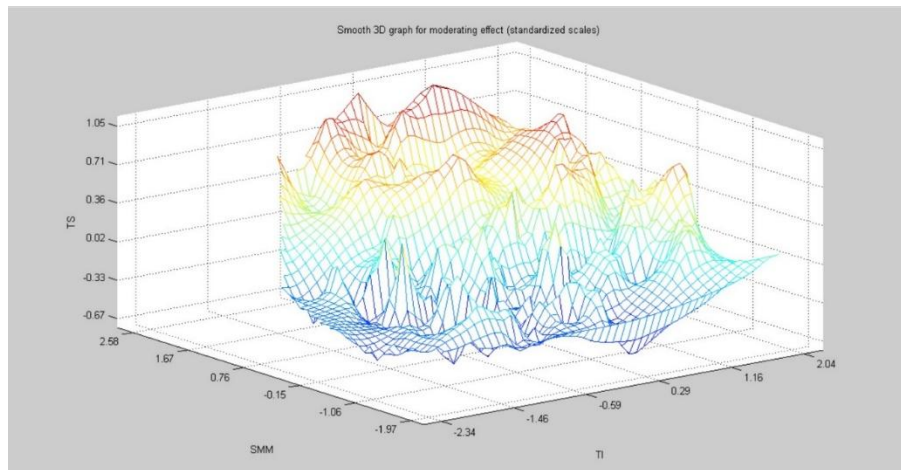


Figure 4.2: High-Low Moderating Effect for Tourism Infrastructure and Tourists' Satisfaction

ii. Social Media Marketing Moderates the Relationship Between Service Quality and Tourists' Satisfaction

Hypothesis 6 (H6) suggested that social media marketing positively moderates the relationship between service quality and tourists' satisfaction. Similarly, the results indicated that the moderating role in the relationship was not significant ($\beta = 0.07$; $p = 0.139$). Hence, H6 was not supported.

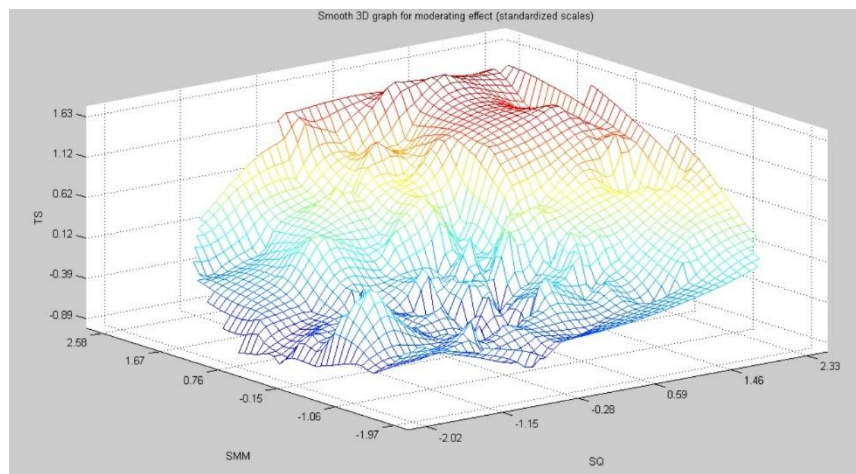


Figure 4.3: High-Low Moderating Effect for Service Quality and Tourists' Satisfaction

iii. Social Media Marketing Moderates the Relationship between Natural Resources and Tourists' Satisfaction

Hypothesis 7 (H7) suggests that social media marketing positively moderates the relationship between natural resource and tourists' satisfaction. Surprisingly, there was a significant positive relationship, with path coefficient at 0.12 and p-value of 0.027. Thus, H7 was supported.

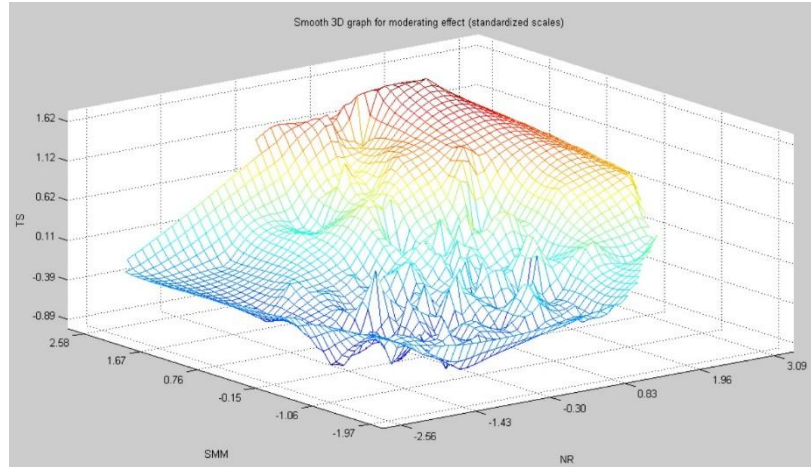


Figure 4.4: High-Low Moderating Effect for the Natural Resources and Tourists' Satisfaction

iv. Social Media Marketing Moderates the Relationship between Cultural Heritage and Tourists' Satisfaction

Lastly, Hypothesis 8 (H8) proposed that social media marketing positively moderates the relationship between cultural heritage and tourists' satisfaction. Contrary to expectations, the results indicated that there was no relationship between the variables ($\beta = 0.01$; $p = 0.422$). Thus, H8 was not supported.

