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FACULTY OF TOURISM

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MASTER IN TOURISM MANAGEMENT

THESIS

SABINA SAMYRATBEKOVA

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DECLARATION

I hereby declare that this is my original work and has never been presented for a degree or any award in any university or academic institution of higher learning. It is all my effort under the supervision of Dr. Baris Memduh Eren.

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ABSTRACT

This study examines tourism resources, infrastructure development and tourist satisfaction as the main factors influencing sustainable tourism development in Kazakhstan. This study uses a mixed-methods approach to identify strategies that enhance tourism competitiveness while maintaining economic, environmental and social sustainability. The analysis is grounded in theories of sustainable tourism and employs structured questionnaires to collect data from stakeholders in Kazakhstan's tourism industry. Results indicate significant impacts of infrastructure and tourist satisfaction on sustainable practices. Policy recommendations include investing in infrastructure, marketing Kazakhstan’s unique cultural assets, and implementing measures to boost local involvement and ecological conservation. This study fills a critical gap in understanding Kazakhstan's potential as a sustainable tourism destination and highlights the importance of strategic planning in developing the sector.

Keywords: Sustainable tourism development, Kazakhstan, tourism resources, infrastructural development, tourist satisfaction, ecological sustainability, economic impact, social benefits, tourism strategies.

ÖZET

Bu çalışma, Kazakistan'da sürdürülebilir turizm gelişimini etkileyen ana faktörler olarak turizm kaynaklarını, altyapı gelişimini ve turist memnuniyetini incelemektedir. Bu çalışma, ekonomik, çevresel ve sosyal sürdürülebilirliği korurken turizm rekabet gücünü artıran stratejileri belirlemek için karma yöntem yaklaşımını kullanmaktadır. Analiz, sürdürülebilir turizm teorilerine dayanmakta ve Kazakistan'ın turizm sektöründeki paydaşlardan veri toplamak için yapılandırılmış anketler kullanmaktadır. Sonuçlar, altyapı ve turist memnuniyetinin sürdürülebilir uygulamalar üzerinde önemli etkileri olduğunu göstermektedir. Politika önerileri arasında altyapıya yatırım yapılması, Kazakistan'ın eşsiz kültürel varlıklarının pazarlanması ve yerel katılımı ve ekolojik korumayı artırmaya yönelik tedbirlerin uygulanması yer almaktadır. Bu çalışma, Kazakistan'ın sürdürülebilir bir turizm destinasyonu olarak potansiyelinin anlaşılmasında kritik bir boşluğu doldurmakta ve sektörün geliştirilmesinde stratejik planlamanın önemini vurgulamaktadır.

Anahtar Kelimeler: Sürdürülebilir turizm gelişimi, Kazakistan, turizm kaynakları, altyapı gelişimi, turist memnuniyeti, ekolojik sürdürülebilirlik, ekonomik etki, sosyal faydalar, turizm stratejileri.

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LIST OF ABBREVIATION

BRI	Belt and Road Initiative
DMO	Destination Management Organization
EBTS	Economic Benefit from Tourism Scale
EIAs	environmental impact assessments
GDP	Gross Domestic Product
GNP	gross national product
ICH	Intangible Cultural Heritage
KKNP	Katon-Karagay National Park
LAC	Limits of Acceptable Change
MICE	Meetings, Incentives, Conferences and Exhibitions
NGO	non-governmental organizations
OECD	Organization for Economic Co-operation and Development
SDGs	Sustainable Development Goals
TBL	Triple Bottom Line
TCC	tourism carrying capacity
TRS	Tourism Revenue Sharing
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	World Tourism Organization
UNWTO	United Nations World Tourism Organization
USSR	The Union of Soviet Socialist Republics
WHS	World Heritage Site
WTO	World tourism organization
WTTC	World Travel and Tourism Council

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Over the past decades, tourism has been one of the most important economic sectors in the world. Additionally, numerous countries are attempting to enhance their resources and identify their capabilities in this sector via appropriate evaluation and preparation of the ways they act (UNWTO, 2022). One of the fastest-growing and innovative industries worldwide is the travel and tourism industry. The industry contributes around 8% of the world's Gross Domestic Product, 7% of worldwide financial investments, 11% of global consumption, and 5% of international tax revenues (WTTC, 2022). The tourism sector grows at a pace of four to five per cent per year on average (WTTC, 2022). There were 980,000,000 foreign visitors to the countries in total in 2011 (UNWTO, 2012). Over 10% of all employed individuals globally are engaged in the tourist industry (UNWTO, 2022). Nowadays, one of Kazakhstan's prominent and fast-developing leisure industries is the tourism industry. Kazakhstan, the ninth biggest region worldwide, has tremendous growth potential for the tourist industry in the years to come due to its plentiful supply of resources, as well as its rich culture, traditions, and history (Kazakhstan National Tourism Development Report, 2022).

Ranked 81st in the World Economic Forum's Travel and Tourism Competitiveness Index, Kazakhstan has emerged as a global leader in international tourism. Kazakhstan's tourism sector is extremely diverse and offers great opportunities for growth in all areas, from business to historical and cultural tourism, from winter sports and outdoor recreation to innovative travel and eco-tourism. Almost all types of tourism are available in Kazakhstan. To improve the tourism sector, priority areas for cluster development have been identified at the national level. Sustainable tourism is described by the World Tourism Organization (2013) as the development of tourism-related sectors to ensure that the requirements of tourists and local communities are fulfilled, while the resources necessary for the sector's long-term growth are preserved and enhanced. Sustainable tourism metrics, proposed by Choi and Sirakaya (2005), are a useful instrument for evaluating and managing tourism with a liable method.

Kazakhstan offers many different attractions and stunning landscapes that attract visitors with their breathtaking beauty and distinctiveness. Thus, to encourage and protect sustainable tourism in this emerging country, it is essential to precisely analyze the desires of investors,

understand the key components, and find a way to balance the desires of the political authorities and experts in the economy.

If the right strategies are employed successfully, local people's satisfaction with the expansion of tourism and their active involvement in the industry will increase consequently. Thus, sustainable tourism development can be achieved in this region of sensitive natural heritage (Akbar & Yang, 2022).

The study shows that the worldwide tourism industry has been expanding quickly, and the author has been monitoring Kazakhstan's tourism industry in recent years.

This corresponds to the fact that tourists need to have pleasure and enjoyment (UNWTO, 2022). In Kazakhstan, beach tourism is among the most prevalent types of travel. Nonetheless, there are a number of reasons why foreign travel dominates over domestic and local travel, such as the scarcity of beachside vacation spots, the undeveloped infrastructure, problems with public transportation, the long distances between cities and popular tourist destinations, insufficient marketing of Kazakhstan as a destination for travelers, and lack of an adequate travel offering (Kazakhstan National Tourism Development Report, 2022). However, during the past several years, the trend has reversed, and local and domestic tourists have started to significantly grow. This happened primarily as a result of the government's support of Kazakhstan's tourism sector, the easing of administrative barriers to business transactions, the simplifying of the visa application process for foreign visitors, and advertising programs promoting Kazakhstan both locally and globally as well as a number of important business tourism events that take place in the country (Ministry of Culture and Sports of Kazakhstan, 2022).

The local currency in Kazakhstan lost almost twice as much value after the devaluation that occurred in 2019. The impact of the pandemic five years ago (COVID-19) on Kazakhstan's tourism industry and economy caused a transition in people's priorities from leisure to safety and health. The study examines the elements driving the growth of sustainable tourism and raising the public's knowledge in Kazakhstan (Mamutova, 2020).

The strategy of sustainable growth allocates for the resolution of the growing discrepancies between the severely constrained natural, social, and economic resources of host attractions in the context of an affecting ecological environment and the need to satisfy the demands of consumers (tourists), which drives the rapid expansion of the travel and hospitality sector.

According to the idea of sustainable tourism development, it's important to carefully analyze the effects of this issue in addition to establishing the right foundations for tourism

growth. It is necessary to address the difficult problem of minimizing the detrimental effects of tourism while maximizing its beneficial effects.

Prioritizing the welfare of local residents, the conditions in which they work, and the preservation of the environment is crucial. It's also essential to consider the social and ecological impacts arising from the growth of tourism. Governmental initiatives, which emphasize economic, environmental, and societal objectives, play a pivotal role in ensuring the success of tourism-related achievements.

Although earlier studies have successfully analyzed and evaluated possible future approaches to sustainable tourism, no research has specifically been undertaken to explore the advancement of sustainable tourism in Kazakhstan. Furthermore, no attempts have been made to identify potential measures that could foster sustainable tourism in the country. This research fills an important gap in the academic discourse on sustainable tourism in Kazakhstan (Aimagambetov et al., 2017).

1.2 Problem statement

a) Tourism schemes

Kazakhstan's territory is inhabited by a diverse range of terrain complexity, including mountains, inland sea, eco-systems, and deserts. The issue of comprehensive ecological complex preservation on the basis of strengthening the territory-based protection system becomes essential because of the accelerating rate of economic development and the growing consumption of natural resources. This in turn establishes the necessity of revising old schemes or programs developed by various organizations for the growth of specifically protected natural regions, comprising tourist infrastructure.

Since the adoption of the law on tourism activities in 2001, Kazakhstan has given particular attention to the tourism sector. Activities have started to raise awareness of the tourist attractions and the execution of a number of government programs in this regard. Kazakhstan has worked extensively to grow its tourism sector over the past years, hoping to continue attracting both domestic and foreign tourists but there is still a long gap to the ideal sustainable tourism development in the country.

b) Tourism revenue sharing

Across the world, nature reserves (NR) and protected areas (PA) are adopting tourism as a means of promoting sustainability, with the local people receiving a portion of the relevant revenue. Even if the growth of tourism has brought about some little economic benefits for the

locals, particularly in the field of infrastructure development, there are still particular restrictions on revenue sharing. In several developing countries, these constraints are clearly visible, leading to the local community's limited involvement in the expansion of tourism. In recent years, tourism has become increasingly popular as a means of preserving natural spaces and as a crucial income source for rural populations residing near major tourist destinations. A key approach to ensuring the long-term development of protected areas is now the distribution of tourism-generated revenue to local communities. Contributing to the economic sustainability of local communities through the sharing of revenue from tourism might help them to invest in other areas of development, like agriculture, nutrition, and provide additional advantages to the marketplace (Imanishimwe, Niyonzima, and Nsabimana 2018).The protected areas contain unique natural resources, and one of the primary sources of finance for managing the PAs and enhancing the economic circumstances of locals is tourism revenue. Many environmentalists and conservationists have determined that the greatest approach to counteract conflict between humans and wildlife, which undermines local support for national parks, is through the Tourist Revenue Sharing (TRS). Conservationists want to reduce the costs associated with wildlife and enhance local attitudes towards conservation by distributing tourism-related revenue to local people (Western 2001).

Simultaneously, the preservation of diversity becomes sustainable if the distribution of local resources meets the needs of stakeholders. Therefore, in order to ensure that local communities will continue to support tourism growth over the long term, it is critical to design effective programs for spreading the benefits of tourism to PAs (Rylance, Snyman, and Spenceley 2017). Sharing revenue from tourism is also the foundation of a win-win strategy that prioritizes local economic growth and environmental conservation. Natural landscapes can advance both tourism activities and economic diversification. Additionally, the money generated by tourism will contribute to advancing social services, cultural introduction, and infrastructural development (Akbar and Yang, 2022).

The lack of effective strategies for translating sustainability principles into practice is another significant issue with the concept of sustainable tourism development. The existing strategies do not facilitate the advancement of sustainable tourism within the country. Consequently, desirable results can only be obtained by proper tourism management programs (Aimagambetov et al., 2017).

c) Underdeveloped infrastructure

The country's sustainable tourism industry faces other problems, such as low service levels in some regions, expensive service packages, and inadequate infrastructure development. However, as it was already mentioned, further studies in this field are required to address these issues and improve the country's attractions as a travel destination and sustainable tourism plan (Lipkova et al., 2020).

1.3 Purpose and the Significance of the study

This study examines how key factors such as tourism resources, infrastructure development, and tourist satisfaction affect sustainable tourism development in Kazakhstan. The authors seek to examine the impact of these factors on perceived social benefits, environmental sustainability, and economic benefits. All these factors are important components of sustainable tourism development. The study aims to provide insights into how these components can help promote Kazakhstan as an attractive tourism destination in the future.

Tourism resources such as natural, cultural and historical attractions contribute to attracting tourists and promoting sustainable practices (Nguyen, Ngo, Do and Nguyen, 2020). Similarly, infrastructure development is critical to improving the overall tourist experience and accessibility (Hsu, Chen, Nyaupane, & Lin, 2020). Tourists' satisfaction with quality services and positive experiences is critical to their loyalty and repeat visits (Demirovic Bajrami et al., 2020). Ultimately, the interaction of these elements affects the sustainable outcomes of economic growth, environmental preservation and community well-being.

By analysing these interrelationships, the study aims to provide valuable recommendations to stakeholders in Kazakhstan's tourism industry, enabling them to leverage these factors for sustainable development. This study is in line with the broader goals of sustainable tourism to address pressing challenges and opportunities to enhance Kazakhstan's global competitiveness as a tourism destination. The tourism sector has adopted the concept of sustainable development in order to mitigate the negative effects of mass tourism. Each of these elements such as tourism infrastructure, tourism resources, and tourist satisfaction primarily increases the competitiveness and attraction of a region, which promotes sustainable tourism development.