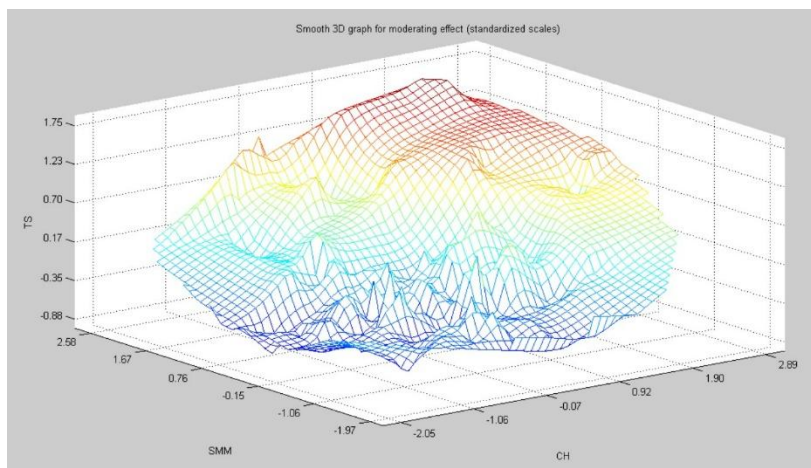


Figure 4.5: High-Low Moderating Effect for Cultural Heritage and Tourists' Satisfaction

4.5.2 Effect Size (f^2)

Following the baseline provided by Cohen (1998), the impact of tourists' satisfaction on revisit intention was found to be large ($f^2 = 0.491$). The impact of tourism infrastructure ($f^2 = 0.020$), service quality ($f^2 = 0.110$), natural resources ($f^2 = 0.059$), and cultural heritage ($f^2 = 0.087$) on tourists' satisfaction was found to be small. Whereas the moderating effect of social media marketing on tourism infrastructure ($f^2 = 0.011$), service quality ($f^2 = 0.010$), and cultural heritage ($f^2 = 0.003$) was found to be weak. As shown in Table 4.7, the effect sizes of constructs ranged between weak (0.003) to large (0.491).

Table 4.7: Effect Size

Hypotheses	Relationship	F^2	Inference
H1	Tourism Infrastructure → Tourists' Satisfaction	0.020	Small
H2	Service Quality → Tourists' Satisfaction	0.110	Small
H3	Natural Resources → Tourists' Satisfaction	0.059	Small
H4	Cultural Heritage → Tourists' Satisfaction	0.087	Small
H5	Social Media Marketing*Tourism Infrastructure → Tourists' Satisfaction	0.011	Weak
H6	Social Media Marketing*Service Quality → Tourists' Satisfaction	0.010	Weak
H7	Social Media Marketing*Natural Resources → Tourists' Satisfaction	0.025	Small
H8	Social Media Marketing*Cultural Heritage → Tourists' Satisfaction	0.003	Weak
H9	Tourists' Satisfaction → Revisit Intention	0.491	Large

4.5.3 Coefficient of Determination (R^2)

In measuring the predictive accuracy of the model, the coefficient of determination (R^2) was used. As shown in Figure 4.2, the model indicated 43% variations in tourists'

satisfaction and 59% in revisit intention. As the values are greater than the recommended 0.1 by Falk and Miller (1992), the data can be deemed as meaningful. Based on the rule of thumb suggested by Hair et al. (2017), tourists' satisfaction and revisit intention have moderate R² in the present study.

4.5.4 Predictive Relevance (Q²)

Following the Stone-Geisser's Q² value (Geisser, 1974; Stone, 1974), tourists' satisfaction was found to have a predictive relevance value of 0.307, and revisit intention indicated a predictive relevance value of 0.490. As the values were considerably more than zero, the study was verified to possess a model that has predictive relevance (Hair et al., 2017). Specifically, the model was found to have large predictive relevance based on the rule of thumb emphasised by Chin (1998), Hair et al. (2017), and Henseler et al. (2009).

4.6 Summary

Chapter 4 had described the analysis of data and the findings of the study. The data was screened using preliminary data analysis. Subsequently, WarpPLS 8.0 was used to analyse data using the PLS SEM analysis method whereby the constructs of the measurement model were assessed using the indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Moreover, the proposed hypotheses were tested, and the structural model was then evaluated for its predictive power. The data indicated that six of the nine proposed hypotheses were supported.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

The current chapter is a recap of the research objectives, questions, and an elaborate discussion of the findings from Chapter 4. The discussion is followed by the studies theoretical and practical implications, and the present study's limitations and recommendations for future research.

5.2 Discussion

By introducing social media marketing to the relationship between destination resource and tourists' satisfaction and revisit intention, the present study proposed nine hypotheses, with four hypotheses looking at the direct relationship between destination resource and tourists' satisfaction, four hypotheses regarding the moderating effects of social media marketing, and one hypothesis to investigate the relationship between tourists' satisfaction and revisit intention. Of the nine hypotheses, only six hypotheses were supported, with only one of the four hypotheses that proposed the moderating effects of social media marketing were supported. The following subsections discuss these findings in detail.

5.2.1 Tourism Infrastructure and Tourists' Satisfaction

As expected, the results of the analysis show that tourism infrastructure is positively related to tourists' satisfaction, supporting H1. The results are in line with past studies from Ramyar and Halim (2020) and Khuong and Luan (2015) that indicated the importance of tourism infrastructure, specifically accommodation, accessibility and facilities or amenities,

towards tourists' satisfaction as tourism infrastructure is a vital source of tourism development and utilization. Without equipping necessary facilities, tourism operations will be directly impacted and consequently negatively impact tourists' satisfaction (Abdullah et al., 2014; Wani et al., 2023). Additionally, the results are in line with past studies from Canson and Caelian (2022), which suggest that the quality and availability of amenities and ancillary services significantly influence tourists' overall satisfaction. Adequate and well-maintained tourism infrastructure, such as accommodation facilities, transportation, and tourist information centres, are crucial in enhancing the overall experience of ecotourists visiting these protected areas. Additionally, adequate accommodation, accessibility and facilities (Jusoh et al., 2019) can contribute to higher satisfaction levels among tourists to ecotourism sites.

Furthermore, tourism infrastructure, from transportation to accommodation and tourist facilities, can play a vital role in determining the level of tourists' satisfaction within protected areas. As indicated by the locals, proper infrastructure development and maintenance is essential to ensure the sustainability of ecotourism activities and a positive experience for tourists. Moreover, they agreed that tourism infrastructure is an essential component that can directly impact the socio-cultural aspects of the host communities, such as employment opportunities and improved quality of life.

5.2.2 Services Quality and Tourists' Satisfaction

The results of analysis demonstrated a significant relationship between service quality and tourists' satisfaction, significantly supporting H2. This is consistent with past studies that denoted the significance of service quality meeting the customer's needs and ultimately providing them with the satisfaction of services provided by an organisation or

at a destination (Ahn et al., 2007; Parasuraman et al., 1985; Booms, 1983). Additionally, the significance of this result adds to the literature and the measurability of the THEMEQUAL model in national parks and nature reserves. Even then, the results are in line with studies by Tsang et al. (2012), and Luo and Li (2024) that establish that the tourists often seek human touch at destinations whereby employees participate actively during the entire service process. Moreover, the result from this hypothesis stresses the importance of service employees and their training towards the concept of customer orientation to meet their needs and provide polite and friendly responses to form positive and pleasant experiences, while providing them a space to feel safe and welcomed at the destination (Carmen, 1990; Saleh & Ryan, 1991; Pikkemaat & Schuckert, 2007; James 2021).

The findings also indicate that service quality significantly predicts tourists' satisfaction. This is consistent with the findings of previous studies, such as the work of (Cho et al., 2014), which suggests that service quality is more strongly related to tourists' intentions to revisit and recommend the destination. Good service quality, including aspects like friendliness, responsiveness, and reliability, can contribute to higher levels of satisfaction among tourists to ecotourism sites.

From the interviews with tourists and local authorities, it was evident that the level of service quality provided at the ecotourism sites in Sarawak plays a crucial role in shaping tourists' satisfaction. Tourists emphasized the importance of courteous and knowledgeable staff, efficient booking and information services, and well-organised tour programmes in enhancing their overall experience. Additionally, the local authorities acknowledged the need to continuously improve service quality through training and capacity-building

initiatives for tourism service providers, as this can directly impact the competitiveness of the ecotourism destinations in Sarawak.

5.2.3 Natural Resources and Tourists' Satisfaction

Congruent with past studies, the results from analysing H3 indicated a positive relationship between natural resources and tourists' satisfaction. This is aligned with studies by Kamri (2013) and Lo et al., (2017) that indicted the significance of natural resources of a destination in influencing tourist behaviour. Moreover, results of the study are congruent with results by Coghlan (2012) that indicated tourist satisfaction is a key outcome for protected areas. Thus, the study reinforces that the overall nature and landscape of destinations must be preserved to meet the expectations of nature lovers to remain competitive. This aligns with the conclusions drawn by Ballantyne et al. (2009), who emphasised the importance of conservation efforts and stakeholder collaboration in maintaining the quality of natural areas within sustainable tourism development. Tourists visiting ecotourism sites in Sarawak, such as the Semenggoh Wildlife Centre, Bukit Sembiling Nature Reserve, and Bukit Hitam Nature Reserve, highly value the pristine natural environments, diverse flora and fauna, and well-preserved ecosystems.

Maintaining the natural resources and environmental quality of these ecotourism sites is crucial in ensuring a satisfactory experience for tourists. As mentioned by the local authorities, collaborative efforts between tourism stakeholders, conservation agencies, and local communities are essential to safeguard the natural assets and promote sustainable ecotourism practices. Tourists have also expressed a strong desire to see more environmentally friendly initiatives implemented at these sites, such as comprehensive waste

management systems, habitat restoration projects, and environmental education programmes that raise awareness and foster a sense of stewardship among tourists.

5.2.4 Cultural Heritage and Tourists' Satisfaction

This study hypothesised that cultural heritage is positively related to tourists' satisfaction. As expected, the hypothesis was supported. This is aligned with studies by Domínguez-Quintero et al. (2020), Zhang et al. (2018) and Tian et al. (2020) that suggest that the authenticity of cultural heritage has positive effects on tourists' satisfaction. Especially in Sarawak, where nature reserves and national parks are surrounded by teeming cultural resources, environment and handicrafts that are “real” and “primitive”, tourists tend to seek historical settings to understand various connotations that make cultural heritage a principal driver in their journey of leisure.

The ecotourism sites in Sarawak also allow tourists to immerse themselves in the rich cultural heritage of the local indigenous communities. Tourists have expressed a strong appreciation for the opportunity to learn about the traditional lifestyles, customs, and craftsmanship of the Iban, Bidayuh, and Orang Ulu tribes. Moreover, tourists have highlighted the positive impact of well-preserved cultural sites, such as longhouses, handicraft workshops, and cultural performances, in enhancing their overall satisfaction and understanding of the local way of life. The local authorities have recognised the significance of preserving and showcasing these cultural elements as part of the ecotourism experience, as it not only enhances tourists' satisfaction but also contributes to the preservation of the local cultural identity and traditions.