Kazakhstan is a growing tourist attraction. It is known as the largest inland nation and the ninth-largest country based on emerging tourist attractions. Furthermore, the region's unique and genuine culture has been shaped by the nomadic way of life and rich history of the Kazakh people. There are numerous and diverse opportunities for Kazakhstan's tourism industry.

Numerous types of tourism, including ecotourism, nature tourism, lake-based tourism, health tourism, cultural tourism, educational travel, and recreational tourism, have the potential to thrive in this country.

The Republic of Kazakhstan's government has released several policies and programs to encourage the growth of the tourism industry, given its significance. The Republic of Kazakhstan is an oil-exporting country that currently is looking to diversify its economy by implementing policies for tourism sections across a number of its geographical regions.

Among the areas, the Shchuchinsk-Burabay resort area—located in the northern Kazakhstani Akmola region—has received particular attention as a high-priority destination for tourists because of its distinctive cultural and natural assets. The area is ideally situated to support the growth of tourism-related enterprises. Conveniently located, with a distinct climate and natural features, the resort region offers stunning scenery featuring impressive combinations of mountains, forests of pines, lakes with accessible beaches, and entertainment places.

However, the country's and its regions' natural resources, along with their rich cultural and historical heritage, are inadequate to foster the expansion of tourism. Despite the abundance of natural assets and a diverse range of historical and cultural heritage, they are insufficient to sustain the growth of tourism in the region and its neighboring areas. "Therefore, in order to understand the circumstances associated with tourism and implement the necessary measures to make it profitable and sustainable, authorities, policymakers, and businesses can benefit from an assessment of the tourism industry's potential, current situation, and major obstacles (Ramazanova, et al., 2019)."

Nowadays, Kazakhstan's tourism industry is important for the future growth of the non-oil sector of the economy and is one of the country's seven national priority sectors. Nowadays, tourism is given a lot of attention. The 2010–2015 State program of development of tourism is being designed. At the regional tourism development programs are approved accordingly. The following programs have been allocated for the implementation of tourism programs with international importance such as Jan-Ile, with Aktau City, Kapshagay

Kazakhstan consistently seeks private and international investors to support the implementation of these projects. Nevertheless, the country faces certain challenges in its vigorous pursuit of tourism development. The most significant barriers to Kazakhstan's tourist industry's current growth are the country's inadequate infrastructure, inadequate training system, and unfavorable international position in the Market. If these issues are resolved,

Kazakhstan will be able to grow its tourism industry more quickly and introduce its distinctive product to the global tourism market (Seidahmetov, et al., 2014).

According to Batyrova and his colleagues (2018), the significance of the studies regarding the sustainable tourism industry in Kazakhstan is being influenced by a variety of market trends, including those related to tourism generally, the economy, demography, ecology, technology, as well as other factors as listed below:

a) The economic environment.

The tourism industry in Kazakhstan is projected to expand on a largely positive market foundation, as indicated by the United Nations World Tourism Organization, which notes that the key long-term growth trends in tourism remain steady, with international arrivals expected to grow by 3.8% annually from 2010 to 2020

b) The competitive environment.

A strong competitive environment exists between developed and still developing tourism markets, especially in relation to neighbouring nations such as Azerbaijan, China, Georgia, Kyrgyzstan, Mongolia, Russia, Turkmenistan, and Uzbekistan. As a result, Kazakhstan must maintain a strategic market position and be adaptable to the ever-changing conditions.

c) The socio-cultural environment.

A growing trend is emerging within the socio-cultural sphere, where a large portion of the youth demographic is drawn to outdoor activities. They are eager to explore the world and gain insights into diverse cultures and environments. This presents an opportunity to design and implement a strategy to promote Kazakhstan as a distinctive travel destination offering unique tourism products and services.

d) The technological environment.

Kazakhstan recently declared its goal to move to a green economy, but the host of Astana Expo 2017 can make the greatest contribution to energy-efficient and ecologically friendly tourism innovations.

e) The political environment.

Most western academics and media view Kazakhstan as a mineral-rich country with an authoritarian government. The 74-year-old Nazarbayev has been in power since 1991 and was victorious in the election on April 27, 2015. This indicates that there won't be any significant changes to government policy in the immediate future.

1.4 Theoretical framework and conceptual model

The Hypotheses of the study are as below:

H1: Tourism resources impacts significantly the sustainable tourism development.

H2: Infrastructural development impacts significantly the sustainable tourism development.

H3: Tourists satisfaction impacts significantly the sustainable tourism development.

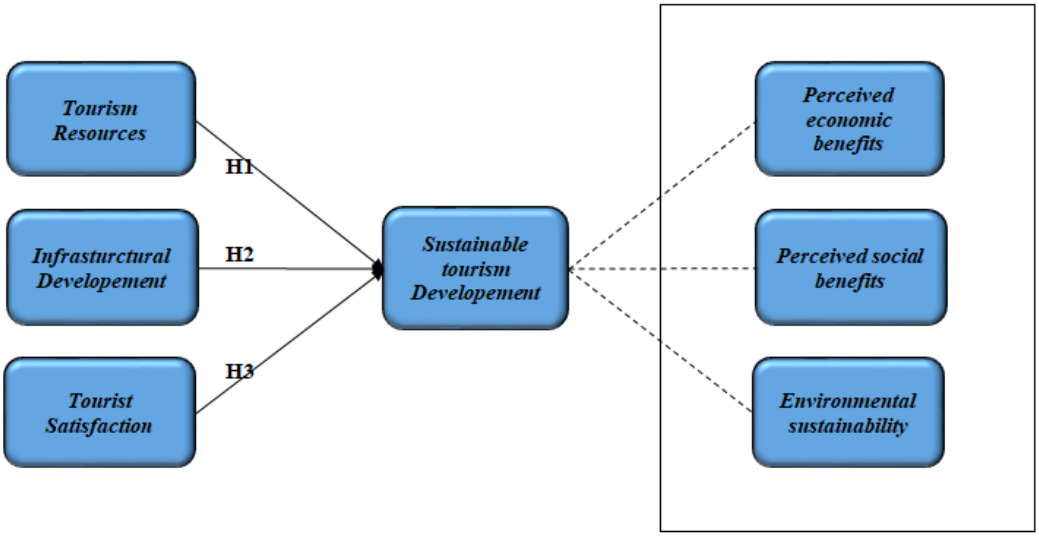

Figure 1.1Conceptual Framework for Sustainable Tourism Development

Table 1: Hypotheses and Corresponding Theoretical Framework

Hypothesis	Content of Hypothesis	Theoretical Foundation	Key Variables
H1	Tourism resources significantly influence sustainable tourism development.	Sustainable Tourism Theory (UNWTO), Competitiveness Framework.	Tourism resources, sustainable development.
H2	Infrastructure development positively impacts sustainable tourism development.	Competitiveness Framework, Sustainable Management Model.	Infrastructure, sustainable development.
H3	Tourist satisfaction is critical for sustainable tourism development.	Perceived Benefits Theory, Sustainable Management Model.	Tourist satisfaction, sustainable development.

CHAPTER 2

LITERATURE REVIEW

"The United Nations World Tourism Organization (UNWTO) designated 2017 as the International Year of Sustainable Tourism and encouraged people worldwide to travel while embracing these principles and engaging with local communities (UNWTO, 2017). While significant research has been conducted in this area, the development of sustainable tourism remains a fluid and evolving process, continually encountering new challenges as tourism technologies and consumer demands continue to evolve (Streimikiene et al., 2021). In response to previous studies, environmental values and perceptions of development were identified as the key factors, since research has highlighted the connection between environmental values and attitudes towards the environment, which, in turn, can influence behavior (Zulvianti et al., 2022).

According to Baloch et al. (2023), environmental sustainability is a future-oriented effort aimed at preserving natural resources and cultural heritage to protect ecosystems while fostering human health and economic well-being. The academic focus on the social implications of tourism growth has intensified in recent years. The term "social tourism" was coined to address challenges faced by socially marginalized groups (Kakoudakis et al., 2017). Kakoudakis et al. (2017) analyzed the economic impacts of social tourism and its effects on the quality of life for disadvantaged populations. A more recent study by Han (2021) provides a detailed framework for understanding environmentally-sustainable consumer behavior, offering a thorough review of theories aimed at promoting responsible consumption and encouraging more environmentally-conscious consumer practices. Established in the fields of tourism and environmental psychology, these theories include the "theory of reasoned action, norm activation theory, theory of planned behavior, model of goal-directed behavior, and value-belief-norm theory". When consumers embrace sustainable consumption habits and practice environmentally-conscious behaviors, they play a key role in promoting lasting environmental sustainability by prioritizing long-term benefits over immediate gains (Dong et al., 2020). By encouraging consumers to adopt more eco-friendly behaviors across various consumption contexts, researchers in the tourism and hospitality sectors can play a pivotal role in reducing the environmental impact of consumer actions. Overall, pro-environmental consumer behaviors are more successfully promoted when they are strategically planned, executed, and consistently evaluated (Manosuthi et al., 2020). To accomplish this, it is crucial to have a clear grasp of what

defines environmentally responsible consumer behavior, to familiarize oneself with the theories that effectively explain it, to recognize the factors that contribute to it, and to stay informed about the latest advancements (Han, 2021).

2.1. Tourism resources

H1: Tourism resources impacts significantly the sustainable tourism development.

This research draws on theories and findings from studies such as Rosalina et al. (2023), which emphasize the role of tangible and intangible resources; Žilinskas (2011), which highlights the socio-cultural and economic impacts of resources; and Nguyen et al. (2020), which stresses collaborative resource management for sustainable outcomes. Furthermore, the WTO's guidelines on sustainable tourism and Agenda 21's three pillars of sustainability provide a comprehensive framework to explore the connection between tourism resources and sustainable tourism development.

Resources for tourism are the tangible and intangible means of attracting visitors. Innovative and developmental, tourism resources serve as the foundation and source of the industry's dynamic, long-term growth. Japan distinguishes between two types of tourism resources: both human and environmental resources for tourism. These resources can be turned into products to meet the leisure needs of travellers and bring in revenue for the location being visited (Rosalina et al., 2023).

By integrating physical components—such as infrastructure, which refers to man-made facilities and amenities designed to fulfil tourists' needs—with intangible aspects, like experiences and services, both natural and cultural resources are included (Rosalina et al., 2023).

Human resources are seen as important in addition to core resources because it takes their skills and knowledge to add value to a resource. It is believed that creativity is crucial for deriving meaning from cultural materials, especially in rural areas (Rosalina et al., 2023).

Table 2. Overview of Natural and Human Resources

Class	Subclass	Annotations
Natural tourism resources	Natural landscape	Hills, plateaus, wetlands, fields, lakes, rivers, canyons, waterfalls, coastal areas, islands, caves, hot springs, and more.
	Climatic landscape	Weather phenomena such as temperature, humidity, sunshine, moonlight, snow, clouds, and others.

	Animal and plant landscape	Wildlife (endangered species, coral reefs, etc.) and plant life (forests, grasslands, seasonal foliage, etc.).
Humanistic tourism resources	History and humanities	Ancient landmarks, temples, churches, castles, cities, walls, palaces, traditional arts, religious traditions, and more.
	Modern Humanities	Villages, streets, local landscapes, parks, modern architecture, annual festivals, gardens, aquariums, museums, entertainment venues, and more.

SOURCE: Adapted from Nippon Jiaotong, a public welfare corporation, and other sources.

Fostering public cultural and economic integration is a key driver for tourism growth in a region, which is deeply intertwined with its impact on the local economy, social environment, and natural resources (Žilinskas, 2011). Due to the increasing demand for tourism services, municipalities actively promote the sector to boost revenue, create new jobs, and stimulate the expansion of business services (Streimikiene et al., 2021)

Twenty years ago, Sharpley (2000) presented a conceptual paper that concluded developing sustainable tourism is an unfeasible goal. In particular, it argued that sustainable tourism development respecting the environment is crucial, but sustainable development cannot solely be achieved through tourism resources.

According to the World Tourism Organization (WTO), the development of sustainable tourism addresses the needs of both tourists and local communities, while simultaneously creating opportunities for the future. This form of growth should lead to comprehensive resource management, ensuring that all demands—economic, social, and aesthetic—are met, while also safeguarding biological diversity, essential ecological functions, cultural heritage, and other key aspects necessary for survival.

According to Agenda 21 for the Travel and Tourism Sector (1996), the idea of sustainable tourism should be based on three core principles: social, environmental, and economic sustainability (ARPAV, 2005).

Because of the beneficial consequences associated with these resources, people may be able to access extremely valuable human resources. Despite the growth of sustainable tourism and the economies created by the unique resources of mountain regions, political and managerial decisions have not yet been made in a way that fully utilizes the twin benefits of ecosystem and economic sustainability.

Natural resource management can benefit greatly from the use of sustainable tourism. It ensures benefits for both the present and the next generation while maintaining high landscape standards, which are the primary draw for tourists. Proper landscape management could become a requirement for a region's competitiveness and economic recovery in the near future (Sgroi, 2020).

According to research by Nguyen et al. (2020), provinces along Vietnam's South Central Coast must work closely together to protect tourism resources, particularly those related to natural and cultural heritage, in addition to using them for tourism. Proper organization is necessary to save costs and benefit local communities.

When Kazakhstan was part of the USSR, tourism was not considered an economic sector. Tourism was primarily for leisure, healing, and travel (Aktymbayeva et al., 2020). The nation's tourist attractions were hardly promoted, resulting in a lack of demand and interest from travelers (Ziyadin et al., 2019).

2.2 Infrastructural development

H2:Infrastructural development impacts significantly the sustainable tourism development.

Prior research highlights the fundamental role of transport infrastructure in tourism development. Khadaroo & Seetanah (2007) and Masson & Petiot (2009) argue that roads, railways, and air transport networks are essential for improving accessibility to tourist destinations. Virkar & Mallya (2018) suggest that transport systems attract tourists by making destinations easier to reach and reducing travel costs and time. Similarly, Kanwal et al. (2020) emphasize that efficient transport infrastructure enhances tourism flows and stimulates regional tourism activity. Building on these findings, it is hypothesized that transport infrastructure development significantly enhances tourism accessibility and contributes to the growth of the tourism sector.

Studies have demonstrated a positive link between infrastructure investment and economic growth. Kanwal et al. (2020) argue that infrastructure related to lodging, attractions, and public services fosters tourism activity, creating jobs and increasing local revenue. Suleimanova et al. (2021) highlight the significance of tourism infrastructure in diversifying an economy that heavily relies on specific industries. Additionally, research by Seetanah et al. (2009) shows that infrastructure development can reduce poverty and support regional economic development. Based on these insights, it is hypothesised that tourism infrastructure investment drives

economic growth and diversification in regions with strategic tourism potential. The integration of digital infrastructure into tourism operations has been widely acknowledged for its sustainability benefits. Wei & Ullah (2022) and Shabalov et al. (2021) emphasize that digital technologies enhance energy efficiency, reduce costs, and foster green practices across industries, including tourism. Moran et al. (2016) further argue that digital infrastructure supports sustainable decision-making by optimizing resource use. Building on these studies, it is hypothesized that digital infrastructure promotes environmentally sustainable tourism development by enhancing efficiency and reducing ecological impacts.
Urban tourism relies on the efficient organization of tourism activities and the integration of advanced technologies. Neirotti et al. (2014) and Berdibekova et al. (2022) have demonstrated that implementing smart city initiatives can foster sustainable urban tourism by tackling issues such as traffic congestion, air quality deterioration, and inefficient resource management.

Suleimenova et al. (2021) add that tourism activity in cities can benefit surrounding regions if supported by well-organized infrastructure. These findings lead to the hypothesis that smart city initiatives significantly enhance sustainable tourism development in urban areas.

While rural tourism offers unique opportunities for economic diversification, it faces significant challenges due to insufficient infrastructure. Saparov et al. (2024) identify gaps in transport networks, accommodations, and marketing strategies as barriers to rural tourism development. Lun, Pechlaner, & Volgger (2016) caution that unregulated tourism growth in rural areas can lead to environmental degradation and social disruption. Based on these studies, it is hypothesized that rural tourism growth is contingent on targeted infrastructure investments that address accessibility, marketing, and environmental sustainability.

"Kazakhstan's strategic location as a key node in China's Belt and Road Initiative (BRI) offers a compelling example of how infrastructure investments influence sustainable tourism development" (Trade.gov, n.d.). Studies by Sternberg, Ahearn, & McConnell (2017) and BMI Research (2016) emphasize Kazakhstan’s potential to benefit from enhanced trade routes, transport networks, and tourism facilities. Laruelle (2018) highlights the geographic challenges of developing infrastructure in Kazakhstan, including vast distances and diverse terrains. Despite these challenges, the country’s efforts to raise tourism’s contribution to GDP from 1% to 8% by 2025 illustrate how infrastructure can drive economic growth and diversify resource-dependent economies. Based on this case, it is hypothesized that large-scale infrastructure investments can overcome geographic barriers and promote sustainable tourism in regions like Kazakhstan.

2.3 Tourists' satisfaction

H3: Tourists' satisfaction impacts significantly the sustainable tourism development.

Satisfaction is central to influencing tourist behavior. Martin et al. (2019) describe satisfaction as a sense of happiness or dissatisfaction arising from comparing expectations with outcomes. Studies by Ramkissoon & Mavondo (2015) and Sharma & Nayak (2019) argue that tourists' satisfaction is shaped by their mental evaluation of interactions with destination attributes. Positive satisfaction results in increased loyalty and repeat visits (Ramkissoon, 2016). Therefore, tourists' satisfaction directly influences destination loyalty and sustainable tourism growth by fostering repeat visits and word-of-mouth recommendations.

Satisfaction with specific attributes, such as cultural heritage, natural attractions, and accommodations, contributes to tourists' overall contentment. Lo et al. (2013) categorize destination attributes into social, cultural, environmental, and economic aspects. Sukiman et al. (2013) and Valduga et al. (2019) emphasize that satisfaction with attributes like lodging, meals, and accessibility significantly affects the overall perception of a destination. Maintaining these features ensures long-term visitor satisfaction and supports sustainable tourism development (Sangpikul, 2018).

Safety is a fundamental factor in tourists' satisfaction. Tasci & Boylu (2010) and Manui & Wongsai (2017) found that tourists' perceptions of safety during their travels significantly affect their satisfaction and decision to revisit. Ensuring safety at destinations not only enhances satisfaction but also builds trust and repeat visitation, promoting sustainable tourism over time.

Smart technologies enhance satisfaction by improving convenience and the overall travel experience. Jeong & Shin (2020) and Ari (2022) highlight the importance of integrating smart solutions to create memorable experiences and influence satisfaction positively. Tourists' satisfaction with technology-based services, such as smart transportation and digital information, reinforces sustainable tourism development by improving destination management and enhancing visitor experiences.

The alignment of pre-trip expectations and post-trip experiences often determines satisfaction. Chen & Chen (2010) and Prayag et al. (2017) emphasize that satisfaction stems from comparing expectations with actual experiences. Managing and exceeding expectations through high-quality services and well-maintained attractions ensures tourists' satisfaction and contributes to long-term sustainability in tourism.

Tourist satisfaction plays a crucial role in fostering loyalty, which ultimately supports the development of sustainable tourism. Research by Sthapit et al. (2020) and Torabi et al. (2022) indicates that content tourists are more inclined to return to destinations, thereby contributing to economic stability for local communities. This recurring loyalty minimizes dependence on continuously attracting new visitors, ensuring a steady and sustainable flow of tourism activities over time.

CHAPTER 3

RESEARCH METHODOLOGY

A quantitative approach was employed in this research, concentrating on the gathering of numerical data and its subsequent structured analysis. Unlike qualitative methods, which rely on descriptive techniques to understand phenomena, quantitative research uses structured tools and numerical data to gain objective insights. Open-ended questions are usually replaced with closed-ended questions to ensure standardization and consistency (POWOH, 2016).

In the context of Almaty's tourism industry, this approach provides valuable insights into different aspects of tourism interactions.

The research process followed four key steps: investigation, processing, creation, and exploration. Relevant data were collected, measured, and analysed using specific research tools such as checklists, questionnaires, surveys, or interviews, depending on the requirements of the study (Discover PhDs, 2020)

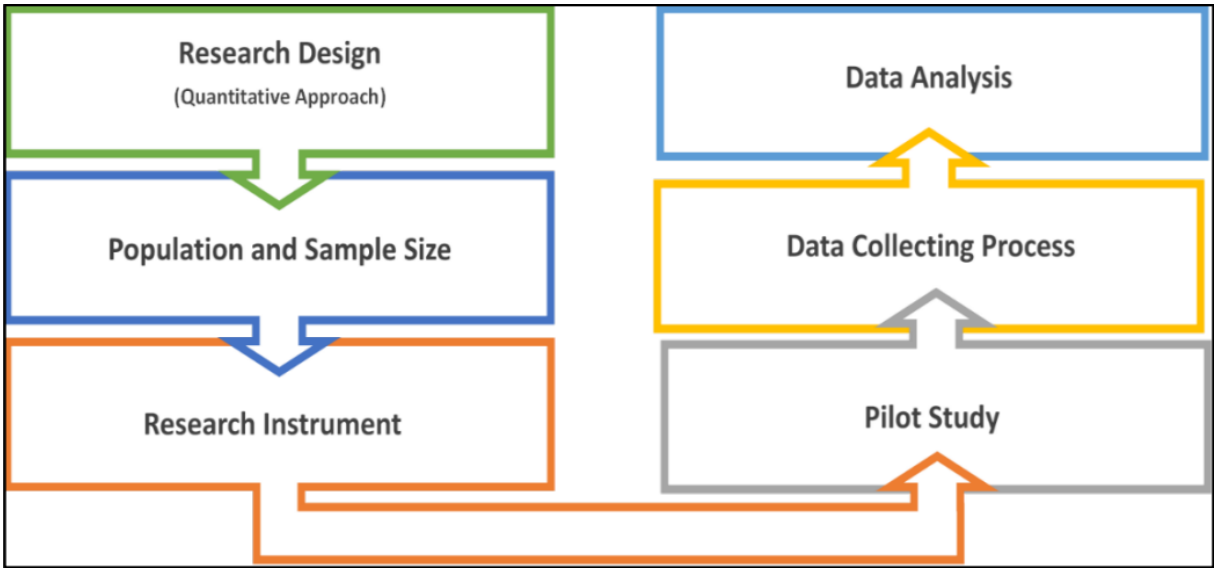

Figure 3.1 The Research Design of Acceptability Study Based on the Theory of Planned Behavior (TPB).

3.1 Research design

Quantitative research methods refer to methods where findings are explained numerically (Kowalczyk, 2016). The research process involves the use of experiments and quasi-experiments, and statistical data is collected. The researcher should have a good understanding

of both descriptive and logical statistical concepts when using data. This includes methods for calculating and evaluating correlations, ANOVA, standard deviations and other concepts. According to CRQ (2015a), the primary goals of quantitative research include analyzing current conditions, predicting or exploring relationships, explaining existing scenarios, or investigating possible influences on predetermined outcomes (POWOH, 2016).

The researcher in this study adopted a quantitative approach, using both primary and secondary data for the analysis.

Data analysis was conducted using SPSS v26 for demographic data and Smart PLS4 for survey data. Reliability and construct validity tests were conducted prior to hypothesis testing to ensure that the measurement tool was consistent and accurate.

3.2 Population and sampling

It is usually not possible to conduct a population-wide study such as a questionnaire survey. Researchers can draw conclusions about a community by analysing data about a part of the population without studying every individual using a sampling method. Arguably, fewer research participants can save money and effort and make it easier to obtain quality data. However, these advantages must be weighed against the need for a large enough sample and the ability to detect a real relationship (calculating sample size is discussed in section 1B (statistics) of the DFPH training programme).

Whatever method is used, it is important that the people selected for the sample are representative of the entire population. This may require focusing on populations that are particularly difficult to contact. For example, if a city's voter list were used to register survey participants, people such as the homeless would automatically be excluded from the survey (sampling methods based on population, health status, etc.).

Infrastructure is essential for improving the appeal and functionality of a tourism destination. Choosing the right sample size is critical for ensuring the validity and reliability of research results. The specific goals of the study, the type of data being gathered, and the research design all play a role in determining the calculation process. To ensure that the right sample size is determined, researchers should carefully analyze their criteria and, if required, review statistical resources or consult experts.

Several methods exist for categorising known and unknown populations for selecting sample size. The three primary methods for calculating sample size include the G * Power software (Hanbury et al., 2015), the Cochrane method (Guo & Fraser, 2014), and the Krenjcie and Morgan method (Krenjcie & Morgan, 1970). This section analyses the attributes of various models, providing a thorough perspective on their influence on the determination of the research sample size.

3.2.1 G* Power Software

G*Power is an important tool because it provides both visual aids and statistical analysis. Researchers can determine the required sample size by first assessing statistical power (prevalence rate) and effect size (Hoc et al., 2014). Once the population size is known, tools such as the Krejcie and Morgan table or the Cochran method can be used to easily calculate the sample size. G*Power software is beneficial for addressing scenarios with an undetermined population number (Fazwan et al., 2020).

The G * Power software is employed to determine the minimum sample size needed for the study to make valid conclusions regarding employees in the hotel and tourism centers of Almaty, Akmola, and East Kazakhstan. Kazakhstan boasts of 3.6 thousand tourist accommodations, including 2.1 thousand hotels, 1.1 thousand modest houses and apartments, 120 children's camps, 84 specialized rest homes, 53 tourist centers, and various other types of dwellings. The regions of Akmola (407), Almaty (540), East Kazakhstan (567 units), and Almaty itself (341) account for half of all placements (Tlesova, et al., 2021). Therefore, the research's target audience consists of Almaty, Akmola and east Kazakhstan's hotel and tourism center employees.

Statistical power (1 - β) measures the probability of correctly rejecting the null hypothesis when a true effect is present. A power level of 0.95 (95%) signifies a substantial probability of identifying a genuine impact, should it be present. G*Power assists researchers in verifying that their sample size is sufficiently large to attain the specified statistical power. Effect size quantifies the magnitude of the phenomenon under investigation. The software enables users to enter a projected effect size (0.10% in this investigation) and determine the requisite sample size for detecting that effect.

A diminished impact size generally necessitates a more substantial sample to ascertain it with certainty. By setting a margin of error at 0.01%, G*Power calculates a sample size that reduces the chances of both Type I errors (false positives) and Type II errors (false negatives). This guarantees that the outcomes are both precise and dependable. Theoretical calculations indicate a minimal sample size of 233; nevertheless, the researcher accounts for practical concerns, such as non-responses, by intending to distribute the survey to 300 participants. This modification considers an anticipated 10–20% deficiency in responses, guaranteeing that the final analysed sample fulfils the minimum criterion.