5.2.5 The Moderating Effects of Social Media Marketing

Based on the findings of the study, it was found that social media marketing was only able to moderate the relationship between natural resources and tourists' satisfaction. Despite the lack of a moderating effect, the study highlights the importance of developing a comprehensive digital marketing strategy that complements the natural and cultural assets of Sarawak's ecotourism sites. By leveraging social media platforms to showcase the unique features of these destinations, ecotourism providers can potentially attract a wider audience, increase awareness, and ultimately enhance the overall tourist experience and satisfaction.

5.2.5.1 Social Media Marketing Moderates the Relationship between Tourism Infrastructure and Tourists' Satisfaction

The study hypothesized that social media marketing positively moderates the relationship between tourism infrastructure and tourists' satisfaction. Despite the analysis of the direct relationship indicating a positive relationship, the analysis of the moderating effects did not show significant relationship between the variables, resulting in H5 not being supported. This study contradicts the study by Tan and Wu (2016) that a tourists' intention to visit a destination is affected by the cognitive destination image especially those concerned with basic infrastructure. A possible explanation is that cognitive destination images with regards to depicted infrastructure online has minimum to no role in moving potential tourists to visit a destination. This finding also differs from the conclusions drawn by Hwang et al. (2018) who suggested that social media marketing can enhance the impact of destination resources on tourist satisfaction.

A possible explanation for this unexpected result may be that tourists visiting Sarawak's ecotourism sites place a greater emphasis on the quality and authenticity of the natural and cultural experiences, rather than relying heavily on social media information to

inform their satisfaction. Many tourists may seek out these destinations for their immersive and off-the-grid experiences, which may make them less influenced by online marketing efforts. Moreover, the limited adoption of digital marketing strategies by ecotourism providers in Sarawak may also contribute to the lack of a moderating effect of social media marketing. According to tourists, ecotourism providers in Sarawak have yet to fully leverage the potential of digital platforms to effectively promote their destination resources and enhance the overall tourist experience. In terms of infrastructure, tourists appear to value the natural and cultural attributes of the sites more than the digital information available online.

Nonetheless, the findings suggest that social media marketing can still play a role in enhancing tourists' satisfaction, but its impact may be more pronounced in the promotion of destination experiences and the facilitation of information sharing among tourists.

5.2.5.2 Social Media Marketing Moderates the Relationship between Service Quality and Tourists' Satisfaction

Next, the study had hypothesised that social media marketing positively moderates the relationship between service quality and tourists' satisfaction. The results of the study showed that there were no significant relationships between the constructs, resulting in H6 not being supported. This is contradictory to studies that indicate social media marketing as a brand building platform and a means of enhancing the levels of service awareness (Ramanathan et al., 2017; Naseem, 2019). A possible explanation is that current studies of social media marketing in relations to service quality examines the quality of services offered on the internet or virtually, rather than physical services. Additionally, another possibility is that the service quality dimensions are not widely accepted or required across the world, affecting the quality dimensions (Naseem, 2019).

According to tourists, this may be due to the fact that ecotourism providers in the region have not yet fully embraced and implemented effective social media marketing strategies to showcase their service offerings and cater to the needs of their target market. As noted in the findings of Maying et al. (2021), the level of digital marketing adoption among rural tourism providers in Sarawak is currently minimal, with most information about these destinations being shared through personal blogs and websites of previous visitors. The same is noted about ecotourism destinations in Sarawak. This lack of a robust social media presence and digital marketing efforts may limit the ability of ecotourism providers to leverage online platforms to enhance the perceived service quality and, consequently, its impact on tourists' satisfaction.

However, it is important to note that social media marketing can still play a significant role in improving tourists' satisfaction, particularly in terms of facilitating information sharing, fostering engagement, and enhancing the overall tourism experience. By actively engaging with tourists on social media, ecotourism providers can gather valuable feedback, address concerns, and build stronger relationships with their target audience, which can ultimately contribute to higher satisfaction levels. se their service offerings and cater to the needs of their target market.

5.2.5.3 Social Media Marketing Moderates the Relationship between Natural Resources and Tourists' Satisfaction

The study also hypothesised that social media marketing positively moderates the relationship between natural resources and tourist' satisfaction, supporting H7. This indicates that the positive impact of natural resources, such as pristine landscapes, diverse flora and fauna, and authentic cultural experiences, on tourists' satisfaction is enhanced when ecotourism providers effectively leverage social media marketing strategies. This indicates

that the positive impact of natural resources, such as pristine landscapes, diverse flora and fauna, and authentic cultural experiences, on tourists' satisfaction is enhanced when ecotourism providers effectively leverage social media marketing strategies.

Through social media platforms, ecotourism providers in Sarawak can showcase the unique natural and cultural assets of their destinations, sharing captivating visuals, narratives, and interactive content that can significantly influence tourists' perceptions and satisfaction. From the perspective of tourists, the online promotion of these natural resources can help to set their expectations and increase their anticipation, leading to a more satisfying overall experience. This finding is consistent with the study by Nadaraja and Yazdanifard (2013) and Ozdemir and Celebi (2015), which identified the necessity of social media marketing in ensuring the efficiency of this progress. This result also provides support for Nizeyimana and Kalulu (2017) that higher involvement of social media marketing as marketing tool contributes to higher level of efficiency in promoting tourism which eventually leads to better tourism development and ultimately satisfaction. Therefore, shared content of tourism information in social media can develop a destination's identity and demonstrate positive relationship between natural resources and tourists' satisfaction (Lim et al., 2012; Kim et al., 2017).