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: A priori: Compute required sample size

Input:	Effect size f^2	=	0.10
	α err prob	=	0.01
	Power (1-β err prob)	=	0.95
	Number of predictors	=	3
Output:	Noncentrality parameter λ	=	23.3000000
	Critical F	=	3.8682554
	Numerator df	=	3
	Denominator df	=	229
	Total sample size	=	233
	Actual power	=	0.9505575

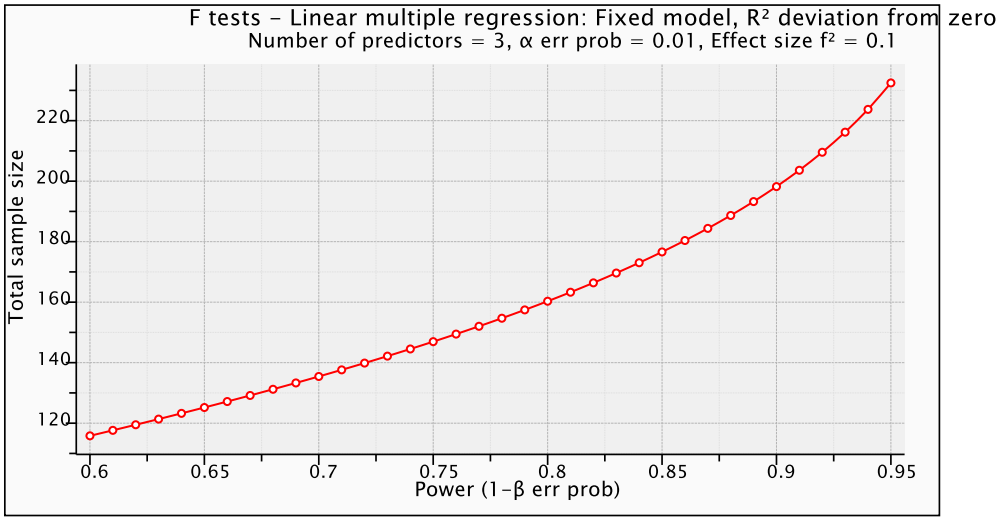

Figure 3.2 Power Analysis for Determining Sample Size in Linear Multiple Regression

3.3 Research Instrument

The method of data collection employed in this study involved a survey using questionnaires. This approach is efficient for gathering data for both research and evaluation. Questionnaires are very effective for collecting data from selected respondents regarding human emotions, perceptions, attitudes, or activities (Shaw & Wright, 1967). The method of adopting and developing survey tools or questionnaires is crucial to obtaining the necessary information. The following section describes in detail the tools used.

3.3.1. Questionnaire Design

The design and development of the questionnaire in this study was carefully executed to increase the response rate, accurately assess the target concepts and dimensions, and successfully interview the respondents to obtain reliable data. Questions were worded to ensure that participants clearly understood what was expected of them. It is important to use plain language to increase clarity for potential participants. The survey instrument should be simple, avoiding complex and lengthy questions to avoid confusion and response fatigue.

The language in the questionnaire must be suited to the respondents' comprehension level, ensuring clarity and avoiding technical terms or ambiguity. Kazakh and Russian are officially recognized languages in Kazakhstan, with 80.1% of the population speaking Kazakh and 83.7% Russian. English is also spoken by 35.1% of the population, reflecting its growing importance in the face of globalization. As 44.9% of Kazakhs are bilingual and 28.6% are trilingual, based on this information we decided to translate the questionnaire into Russian for distribute it among the workers of the Hotel and tourist centers in Almaty, Kazakhstan.

3.3.2 Measurement scale

In primary data collection, a survey instrument is a structured method that includes written and verbal questions to gather respondents' views. Measurement scales are selected based on theoretical consistency and validated psychometric properties. A key design concern is generating adequate variance among respondents for statistical analysis. Interval scales are preferred due to their reliability (Hinkin et al., 1997; Lissitz & Green, 1975; Bearden & Teel, 1983). The Likert scale, commonly used in interval scales, assesses attitudes related to opinions, feelings, or perceptions and is favored for its simplicity, which encourages completion (Matas, 2018). A five-point Likert scale was selected for this study to assess constructs such as consumer

innovativeness and purchase intention, as it helps reduce respondent frustration and improve response rates (Leung, 2011; Matas, 2018). The scale varies from 1 to 5, with 1 indicating "Strongly Disagree," 2 for "Disagree," 3 for "Neutral," 4 for "Agree," and 5 for "Strongly Agree." indicating varying levels of agreement, and is considered optimal for balancing neutral scores, assessment options, and reliability.

3.3.3 Survey questionnaire

A questionnaire for this study was designed based on previous research conducted by Hsu et al. (2020), Demirovich et al. (2020), and Nguyen et al. (2020). It is essential to note that all aspects were not developed from beginning, but have originated from previous research.

The questionnaire comprised seven unique sections, as illustrated in Table 3.1. These parts included demographic data,perceived economic and social benefits, environmental sustainability, infrastructural development, tourism resources, tourists' satisfaction.

Table 3.1 Research Instrument

Sections:	**Variable measured**	**Rating scale**	**Total items:**	**Ref**
Section 1	Demographic Profile	Nominal Scale, Ordinal Scale	5	
Section 2	Perceived economic benefits	1 (Strongly Disagree) to 5 (Strongly Agree)	3	Hsu, C. Y., Chen, M. Y., Nyaupane, G. P., & Lin, S. H. (2020).
Section 3	Perceived social benefits	1 (Strongly Disagree) to 5 (Strongly Agree)	5	Demirović Bajrami, D., Radosavac, A., Cimbaljević, M., Tretiakova, T. N., & Syromiatnikova, Y. A. (2020).

Section 4	Environmental Sustainability	1 (Strongly Disagree) to 5 (Strongly Agree)	3	Hsu, C. Y., Chen, M.Y., Nyaupane, G. P., & Lin, S. H. (2020).
Section 5	Infrastructural Development	1 (Strongly Disagree) to 5 (Strongly Agree)	5	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
Section 6	Tourism resources	1 (Strongly Disagree) to 5 (Strongly Agree)	5	Nguyen,C.D., Ngo, T.L.,Do, N. M., & Nguyen, N. T. (2020).
Section 7	Tourists' Satisfaction	1 (Strongly Disagree) to 5 (Strongly Agree)	5	Nguyen,C.D., Ngo,T.L.,Do, N. M., & Nguyen, N. T. (2020).

a) Section A: Demographic data

Sekaran & Bougie (2016) highlight the significance of incorporating demographic profiles in research, as they enable researchers to determine whether the responses provided by participants align with the collected data. Additionally, understanding respondents' demographic characteristics can lead to meaningful interpretations of the sample's behavior and patterns. To address these points, Table 3.2 was designed to collect essential demographic data from respondents. This section gathered information on gender, age, job category, work experience, and education level, ensuring a comprehensive socio-demographic profile for analysis.

Table 3.2 Research Instrument

Code	Items	Answer section
DP1	Gender	**1.** Male **2.** Female

DP2	Age	**1.** Under 25 years old **2.** 25-30 years old **3.** 30-35 years old **4.** 35-40 years old **5.** 40-45 years old **6.** 45 years old and more
DP3	Job category	**1.** General Manager **2.** Manager **3.** Hotel receptionists **4.** Housekeeper **5.** Others
DP4	Work experience	**1.** Less than 1 year **2.** 1-3 Years **3.** 3-6 Years **4.** 6-9 Years **5.** 9 Years and above
DP5	Education level	**1.** Under highschool diploma **2.** High school diploma **3.** Bachleor's degree **4.** Master's degree and higher education

b) Section B: Perceived Economic Benefits of Tourism

As highlighted in the literature review, tourism is often perceived as a key contributor to community development, particularly through its economic benefits (Hsu, Chen, Nyaupane & Lin, 2020). Section B of the questionnaire is designed to identify and evaluate the benefits that respondents expect tourism to bring to their community, focusing primarily on its economic contributions.

In line with this objective, the items EB1, EB2, and EB3 were adopted from the study by Hsu, Chen, Nyaupane, and Lin (2020) to assess the respondents' perceptions of tourism's economic impact. This section helps to understand how respondents view tourism as a means of diversifying and strengthening the local economy.

The specific items and their corresponding scales are outlined in Table 3.3, with responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 3.3 Perceived economic benefits

Code	Items	Answer section	Adopted from

EB 1	I believe that tourism is a strong economic contributor to the community	1 (Strongly Disagree) to 5 (Strongly Agree)	Hsu,Chen, Nyaupane & Lin 2020
EB 2	Tourism diversifies the local economy	1 (Strongly Disagree) to 5 (Strongly Agree)	Hsu,Chen, Nyaupane & Lin 2020
EB 3	I believe that tourism is good for our community's economy	1 (Strongly Disagree) to 5 (Strongly Agree)	Hsu,Chen, Nyaupane & Lin 2020

c) Section C: Perceived Social Benefits of Tourism

Tourism development has the potential to bring significant social benefits to communities, including enhanced quality of life, enriched cultural exchanges, and strengthened social connections. Section C of the questionnaire is dedicated to exploring the positive social effects that respondents associate with tourism. This section aims to capture the perceptions of respondents regarding how tourism contributes to social well-being within their communities. To achieve this, the items SB1, SB2, SB3, SB4, and SB5 were taken from the study by Nguyen, C. D., Ngo, T. L., Do, N. M., and Nguyen, N. T. (2020). These items measure different aspects of the social benefits resulting from tourism.

The detailed items and their corresponding scales can be found in Table 3.4.

Table 3.4 Perceived social benefits

Code	Items	Answer section	Adopted from
SB 1	Standards of living are improved due to tourism	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
SB 2	Respect for local culture is enhanced due to tourism	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

SB 3	Opportunities to participate in local activities are increased due to tourism	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
SB 4	The sense of belonging to the local community is stronger due to tourism	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
SB 5	Number of learning opportunities is increased due to tourism	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

d) Section D: Environmental Sustainability

Environmental sustainability is a key aspect of tourism development, as it ensures the long-term preservation of ecosystems, effective resource utilization, and environmental conservation. Section D is designed to capture respondents' expectations about the environmental benefits that tourism can bring and their views on its impact on protecting natural habitats and community resources.

In accordance with this goal, the items ES1, ES2, and ES3 were sourced from the work of Nguyen, C. D., Ngo, T. L., Do, N. M., and Nguyen, N. T. (2020). These items assess how respondents view the role of tourism in promoting sustainable environmental practices and ensuring resource preservation for future generations.

The full list of these items is provided in Table 3.5

Table 3.5 Environmental Sustainability

Code	Items	Answer section	Adopted from
ES 1	Tourism must protect the environment	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
ES 2	Proper TD requires that wildlife and natural habitats be protected at all times	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

ES 3	Community resources must be protected now and for the future	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

e) Section E: Infrastructure

Infrastructure is crucial to increase the attractiveness and functionality of a tourist destination.. Section E is designed to evaluate respondents' views on the current condition and advancement of tourism-related infrastructure in their region. The goal of this section is to identify the infrastructure upgrades that respondents believe are necessary to improve the tourism experience.

The items I1, I2, I3, I4, and I5, adapted from the study by Nguyen, C. D., Ngo, T. L., Do, N. M., and Nguyen, N. T. (2020), assess various infrastructure components, including transportation, technology, accommodation, and public services. These items offer valuable insights into respondents' expectations for enhancements that could boost the attractiveness and accessibility of the region.

The details of this section are outlined in Table 3.6.

Table 3.6 Infrastructural Development

Code	Items	Answer section	Adopted from
I 1	Convenient transportation infrastructure and airport system, pier, station meet the needs of visitors	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
I 2	A rich system of tours, routes, tourist spots, and tourist resorts	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
I 3	Information technology infrastructure meet the needs of tourists	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
I 4	Adequate system of hotels, restaurants, entertainment, shopping, and entertainment venues	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

I 5	Adequate and clean public toilet system	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

f) Section F: Tourism Resources

Tourism resources are integral to the success and development of any tourism destination. These resources can include natural landscapes, cultural heritage, and historical assets that contribute to creating a memorable tourism experience. Section F aims to identify respondents' perceptions of the most significant tourism resources in their region and how these resources can enhance tourism development.

For the purpose of this study, five key items (TR1 to TR5) were adopted from Nguyen, C. D., Ngo, T. L., Do, N. M., and Nguyen, N. T. (2020) to assess the respondents' perspectives on the availability, variety, and distinctiveness of resources. This evaluation concentrates on the natural, cultural, and historical assets that play a significant role in attracting tourists and enhancing their overall experience.

The detailed items are presented in Table 3.7.

Table3.7 Tourism resources

Code	Items	Answer section	Adopted from
TR 1	There are natural landscapes (hills, rivers, lakes, beaches, bays, lagoons, islands, peninsulas, etc.) are beautiful, diverse, and unique	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TR 2	There are many impressive and unique cultural heritages, architectural art, historical relics, museums, monuments, pagodas, churches, etc.	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TR 3	There are many interesting and unique cultural events, sports, and traditional festivals	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TR 4	There are many special traditional arts and folklore	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

TR 5	There are many unique traditional craft villages, handicrafts, local products.	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

g) Section G: Tourists' Satisfaction

Tourist satisfaction serves as a crucial indicator of the effectiveness of tourism services and experiences, directly influencing repeat visits, positive word-of-mouth, and business success. Section G focuses on exploring respondents' opinions regarding the quality of services offered and the overall satisfaction of tourists visiting the region.

In line with this goal, five items (TS1 to TS5) were adapted from the study by Nguyen, C. D., Ngo, T. L., Do, N. M., and Nguyen, N. T. (2020) to measure satisfaction levels related to the organization of tourism activities, impressions of the destination, enjoyment of the experience, likelihood of revisiting, and perceptions of the region's image. This section aims to provide valuable insights into the factors that contribute to a positive tourism experience and foster the sustainable development of the industry.

The detailed items are outlined in Table 3.8.

Table3.8 Tourists' Satisfaction

Code	Items	Answer section	Adopted from
TS 1	I am satisfied with the organization of tourism activities	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TS 2	I am satisfied with the local impression	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TS 3	I satisfied with the experience provide fun	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

TS 4	I am satisfied with the return of tourist	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).
TS 5	I am satisfied with the images of the locality, the region, and the tourism services of the locality and the region are introduced	1 (Strongly Disagree) to 5 (Strongly Agree)	Nguyen, C. D., Ngo, T. L., Do, N. M., & Nguyen, N. T. (2020).

3.4 Pilot study

A preliminary study was carried out before distributing the review. Pilot studies play a crucial role in research methodology. Prior to the main study, the researcher can use this phase to identify design issues and evaluate the feasibility, practicality, resources, time, and costs associated with the project.

This requires the selection of a small number of subjects to evaluate the results of the study. Identifying any errors in the researcher's methods can save time and money.

Internal and external pilot studies are defined by Avery et al. as follows:

- An external pilot is a trial run for the primary research project in which the trial's outcome data are not part of the main trial's outcome data collection.
- The internal pilot involves a pilot phase that precedes the trial and generates outcome data that could be used in the final analysis.

The objective of the pilot study is to test and refine a questionnaire designed to assess the reliability and validity of the research on a smaller scale. In the study, 30 questionnaires were distributed among tourists in the hospitality industry specifically in hotels in North Cyprus. The questions were revised for better comprehension after participant feedback identified several ambiguities and complicated wording. Cronbach's alpha reliability analysis pointed out areas that need revision, and validity evaluations showed that several questions were redundant thus they were managed in the final instrument. The Cronbach's alpha reliability test revealed that the overall reliability of the questionnaire items exceeded the acceptable threshold of 0.70, demonstrating strong internal consistency. By refining the questionnaire's overall quality and making sure it accurately assesses the intended components, the revised questionnaire now is

crucial for further analysis. The updated questionnaire is now in a better position for the main data-collecting stage, which will include a wider sample of tourists, workers, and executives from hotels and tourist attractions throughout Kazakhstan. In addition to improving the validity and reliability of the research tool, this procedure helps the main study provide more significant and useful data results.

3.5 Data collection procedure

The foundation for dependability estimations is the data collection. As a result, ensuring the reliability estimate is reliable requires a strong data collection process. Nothing beats the facts that informs a prediction. It is crucial to guarantee the caliber of data collection as a result. Ensuring the quality of data collecting entails:

- Consistency in collection. Data must always be gathered and reported in the same manner; for instance, the time of failure must always be reported with sufficient accuracy.
- Completeness. It is necessary to gather all data, including failures for which the tester fixes the underlying issue.

- Consistency of the measurement system. The entire assessment system must be consistent; for instance, flaws shouldn't be classified as failures because they are two different properties (“Data Collection Procedure - an Overview | Science Direct Topics”)

The target audience for this study comprises Kazakhstanis engaged in the tourism business residing inside the country's territory. Google Forms and SurveyMonkey were utilised to generate and distribute the information. Participation in the survey was optional, as stated at the outset, allowing volunteers the ability not to participate and end the investigation at any moment.
The questionnaire was distributed electronically through social networks using the provided link, including WhatsApp, Instagram, and Facebook groups.

3.6 The research data analysis and tests

a) Demographic Analysis

According to Malhotra et al. (2010), demographic data refers to information about specific characteristics of a population, including age, sex, nationality, education, and place of residence. Additionally, socioeconomic elements, such as income, family status, and occupation, are considered part of demographic analysis. Demographic data provides a statistical foundation to describe groups of individuals and analyze variables like employment, education, income levels, marriage rates, and more.

Demographic analysis involves the study of population variables and is critical for understanding the composition of a study sample. For instance, researchers often analyze the demographic data using software tools such as SPSS to uncover patterns and trends. To analyse the demographic data of the study participants, the author used SPSS v26. The analysis provided a comprehensive understanding of the sample's composition and ensured the validity of the subsequent findings.

b) Reliability Test

Reliability refers to the ability of a method or instrument to consistently produce stable and repeatable results under the same conditions (Hair et al., 2019). A reliable measure guarantees that results can be reproduced consistently using identical techniques.

In this study, the reliability of the constructs was assessed using SmartPLS 4, a software widely recognized for its ability to evaluate advanced models. Key indicators for reliability included:

Cronbach's Alpha is a commonly used indicator of internal consistency, with values exceeding 0.70 considered acceptable (Cronbach, 1951).

Rho_a: An alternative measure of internal consistency, which provides a more precise reliability estimate (Dijkstra & Henseler, 2015).

Composite Reliability (Rho_C) assesses the overall reliability of the constructs, with values ranging from 0.70 to 0.90 being considered satisfactory (Hair et al., 2019).

Average Variance Extracted (AVE) measures the proportion of variance explained by a construct compared to the variance resulting from measurement error. Values exceeding 0.50 indicate sufficient convergent validity (Fornell & Larcker, 1981).The use of these indicators ensured that the constructs in the research model were both consistent and reliable.

Using a bilingual approach in your research, where the pilot study was in English and the main survey was conducted in Russian (then translated into English), can introduce potential effects on the reliability and validity measures, such as Cronbach's alpha, rho_A, rho_C, and Average Variance Extracted (AVE). Here's how it might influence these results:

1. Cronbach's Alpha (Internal Consistency Reliability)

Translation may affect internal consistency if the translated items do not fully capture the original meaning of the constructs. Subtle differences in phrasing or cultural nuances could lead to a lower Cronbach's alpha. If the translated survey is well-adapted and pre-tested, the impact should be minimal. However, inconsistencies between languages might result in slightly weaker reliability scores.

2. rho_A (Construct Reliability)

rho_A, which considers construct reliability based on the model, may also be impacted if the translation alters how respondents interpret the items. This is particularly true if semantic or cultural differences between the original and translated versions lead to inconsistent item loadings.

3. rho_C (Composite Reliability)

Composite reliability could also be affected if the translation introduces measurement error. Items in the translated version might load differently on the latent constructs due to cultural or linguistic differences. A rigorous translation process, such as back-translation and pre-testing, can mitigate this issue and maintain acceptable reliability values.

4. Average Variance Extracted (AVE)

The AVE, which measures the amount of variance captured by the construct versus the variance due to measurement error, could be slightly lower if translation discrepancies introduce noise or reduce the clarity of items. This might lead to weaker factor loadings, particularly if some translated items are less effective in capturing the construct's meaning.

Recommendations to Mitigate Impact

Back-Translation: Ensure a rigorous back-translation process to verify that the meaning of items remains consistent across languages.

Pre-Testing: Conduct pre-tests of the translated survey with native speakers to ensure cultural and linguistic appropriateness.

Pilot Study Data Comparison: Compare reliability and validity metrics from the pilot (English) and translated (Russian) datasets to identify potential discrepancies.

Measurement Invariance Testing: Perform a measurement invariance test to confirm that the translated instrument functions equivalently across languages.

c) Construct Validity Test

Construct validity evaluates how well a measurement reflects the concept it is meant to measure (Campbell & Fiske, 1959). High construct validity is essential for ensuring that research findings reflect the true traits or characteristics being examined.

In this study, construct validity was assessed using the following methods:

HTMT (Heterotrait-Monotrait Ratio) is a method used to assess discriminant validity by comparing the correlations between constructs. Values of HTMT below 0.85 or 0.90 are considered to indicate acceptable validity (Henseler et al., 2015).

The Fornell-Larcker Criterion is used to confirm validity by ensuring that the square root of the Average Variance Extracted (AVE) for each construct is higher than its correlations with other constructs (Fornell & Larcker, 1981).

These tests provided evidence that the constructs in the model were distinct and measured what they were intended to.

d) Path Coefficient

Path coefficient analysis is a statistical technique used to assess the relationships between variables in a conceptual model. It measures the direction and strength of these associations, with coefficients spanning from -1 to +1.

Positive values signify a direct relationship, where an increase in one variable corresponds to an increase in the other. In contrast, negative values indicate an inverse relationship, where one variable decreases as the other increases (Wright, 1934).For example, researchers may hypothesize that perceived value (independent variable) positively influences word of mouth (WOM), while trust and satisfaction also serve as mediators affecting WOM. Using statistical tools such as SmartPLS 4, researchers calculate the path coefficients to evaluate the relative strength of these relationships.

In this study, SmartPLS 4 was employed for path coefficient analysis. Its intuitive interface and advanced modeling capabilities make it a powerful tool for exploring complex relationships across variables, whether in academic research, market analysis, or other fields.

e) Structural Model

To understand the explanatory power of independent variables for dependent variables, the structural model estimates the expected relationships between constructs (Urbach & Ahlemann, 2010). For this study, SmartPLS 4 was used to analyse the structural model. The primary emphasis was placed on the R-squared value (R^2) to assess the model's ability to explain the variation in the data.

Coefficient of Determination (R^2)

The R-squared (R^2) statistic indicates the proportion of variance in the dependent variable that is explained by the independent variables. (Cohen et al., 2003). R^2 values range between 0 and 1, with the following interpretations:

- 0.67 indicates substantial explanatory power.
- 0.33 suggests moderate explanatory power.
- 0.19 reflects weak explanatory power (Chin, 1998).

For this study, R^2 values were computed to evaluate how well the independent variables explain the variance in each dependent variable. Higher R^2 values demonstrate a stronger capacity of the model to account for the variation in the dependent constructs, which helps confirm the validity of the proposed relationships.

Justification for Using R^2

The use of R^2 in this study was driven by:

Explanatory Focus: R^2 quantifies the strength of the relationships between constructs, ensuring alignment with the research objectives.

In the context of partial least squares structural equation modeling (PLS-SEM), R^2 serves as a key indicator of model fit, making it a valuable tool for evaluating the strength of the relationships in the model (Hair et al., 2019).

Predictive Relevance: While Q^2 and f^2 can further refine insights into predictive accuracy and effect size, this study focused on R^2 as a comprehensive measure of explanatory power.

Through the use of R^2, this study provides a comprehensive assessment of the structural model, validating that the proposed relationships between variables are significant and backed by the data.

3.7 Ethical consideration

The methods and design of the study were guided by ethical considerations. These principles encompass voluntary participation, informed consent, anonymity, confidentiality, minimization of harm, and the accurate reporting of findings.

To safeguard participants, maintain the integrity of the research process, foster accountability and trust, and make a good contribution to society, ethical considerations in research are essential. By following moral guidelines, scientists respect people and communities and promote an atmosphere that advances knowledge and understanding while still fulfilling their professional obligations. These crucial elements maintain scientific rigor, enhance the validity of the study, and protect the rights of research participants.

Researchers and scientists must always adhere to specific ethical guidelines when collecting data from participants.

Lucy Moore et al. (2002) categorized ethical issues type as follow:

Participation voluntarily	At any point during the study, participants have the right to choose whether to continue or withdraw from the survey.
Informed permission	Before making a decision to participate, individuals must be fully informed about the study's objectives, benefits, potential risks, and funding sources.
Anonymity	The researcher should be aware of the participants' identities. Nothing is gathered that can be used to identify an individual.
Confidentiality	If participants' identities are known to the researcher, this information is kept confidential and is not made public. Researchers ensure that any personally identifiable data is anonymized to prevent connections with other information.
Possibility for harm	All potential risks, whether physical, social, psychological, or other, are minimized to the greatest extent possible.

Results exchange Researchers ensure that the results are presented clearly and honestly, free from plagiarism and research misconduct.