Based on the interview with tourists, the study suggests that ecotourism providers in Sarawak should consider developing a comprehensive social media marketing strategy that not only showcases the natural and cultural assets of their destinations but also fosters engagement, builds trust, and provides valuable information to potential visitors. By doing so, ecotourism providers can utilise the power of social media to amplify the positive impact of their natural resources on tourists' satisfaction and overall experience.

5.2.5.4 Social Media Marketing Moderates the Relationship between Cultural Heritage and Tourists' Satisfaction

Lastly, the study hypothesized that social media marketing positively moderates the relationship between cultural heritage and tourists' satisfaction. The results from the study showed a non-significant relationship between the constructs, thus H8 was not supported. Past studies had indicated the crucial role of social media marketing as a tool to communicate and promote local handicrafts and cultures (Youssef, 2020; Liang et al., 2021). However, the current study contradicts the results of that explain the consumer decision process phase or journey in a towards a destination (Sallaku & Vigolo, 2022; Pop et al., 2022; Guerreiro et al., 2019). A possibility could be that cultural heritage resources tend to be more impactful on-site as the social interaction and local authentic cues provide tourists with a connection to the local social context, people and places. This suggestion is in line with the study conducted by Filieri, Lin, Pino, Alguezaui, and Inversini (2021) that found that information presented online did not affect tourists' decisions.

Additionally, the findings of the study suggests that the positive impact of cultural heritage, such as traditional customs, indigenous crafts, and local culinary experiences, on tourists' satisfaction is not significantly enhanced by the implementation of effective social media marketing strategies. One possible explanation for this finding is that tourists visiting Sarawak's ecotourism sites may place a greater emphasis on the tangible and experiential attributes of the destinations, such as natural landscapes and wildlife, rather than the digital representation and promotion of cultural heritage on social media. While social media can serve as a platform to showcase and share information about cultural heritage, the direct engagement and immersive experience of these cultural elements may be a more significant driver of tourists' satisfaction.

Moreover, interactions with tourists reveal that the authenticity and genuine representation of cultural heritage are crucial factors in enhancing satisfaction, which may not be adequately captured through social media marketing alone. Ecotourism providers in Sarawak may need to focus on providing authentic and enriching cultural experiences that allow tourists to directly engage with local communities, traditions, and customs to fully realise the positive impact of cultural heritage on overall satisfaction.

5.2.6 Tourists' Satisfaction and Revisit Intention

As expected, the hypothesis that tourists' satisfaction is positively related to revisit intention (H9) was supported. The research findings demonstrate a strong positive relationship between tourists' satisfaction and their intention to revisit the ecotourism sites in Sarawak. This is in line with studies that suggest that overall satisfaction of provided attraction and services provide a clear view of tourists' behaviour, the current performance of tourism destinations, and provide a clear picture of tourists needs (Operinde & Praise, 2020; Ramyar & Halim, 2020; Wang et al., 2016). This implies that the studies of tourist satisfaction contribute to the understanding of their decisions towards services, products, perceived value, and social benefits they receive from a destination.

Tourists who have had a positive experience at the ecotourism sites in Sarawak, characterised by high-quality services, well-preserved natural resources, and authentic cultural interactions, have expressed a strong desire to return to these destinations. Moreover, satisfied tourists are more likely to share their positive experiences with friends, family, and social networks, potentially attracting new visitors to the ecotourism sites in Sarawak.

The local authorities have recognised the importance of maintaining high levels of tourist satisfaction to ensure the long-term sustainability and competitiveness of the

ecotourism industry in Sarawak. By addressing the key factors that contribute to tourists' satisfaction, such as service quality, natural resource management, and cultural heritage preservation, local authorities can create a more attractive and desirable ecotourism destination, leading to increased revisit intentions and positive word-of-mouth referrals.

5.3 Theoretical and Practical Implications

The current study holds several implications that add to the theoretical body of literature and the practical usage of tourism stakeholders. The implications are outlined below:

5.3.1 Theoretical Implications

The findings of the study contribute to the literature relating to destination resource, tourists' satisfaction, social media marketing, and revisit intention. Firstly, the study adopts and adapts a different service quality model, namely THEMEQUAL, in the attempts to measure the quality of a destination's employee service delivery in meeting tourists' needs. While the SERVQUAL model is served as a more global scale skewed towards organisation service delivery to meet customer expectations and needs, the THEMEQUAL model is more commonly used in theme parks for a similar outcome, but with added dimensions such as safety and security, and courtesy. With this in minds, the study adapted the model in Sarawak's ecotourism destinations to determine the performance of service quality and tourists' satisfaction.

Secondly, the use of social media marketing as a moderator to enhance destination resource and tourists' satisfaction is a relatively new concept that has limited studies. While there have been literature linking social media marketing to customer satisfaction (Ngaraj & Gopal, 2022; Kaosiri, Fiol, Tena, Artola, & García, 2017), there has yet to be studies that

provide to its role as a moderator towards enhancing tourists' satisfaction. Similarly, this adds to the technology readiness and adaptability of ecotourism stakeholders to engage with tourists on a global scale.

Next, the present study contributes to the knowledge of ecotourism context, especially to literature in Asia and specifically Malaysia. As previously mentioned, empirical studies have investigated the conventional method of destination resource and its implication on destination competitiveness, or destination image towards competitive advantage. While competitiveness is an important factor to gaining edge over competitors, it is important to understand how current resources can affect tourist behaviours and their intention to revisit a destination.

5.3.2 Practical Implications

In the tourism industry, a main concern of tourism stakeholders is to ensure that tourists return to their destination repeatedly without feeling bored or having a sense of repetition. In an everchanging environment, destination resources must be constantly improved upon to ensure that new and returning tourists feel that the destination offers something unique and attractive. Outlined below are several recommendations.

First, tourism infrastructures must be well kept and maintained by each destination. Tourist infrastructures are notably the first point of arrival of any tourist in a country, let alone a tourist destination. In order to ensure tourist volume, the accommodation and facilities provided must be around and at a destination must be made easily accessible for tourists to move from one point to the other.

Second, employees at a destination must be fully informed of the destination resources. As observed in the service quality measurement, employees are expected by tourists to be fully informed of the location, its various events and performances, and most importantly to be courteous at all times. Hence, to increase the quality of services, employees may be exposed to more training or international standards of services that ensure employees are constantly maintaining tourists' satisfaction.

Next, destination managers must understand the importance of technological integration and adaptation to attract more tourist. Evidence from this study shows that social media marketing significantly enhances the relationship between natural resources and tourists' satisfaction. This shows that the involvement of social media marketing serves as a tool that can promote naturally recurring flora and fauna more effectively.

5.3.3 Policy Recommendations

Based on the findings of this study, several policy recommendations can be made to inform and support Malaysia's tourism policies, particularly in the areas of ecotourism development, destination management, and digital marketing. Firstly, it is essential to enhance digital integration within the tourism sector by investing in digital infrastructure and providing training to boost technology adoption. This will ensure that the tourism industry is well-prepared for the digital age. Secondly, promoting sustainable tourism practices through social media marketing can raise awareness about conservation efforts and encourage responsible tourism behaviour. This aligns with the principles of sustainable tourism and helps preserve natural and cultural resources. Thirdly, supporting local communities by ensuring that tourism development benefits them economically and culturally is crucial. This can be achieved by preserving cultural heritage and natural

resources, which are key attractions for tourists. These policy recommendations are directly relevant to the research findings and provide practical insights for policymakers to enhance the overall effectiveness and sustainability of Malaysia's tourism industry.

It contributes to several key policies and national blueprints in Malaysia. Specifically, it supports the National Tourism Policy 2020-2030, which aims to position Malaysia as a top destination for sustainable tourism by enhancing tourism infrastructure, promoting sustainable practices, and leveraging digital technologies. Additionally, it aligns with the Tourism Malaysia Strategic Plan 2022-2026, which outlines strategies for developing Malaysia's tourism industry, including digital integration and social media marketing. Furthermore, your findings support the Malaysia Digital Economy Blueprint (MyDIGITAL), which aims to transform Malaysia into a digitally driven, high-income nation by highlighting the need for digital marketing and technology readiness in the tourism sector. By aligning policy recommendations with these national blueprints, the research provides valuable insights for policymakers to enhance the sustainability and competitiveness of Malaysia's tourism industry.

5.4 Limitations of the Study

While the study had added several theoretical and practical implications, it is not without limitation that require attention in future research. The main limitation of the study is the size of the data that was served as an example of the entirety of Sarawak's national park and nature reserve study. This implies that the data may not accurately depict the impact of destination resource and tourist satisfaction throughout Malaysia as a whole, and other countries globally.

Moreover, the THEMEQUAL model is a conceptual framework that has yet to be fully explored in its employability in national parks and nature reserves. Despite results in this study indicating reliability and a positive influence on tourists' satisfaction, the framework might still need further improvements before fully integrating into service quality studies in the setting of ecotourism on a global scale.

Additionally, a majority of the study's respondents are domestic rather than international. As the study used social media marketing with the intent to attract both international and domestic tourists, the result of the study may not match the actual marketing mix of the Sarawak ecotourism destinations. Hence, there is a possibility that the data could not fully represent the picture of ecotourism in Sarawak and its technological adaptability and readiness.

5.5 Directions for Future Research

As discussed previously, the present study faces several limitations paving the way for future research to further develop the constructs used in this study and contribute to the body of knowledge relating to ecotourism in Sarawak.

Firstly, this study only focuses on specific national parks and nature reserves, leading to a small sample size to a larger population. Further research could test the model in either larger scales in more destinations throughout Sarawak or increase the sample size of the study. Further research could also conduct a comparative study across different countries to see if the present model yields similar results to cross-validate and establish a valid conclusion to the destination resource and tourists' satisfaction model.

Second, the present study incorporated a newly adapted service quality model to further validate the quality of services provided at the destinations. As the present study intends to move away from the conventional SERVQUAL model, the study adapts a THEMEQUAL model commonly used in theme parks and adapts it to the national parks and nature reserves of Sarawak due to the similarity its similarities, despite one being man-made and the other natural made. Future research could provide more insight into the relevance and adaptability of this model, and at the same time, develop a model and framework that could better study the service quality of ecotourism destinations to improve theoretical and practical implications for tourism stakeholders and scholars.

Finally, the moderating variable of the study was not fully able to grasp the technological readiness of the ecotourism destinations as the study only employed social media marketing. Future studies could, instead, investigate the readiness of Sarawak ecotourism to move towards artificial intelligence, metaverses, and study the perceived value, behaviour, and readiness of tourists and local communities towards the digitisation of Sarawak ecotourism.

5.6 Conclusion

This study enhances the literature on destination resources' impact on tourists' satisfaction and revisit intention by applying the THEMEQUAL service quality model to Sarawak's tourist destinations. The findings confirm that destination resources positively influence tourists' satisfaction and revisit intention. Notably, social media marketing significantly moderates the relationship between natural resources and tourists' satisfaction, underscoring its potential in ecotourism marketing. Similarly, several policy recommendations can be aligned to enhance ecotourism in Sarawak, such as enhance digital

integration, promote sustainable practices, and support local communities to improve digital infrastructure, boost technology adoption in tourism, and ensure development benefits of local communities by preserving cultural heritage and natural resources. Further research should explore the role of social media marketing in advancing digital integration and technology readiness in Sarawak's tourism industry. These recommendations would provide practical insights for policymakers and tourism stakeholders, aligning with the sustainable tourism principles.