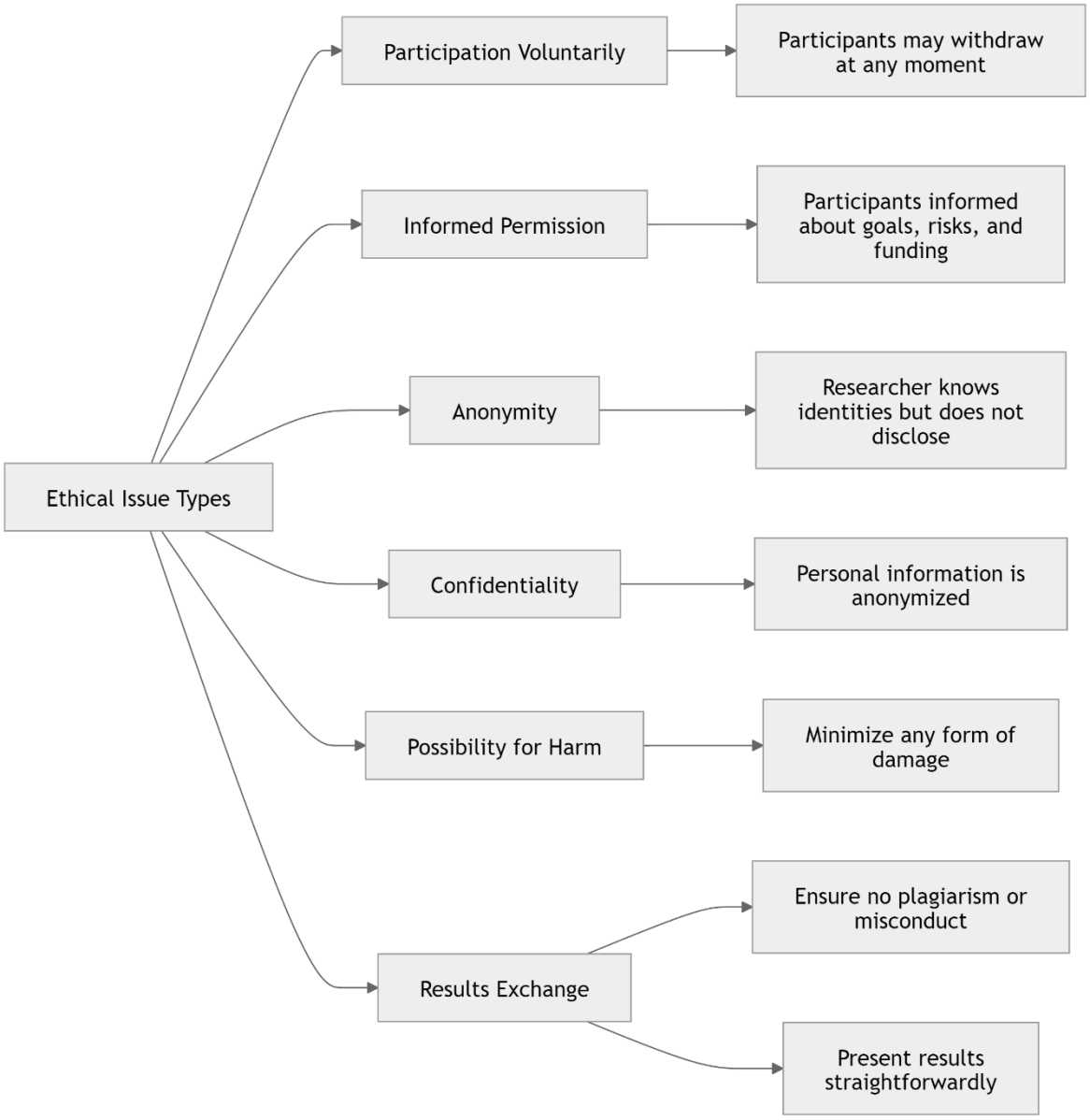

Figure3.3 Ethical Guidelines for Participant Protection in Research

CHAPTER 4

DATA ANALYSIS AND EMPIRICAL FINDINGS

The research's target audience consists of Almaty hotel and tourism center employees. Using G*Power software, the recommended minimum sample size for our survey was calculated to be 233, based on an effect size of 0.10, a power of 0.95, and a margin of error of 0.01. To account for potential non-responses, the researcher opted to distribute the survey to 300 participants, anticipating a return rate of 10% to 20%. Ultimately, 240 completed questionnaires were returned. Following data screening to exclude missing information, 235 completed questionnaires are prepared for additional examination. An appropriate response rate in the study is 80%.

4.1 Demographic analysis

Table 4.1 Demographic data

Gender	**Frequency**(N)	**Percent**(%)
Male	118	50.2
Female	117	49.8
Age		
Under 25 years	7	3.0
between 25 to 30 years	32	13.6
between 30 to 35 years	60	25.5
between 35 to 40 years	67	28.5
between 40 to 45 years	53	22.6
45 years and more	16	6.8
Job Category		
Manager	57	24.3
Hotel receptionist	55	23.4
House keeper	66	28.1
Tourist	38	16.2
Others	19	8.1

Work_experience		
Less than 1 year	32	13.6
between 1 to 3 years	33	14.0
between 3 to 6 years	95	40.4
between 6 to 9 years	49	20.9
More than 9 years	26	11.1
Education		
High school diploma and less	137	58.3
Bachelor Degree	68	28.9
Master degree and higher	30	12.8

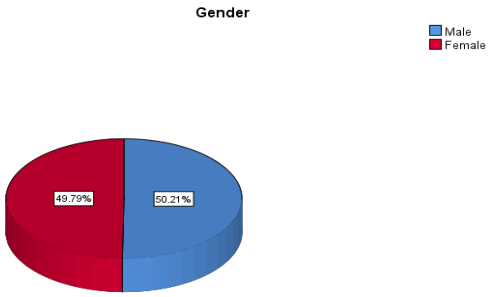

Figure 4. 1 Gender distribution of the participants

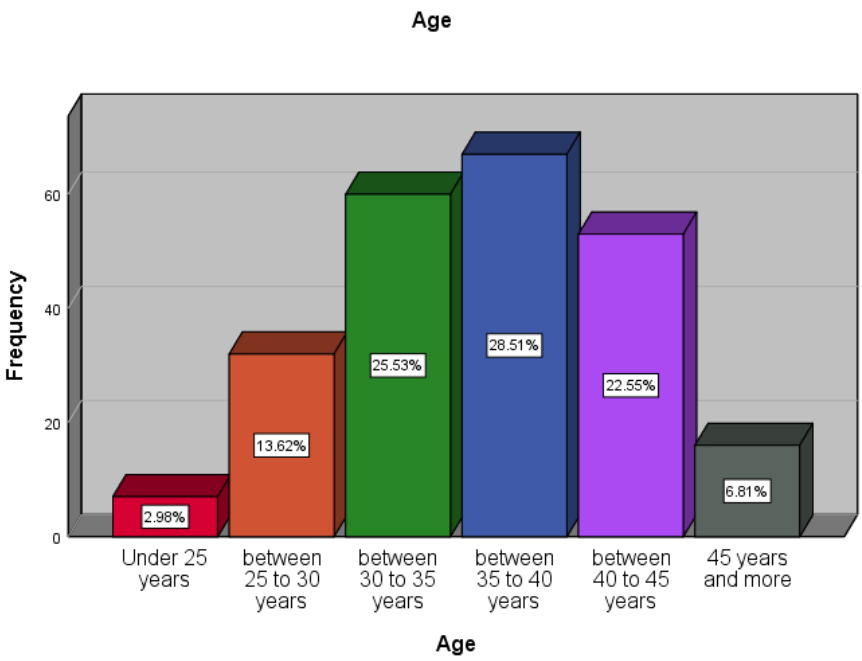

Figure 4. 2 Age distribution of the participants

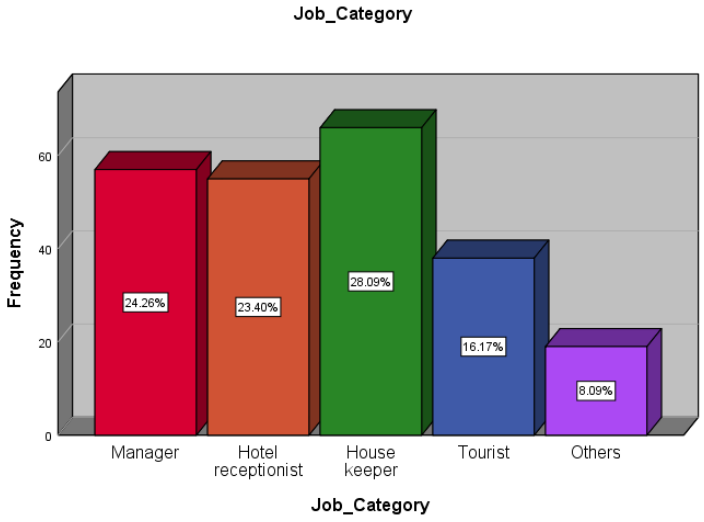

Figure 4. 3 Job category of participants

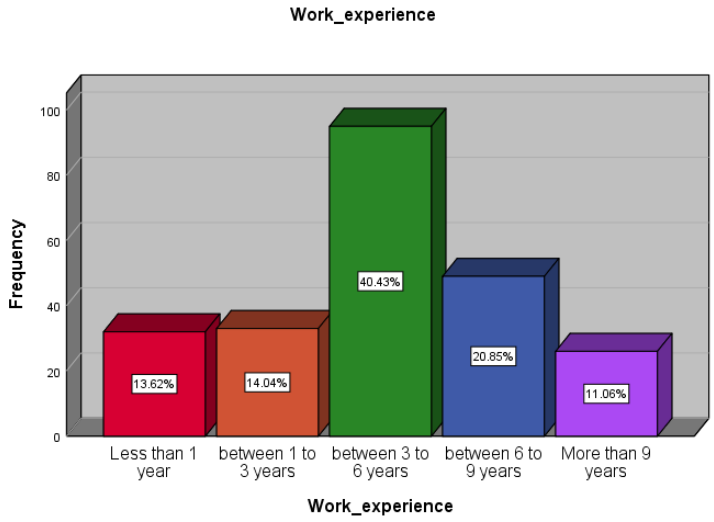

Figure 4. 4 Work experience of participants

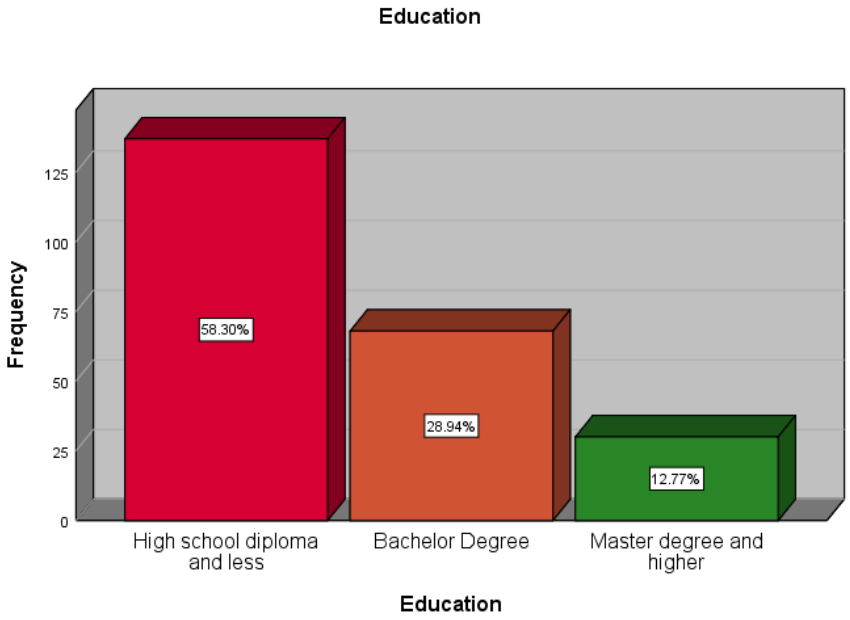

Figure 4. 5 Level of Education

4.2 Construct reliability and validity

The model's reliability is assessed using four indicators: Cronbach's alpha, rh_a, rho_c, and Average Variance Extracted (AVE).

Table 4. 2 Construct reliability and validity

Overview

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Infrastructural Development	0.904	0.909	0.928	0.722
Sustainable Development	0.950	0.951	0.956	0.666
Tourism Resources	0.874	0.878	0.909	0.667
Tourism Satisfaction	0.878	0.885	0.912	0.675

Table 4.2 shows that Cronbach's alpha coefficients, along with the composite reliability indices rho_a and rho_c, all exceed the 0.7 threshold, confirming the model's reliability. Additionally, as noted by Hair et al. (2018), the Average Variance Extracted (AVE) index must exceed 0.5 to be considered acceptable. The AVE values presented in the table meet this requirement, further validating the measurement tool's reliability across four different reliability metrics. Figures 4.6 provide visual representations of these reliability indices.

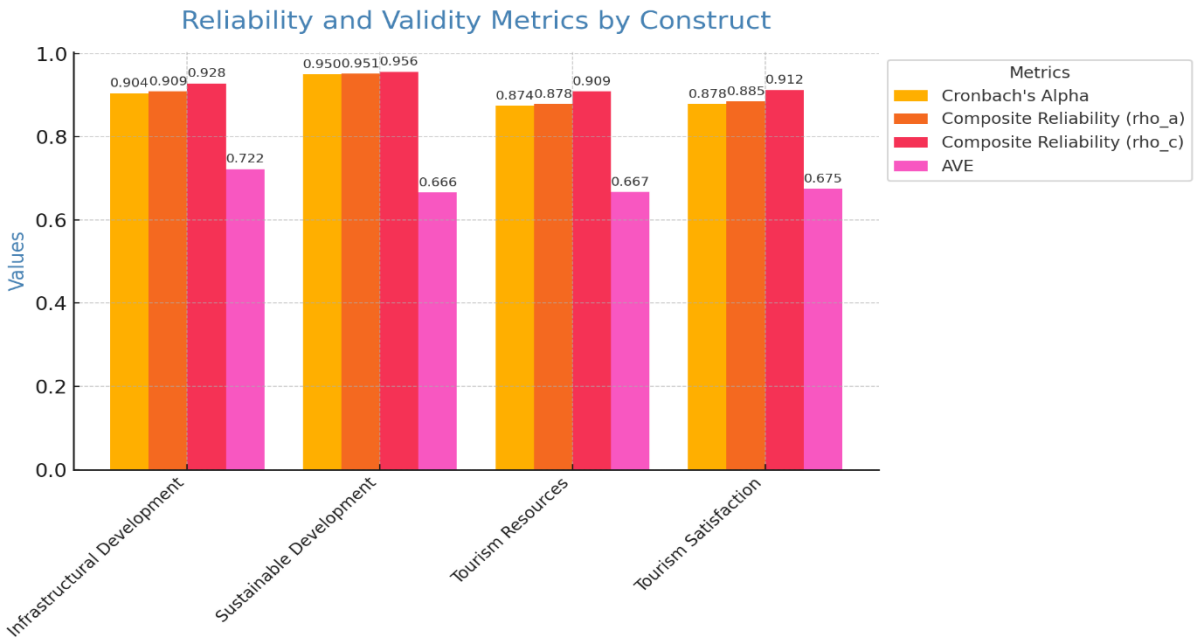

Figure 4. 6 Reliability and Validity Metrics by Construct

4.3 Discriminant validity

Table 4.3 Heterotrait-Monotrait ratio (HTMT)

Heterotrait-monotrait ratio (HTMT) - List

	Heterotrait-monotrait ratio (HTMT)
Sustainable Development <-> Infrastructural Development	0.743
Tourism Resources <-> Infrastructural Development	0.728
Tourism Resources <-> Sustainable Development	0.842
Tourism Satisfaction <-> Infrastructural Development	0.759
Tourism Satisfaction <-> Sustainable Development	0.762
Tourism Satisfaction <-> Tourism Resources	0.857

Discriminant validity evaluates the model's ability to distinguish between different constructs (Hair, 2006). The Heterotrait-Monotrait Ratio (HTMT) test is used to assess discriminant validity by comparing sets of variables in a matrix, measuring the differences between them. According to Henseler et al. (2015) and Hair et al. (2015), it is recommended that the HTMT value should not exceed 0.9. Table 4.3 shows that all pairs of model variables have an HTMT value less than 1, indicating that the model meets the required discriminant validity criteria.

Table 4.4 Fornell and Larcker Criterion

	Infrastructural Development	**Sustainable Development**	**Tourism Resources**	**Tourism Satisfaction**
Infrastructural Development	0.850			
Sustainable Development	0.693	0.816		
Tourism Resources	0.649	0.771	0.817	
Tourism Satisfaction	0.674	0.698	0.748	0.822

Table 4.4 presents the validity of the research variables using the Fornell and Larcker test. The results indicate that the square root of the Average Variance Extracted (AVE) for each latent variable is greater than the correlation coefficient of that latent variable with other variables (Ab Hamid et al., 2017). Based on these results in Table 4.4, the model demonstrates acceptable validity.

4.4 Test of path coefficient

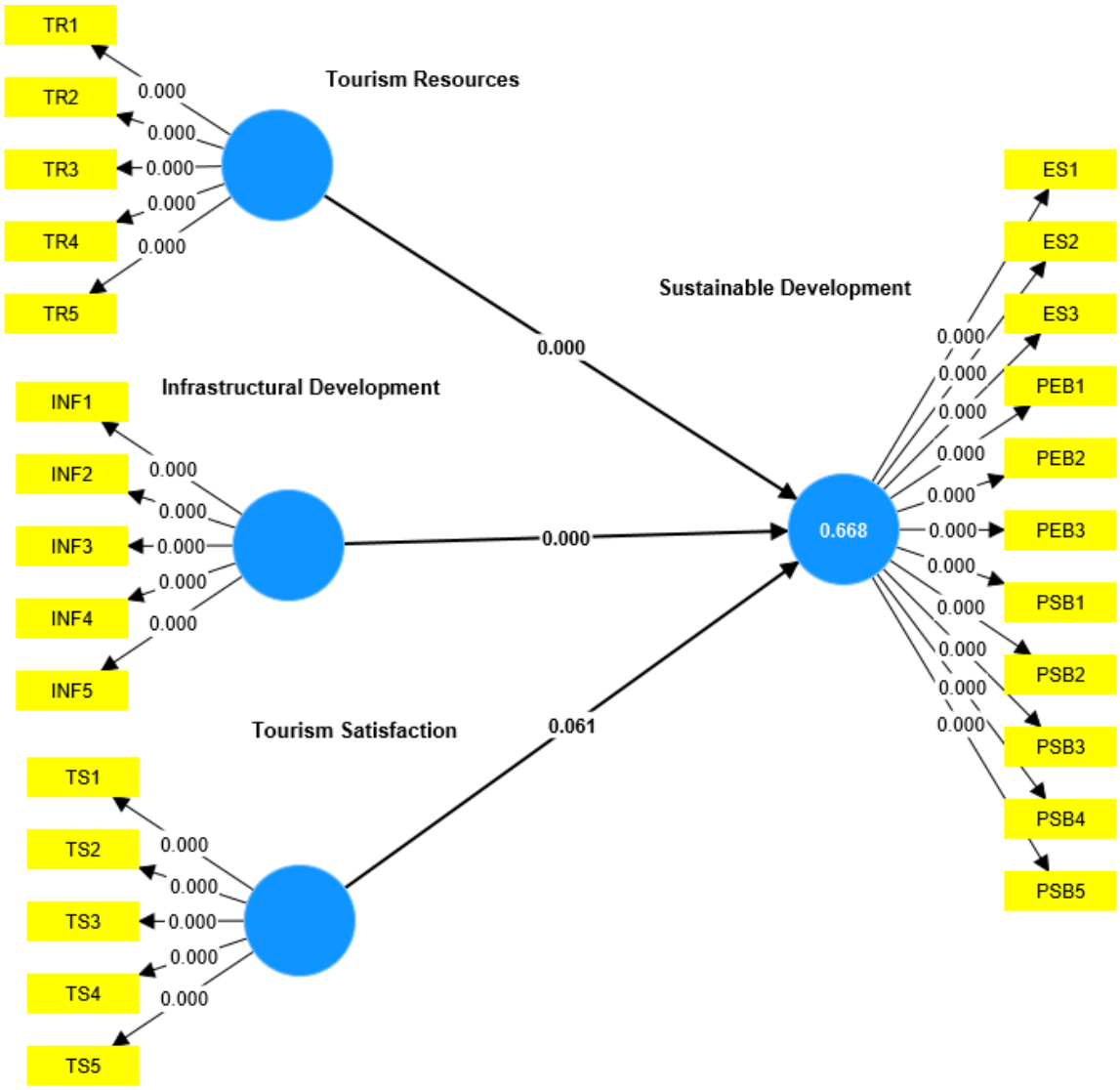

Figure 4.7 Structural model in the path coefficient state

Table 4.4 presents the evaluation of the conceptual model, where the researcher analyzed the internal relationships within three hypotheses.

Table 4.5 Test of path coefficients

Mean, STDEV, T values, p values	**Original sample (o)**	**Sample mean (m)**	**Standard deviation (stdev)**	**T statistics (|o/stdev|)**	**P values**
Tourism resources -> Sustainable development	0.472	0.467	0.085	5.578	0.000
Infrastructural development -> Sustainable development	0.283	0.286	0.062	4.594	0.000
Tourism satisfaction -> Sustainable development	0.154	0.158	0.082	1.874	0.061

Based on the results shown in Table 4.5, the researcher analyzes the path coefficients and their significance:

H1: Tourism resources impact significantly sustainable tourism development.
The first hypothesis examines the effect of tourist resources on sustainable tourism development. With a p-value of 0.000, which is below 0.05, and a T-value of 3.646, greater than 1.96, the first hypothesis is supported with 99% confidence.

H2: Infrastructural development significantly impacts sustainable tourism development.
The second hypothesis investigates the influence of infrastructural development on sustainable tourism development. Given a p-value of 0.000, less than 0.05, and a T-value of 5.812, exceeding 1.96, the second hypothesis is affirmed with 99% certainty.

H3: Tourist satisfaction significantly impacts sustainable tourism development.
The third hypothesis explores the effect of tourist satisfaction on sustainable tourism development. However, with a p-value of 0.000 (which is above 0.05) and a T-value of 1.874 (less than 1.96), this hypothesis is not supported, with a 99% confidence level.

The study confirms the significant impact of tourism resources and infrastructural development on sustainable tourism development, emphasizing the need for resource conservation and eco-friendly infrastructure investments. However, the hypothesis that tourist satisfaction directly

influences sustainability was rejected, suggesting that satisfaction alone does not drive sustainability outcomes. This highlights the importance of aligning tourist experiences with sustainable practices through education and engagement. Future research should explore the interactions between these factors to enhance sustainable tourism strategies. (Figure 4.8)