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APPENDICES

Appendix A: Journal Publications

1. **Khoo, S. Y. Y.,** Lo, M. C., Mohamad, A. A., & Thurasamy, R. (2025). Exploring tourist behavior and interaction with user-generated content on social media: A case of Sarawak's national parks and nature reserves. *Tourism: An International Interdisciplinary Journal*. [Manuscript submitted for publication].
2. **Khoo, S. Y. Y.,** Lo, M. C., & Mohamad, A. A. (2025). Assessing the impact of tourism infrastructure quality on tourist satisfaction and revisit intention to Sarawak national parks: The moderating role of social media influencers. *Electronic Journal of Applied Statistical Analysis*. [Manuscript submitted for publication].

Appendix B: Questionnaire



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Sarawak Malaysia

Dear Respondent,

This survey is carried out as a research requirement for Master of Science (Management) at Universiti Malaysia Sarawak (UNIMAS).

This questionnaire focuses on obtaining the views from respondents in Malaysia on **‘Destination Resources in Ecotourism on Satisfaction and Revisit Intention: Digital Inclusion of Social Media Marketing in Sarawak Tourist Destinations.’**

I would be very grateful if you could spare some time off your busy schedule to answer this questionnaire and return it back to the enumerator. This survey should not take more than 10 minutes to answer.

Your feedback and information given will remain confidential within reasonable limits and will only be used for analysis purposes only.

Thank you for your participation.

Sincerely

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Section I: Demography

This section is intended to identify the current study's respondents. Kindly choose the related answers.

Gender

- ☐ Female
- ☐ Male

Age

- ☐ 16- 20 years' old
- ☐ 21-30 years' old
- ☐ 31-40 years' old
- ☐ 41-50 years' old
- ☐ $\geq$ 51 years' old

Country of Residence

- ☐ Malaysia
- ☐ Others: _____

Ethnic Group

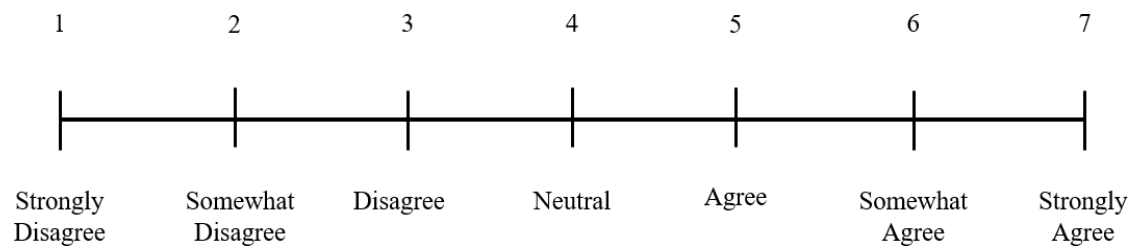
- ☐ Malay
- ☐ Chinese
- ☐ Indian
- ☐ Dayak
- ☐ Caucasian
- ☐ African – American
- ☐ Hispanic
- ☐ Native American
- ☐ Others: _____

Education ☐ High School ☐ Undergraduate ☐ Postgraduate ☐ Others
Occupation ☐ Government ☐ Private Organisation ☐ Self-Employed ☐ Not Employed/Retiree
Are you: ☐ Revisiting ☐ First time visiting
Purpose of visit: ☐ Personal Trip ☐ Business Trip ☐ Studying
Location: ☐ Niah National Park ☐ Sama Jaya Nature Reserve ☐ Semenggoh Wildlife Centre ☐ Bukit Sembiling ☐ Bukit Hitam

Section II: Destination Resources

Kindly circle the answer which most accurately describes how you feel.

Responses are based on a seven-point scale, as follows:



Tourism Infrastructure								
1	The destination provides adequate transportation services.	1	2	3	4	5	6	7
2	The travel services provided are sanitized frequently.	1	2	3	4	5	6	7
3	The visitor information centre is conveniently placed.	1	2	3	4	5	6	7
4	The quality of roads are up to my expectation.	1	2	3	4	5	6	7
5	The frequency of the transportation provided are adequate.	1	2	3	4	5	6	7
6	The bridges and walkways are strategically placed.	1	2	3	4	5	6	7
7	The paths and walking tracks are clearly routed.	1	2	3	4	5	6	7
8	The routes are wheelchair friendly.	1	2	3	4	5	6	7
9	The signages for vehicles and pedestrians are well-placed.	1	2	3	4	5	6	7
10	There are sufficient health/medical facilities to serve tourists.	1	2	3	4	5	6	7
11	The telecommunication system for tourists are adequate.	1	2	3	4	5	6	7

12	The quality and service at the destination were up to my expectations.	1	2	3	4	5	6	7
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Service Quality								
13	The staff have neat appearances.	1	2	3	4	5	6	7
14	The facilities are visually appealing.	1	2	3	4	5	6	7
15	The staff can accurately respond to epidemic prevention and control.	1	2	3	4	5	6	7
16	The staff are willing to help visitors.	1	2	3	4	5	6	7
17	Visitors feel safe during the visit.	1	2	3	4	5	6	7
18	The staff have sufficient knowledge to answer visitors' special requests about health issues.	1	2	3	4	5	6	7
19	The staff members are consistently polite.	1	2	3	4	5	6	7

Natural Resources								
20	There are flora and fauna unique to the destination.	1	2	3	4	5	6	7
21	The cleanliness of the nature reserve is up to my expectations.	1	2	3	4	5	6	7
22	The destination is unique and authentic.	1	2	3	4	5	6	7
23	The destination is free from air and noise pollution.	1	2	3	4	5	6	7
24	It is a very knowledgeable site for visitors.	1	2	3	4	5	6	7
25	The species at the destination vary largely.	1	2	3	4	5	6	7
26	It is a wilderness and unspoiled area.	1	2	3	4	5	6	7

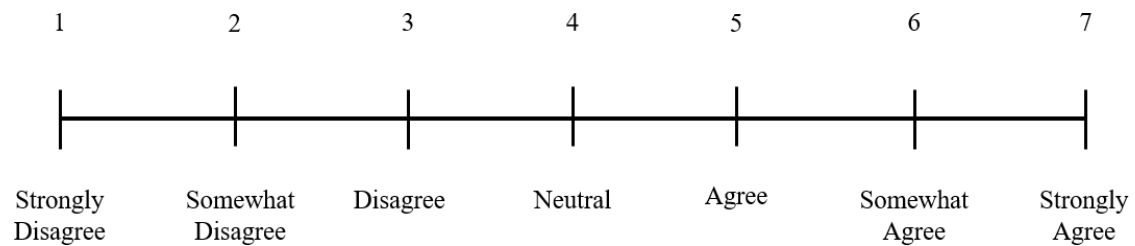
Cultural Heritage								
27	Visiting the nature reserve provides me with the opportunity to observe the	1	2	3	4	5	6	7

	diversity of the cultural/historical attractions at the destination.							
28	Visiting the nature reserve provides me with the opportunity to experience local life.	1	2	3	4	5	6	7
29	Visiting the nature reserve incite my desire to learn about other cultures, their ways of life, and heritage.	1	2	3	4	5	6	7
30	The nature reserve markets high-quality arts and crafts in the destination	1	2	3	4	5	6	7
31	The nature reserve promotes cultural or religious events of the locals.	1	2	3	4	5	6	7
32	Visiting the nature reserve provides me with opportunities for learning and experiencing cultural attractions of the locals.	1	2	3	4	5	6	7

Section III: Social Media Marketing

Kindly circle the answer which most accurately describes how you feel.

Responses are based on a seven-point scale, as follows:



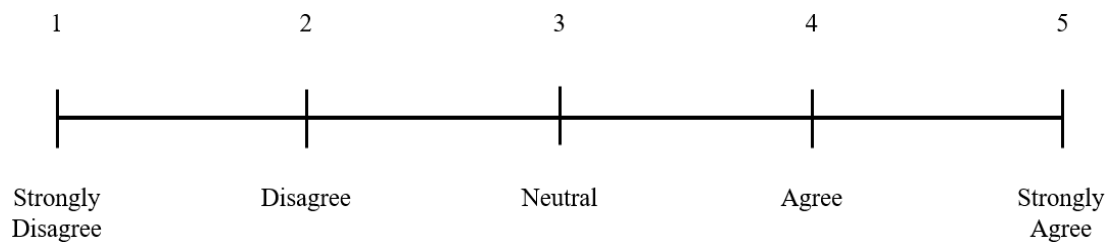
Social Media Marketing								
33	I enjoy viewing photos and videos from all around the world shared on social network sites because it can give me an idea for my next tourist destination visit.	1	2	3	4	5	6	7
34	I consider comments on social network sites to be a relevant source of information about destination.	1	2	3	4	5	6	7
35	Shared photos and videos on social network sites make me think about destinations I have not thought about before.	1	2	3	4	5	6	7
36	I have already changed my opinion about destination after reading comments on social network sites.	1	2	3	4	5	6	7
37	Shared photos and videos on social network sites make me want to visit the attractions I have already seen in those photos and videos.	1	2	3	4	5	6	7
38	I consider comments my friends and relatives made on social network sites to be more relevant than from people I do not know.	1	2	3	4	5	6	7
39	Positive comments on social network sites influence my desire to visit	1	2	3	4	5	6	7

	destinations I have not thought about before.							
40	Shared photos and videos make me want to find out information about the destination in question.	1	2	3	4	5	6	7
41	I am interested in photos and videos shared on social network sites.	1	2	3	4	5	6	7
42	People's comments on social network sites always get my attention.	1	2	3	4	5	6	7

Section IV: Tourists' Satisfaction and Revisit Intention

Kindly circle the answer which most accurately describes how you feel.

Responses are based on a seven-point scale, as follows:



Tourists' Satisfaction						
43	Overall, I am satisfied with my visit to Kuching.	1	2	3	4	5
44	I am more satisfied with Kuching than any other city I have visited.	1	2	3	4	5
45	My trip to Kuching met my expectation.	1	2	3	4	5
46	My trip to Kuching is worthy of my expenses and time.	1	2	3	4	5
47	I am positive about revisiting Kuching in the future.	1	2	3	4	5

Revisit Intention						
48	I am willing to return to Sarawak in the future.	1	2	3	4	5
49	I am willing to recommend Malaysia to family and friends as a holiday destination.	1	2	3	4	5
50	I have a wonderful image of Sarawak as a holiday destination.	1	2	3	4	5
51	If I get a chance again, I would choose Sarawak again.	1	2	3	4	5
52	I feel at home in Sarawak.	1	2	3	4	5
53	I will visit Sarawak more often in the future.	1	2	3	4	5

Thank you very much for your valuable time to complete this questionnaire.

Your cooperation is very much appreciated.