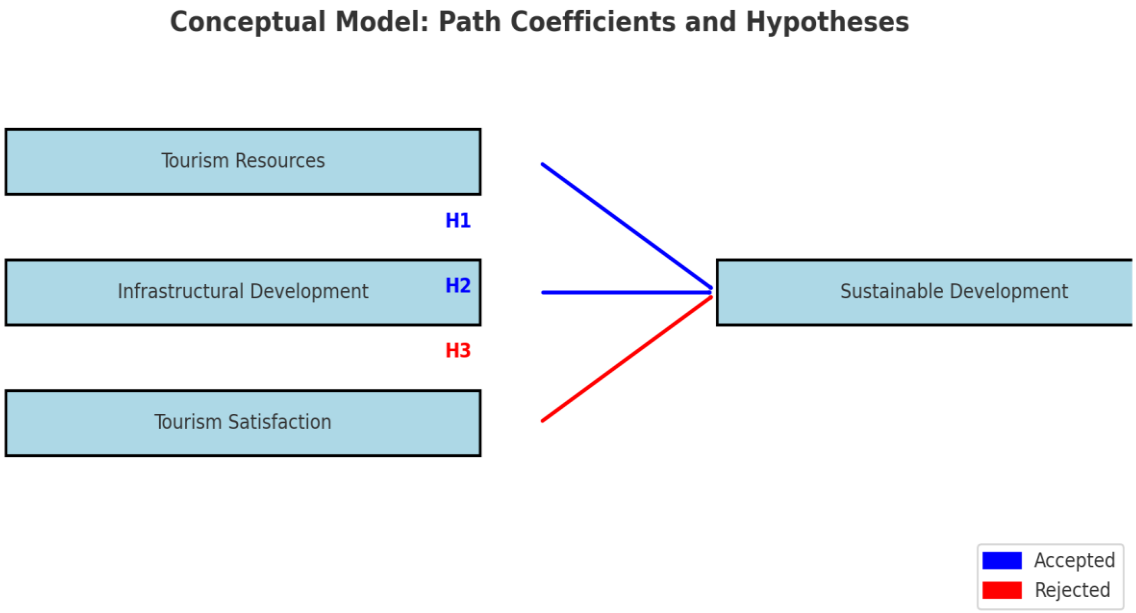

Figure 4.8 Conceptual Model:Path Coefficients and Hypotheses

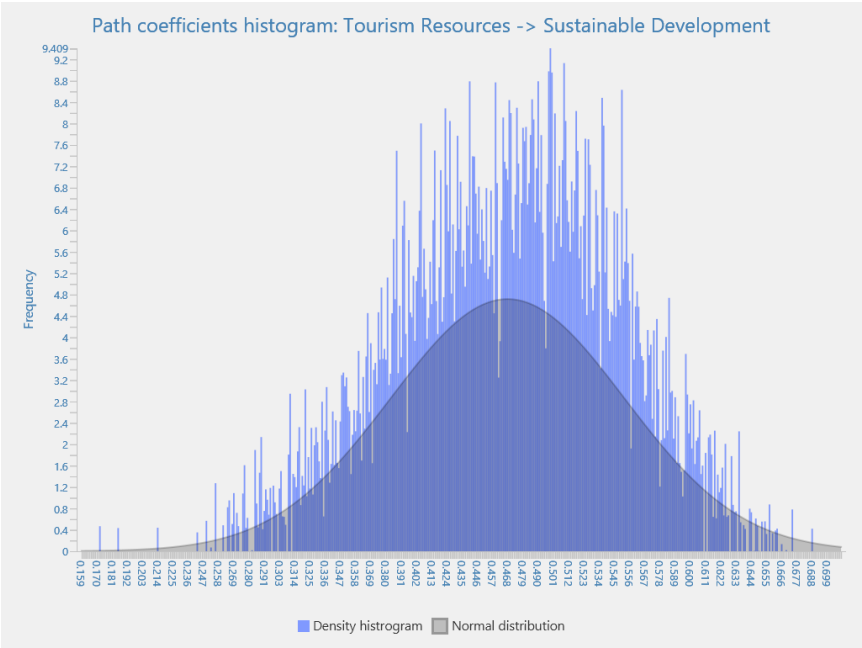

Figure 4.9 Histogram 1: Tourism Resources on Sustainable Development

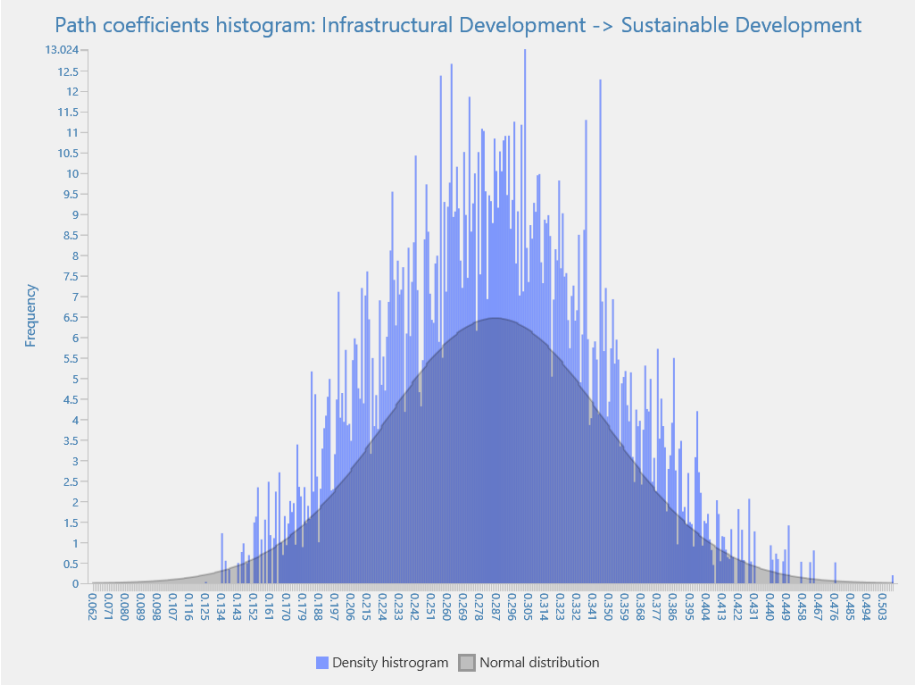

Figure 4.10 Histogram 2: Infrastructural Development on Sustainable Development

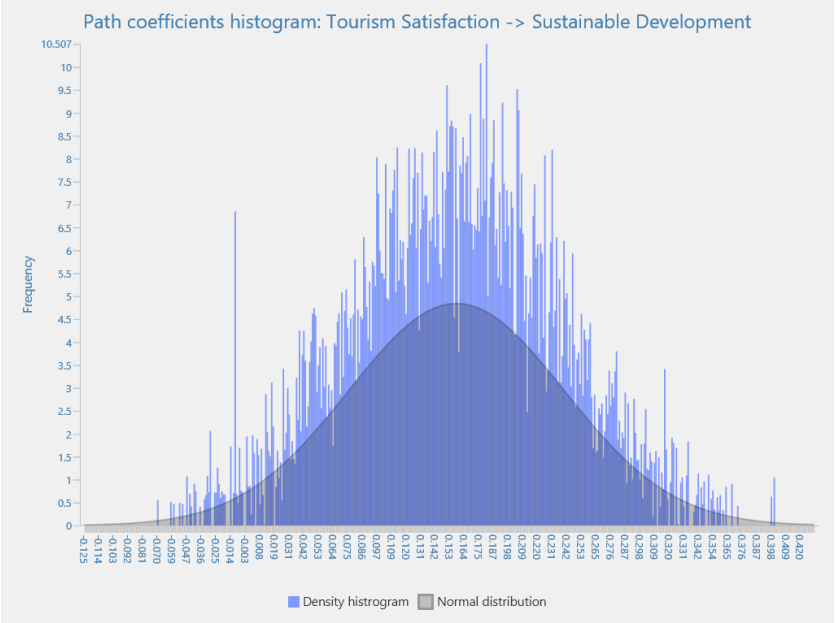

Figure 4.11 Histogram 3: Tourism Satisfaction on Sustainable Development

4.5 Test of accuracy

Table 4. 1 R square (determination coefficient)

Overview

	R-square	R-square adjusted
Sustainable Development	0.668	0.664

As per Chin (2010), the R-squared values of 0.19, 0.33, and 0.67 are commonly used as benchmarks for categorizing the strength of R-square values into weak, medium, and strong, respectively.

This way, it communicates the same idea but in different wording. The first structural equation shows an R-squared value of 0.668. When compared with the criteria values proposed by Chin (2010), it indicates that the three independent variables—tourism resources, infrastructure development, and tourist satisfaction—have a significant influence on the development of sustainable tourism. R2 is compared between research using adjusted R-square, which is not interpretable on its own.

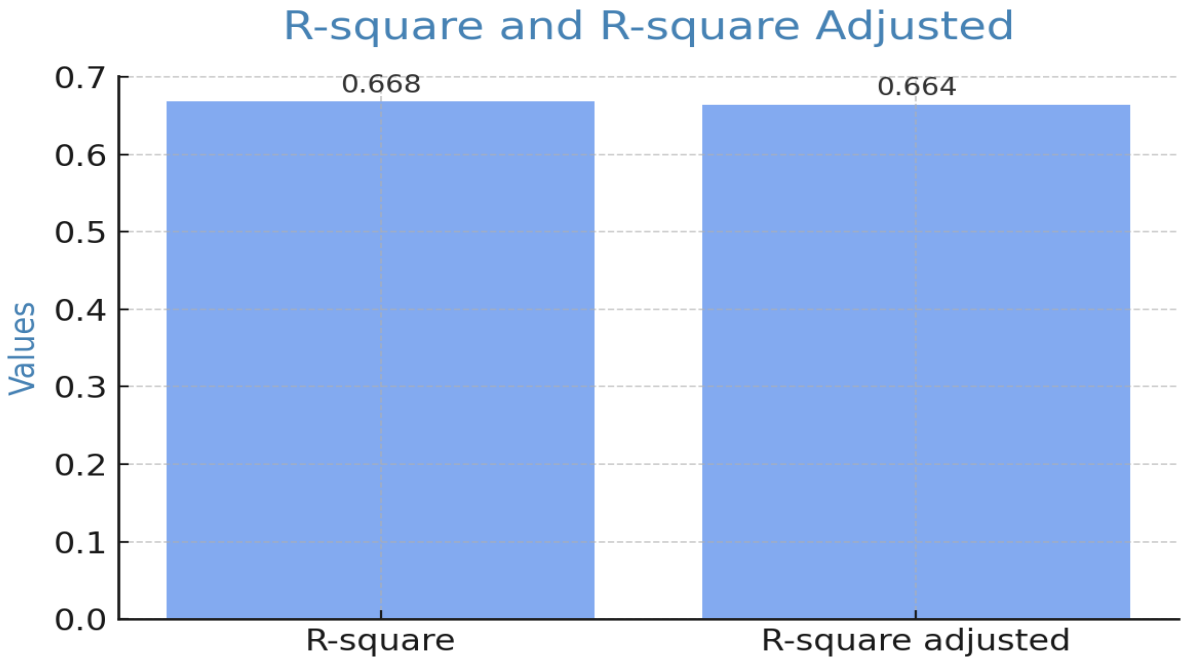

Figure 4.12 R Square and R square adjusted

4.6 Discussion

According to the study examination, the characteristic and accessibility of tourism resources have substantial impacts on the development of sustainable tourism. The wide steppes and the distinctive cultural heritage sites are just a few of Kazakhstan's varied landscapes that offer a unique opportunity for the growth of tourism in the country. Nevertheless, the analysis shows that even these resources are plentiful, there is still room for improvement in terms of their development and accessibility (Tleuberdinova et al., 2024). More people can be attracted and the overall tourist experience improved by employing marketing strategies that effectively exhibit these resources. Additionally, to guarantee that tourism development is in line with environmentally friendly principles, local communities must be involved in both the promotion and preservation of these resources (Ngo, & Hales, 2018).

The entire sustainability of Kazakhstani tourism is significantly impacted by infrastructure development. The study discovered that insufficient tourist facilities, a lack of alternatives to accommodation, and poor transportation systems all diminish the whole tourist experience. Infrastructure investments are crucial for improving visitor safety and comfort as well as making it simpler to gain access to tourist destinations (Allayarov et al., 2018). To ensure that this advancement satisfies the needs of both local populations and tourists, the public and private sectors must work closely to build comprehensive infrastructure plans that give a high priority to sustainability. This includes using environmentally friendly construction and repair procedures, which can lessen the negative effects of tourism on the environment (Geoffrey Deladem et al., 2021).

The degree of infrastructure development and the level of tourism satisfaction were found to be closely related to sustainable tourism development. Positive experiences for tourists increase the likelihood that they would return and suggest Kazakhstan as a travel destination, which supports the expansion of sustainable tourism. The study emphasizes how critical it is to comprehend the expectations of visitors and experiences (Mamirkulova et al., 2020).

It's also critical to encourage a culture of hospitality and superior customer service among travel agencies. Enhancing service delivery through training programs can greatly raise visitor satisfaction, encouraging positive word-of-mouth (WOM) and revenue business (Lai, 2014).

The findings of the research highlight the need for a comprehensive strategy for Kazakhstan's sustainable tourism industry development. Stakeholders, investors, and managers in tourist sectors can design a better comprehensive tourism plan by acknowledging the connections between infrastructure development, tourism resources, and visitor satisfaction (Tleuberdinova et al., 2024). Sustainable practices should be given top priority by policymakers to preserve cultural and natural resources and enhance the traveler experience. Promoting ecotourism projects, supporting small enterprises, and making sure that tourism growth has a positive social and economic impact on local communities are all part of the sustainable plan.

CHAPTER 5
CONCLUSION

In recent decades, we are witnessing a significant increase in interest in the study of tourism resources, infrastructure development, and visitor satisfaction as they relate to sustainable tourism development, especially in an environment of countries with developing economies like Kazakhstan. Many facets of this topic are covered by a wide range of literature, such as research on the importance of natural and cultural resources, the function of infrastructure in improving tourist experiences, and the crucial connection between sustainable practices and visitor happiness. In general, this subject topic contributes to an increasing understanding of how critical it is to combine tourism with strategies of sustainable development.

There are numerous studies that examine the complicated interactions among infrastructure, satisfaction indicators, and tourism resources. These subjects have been the subject of several published papers, dissertations, and research reports, indicating a growing educational interest in Central Asian destinations for tourism in general and Kazakhstan in particular. Interestingly, research into how these components support ethical tourism seems to be expanding, in line with worldwide trends toward greater environmental and social responsibilities. Quantitative research also validate to an increasing trend in the amount of citations related to this subject. Scholars have been citing important research more and more, which highlight the connection between infrastructure development, tourist satisfaction, resources and sustainable tourist development. This increase in citations demonstrates a noteworthy level of involvement from academics who add to and expand upon pre-existing structures in the field of tourism research, underscoring a group endeavor to create a solid comprehension of the ways in which sustainable tourism may be promoted in Kazakhstan.

Recent findings show a consistent increase in the number of publishing about tourism in Kazakhstan, which is consistent with general trends in international tourism studies. Because of changes in legislation and higher expenditures in Kazakhstan's tourist industry, there is a growing focus on sustainable tourism in academic journals and seminars. These changes imply that the scientific community is beginning to recognize the importance of addressing environmental sustainability in tourism operations.

Kazakhstan's abundance of cultural and environmental assets is driving expansion in the country's tourist sector. The significance of sustainable tourism development is emphasized in the study, which calls for the analysis and management of important variables such visitor satisfaction, infrastructure development, and resources related to tourism. It also emphasizes how important it is to develop plans to promote sustainable tourism and deal with problems like seasonality in travel, international and domestic travel, and tourist management at World Heritage Sites. To measure the progress of local ecotourism, a thorough evaluation of environmental, sociocultural, economic, and political elements is necessary for sustainable development in the tourism sector. Sustaining a high level of research is essential for advancing inquiries, providing guidance for activities, validating hypotheses, and producing outcomes.

A wide number of areas are covered in this study of Kazakhstan's tourist sector, encompassing the study's importance from both a local and global standpoint, sustainable tourism development, and tourism resources. The data provided highlights the possibilities and difficulties of Kazakhstan's tourist sector and highlights the importance of sustainable development and efficient resource management. It also highlights the significance of tackling important problems including revenue sharing, inadequate infrastructure, and the effects of tourism on sites of cultural heritage.

In addition to stressing the need of sustainable and ethical tourism practices, the paper highlights the role that tourism plays in driving economic growth. The text sheds light on the various environments—economic, highly competitive socio-cultural, technological in nature, and political—that impact the growth and administration of tourism in Kazakhstan, thereby highlighting the intricate challenges associated with adopting a sustainable and well-rounded strategy.

The paper tackles certain concerns, like tourism satisfaction and resources in the tourism industry, highlighting how important it is to consider the relevant factors support local communities and the sustainability of the environment. It also clarifies the state of underdeveloped infrastructure and how it affects the tourist industry, emphasizing the necessity of focused advancements in digital infrastructure, lodging, and transportation in order to improve the overall travel experience.

The use of theoretical frameworks, conceptual models, and variable definitions has reinforced the study and provided a solid foundation for understanding the underlying elements

influencing the growth of sustainable tourism. Additionally, it highlights the intricacies of the tourist sector, such as problems with fluctuations in demand, historical and cultural resources, and tourism management at World Heritage Sites—all of which are essential components of sustainable tourism.

The paper follows by providing a thorough analysis of the prospects and problems facing Kazakhstan's tourist sector, emphasizing the importance of sustainable development, equal revenue sharing, and the safeguarding of the country's natural and cultural treasures. The data provided in this study will be of great value to government officials, academics and industry stakeholders seeking to develop Kazakhstan's tourism industry while ensuring long-term sustainability and a positive impact on the country's economy, society and environment.

The study provides useful data on the problems facing the tourism sector in Kazakhstan. It also suggests areas for further research. One of these is the need for a more detailed study of business activities in the tourism sector and comparisons with other Central Asian countries. The study emphasizes that the sustainable development of tourism in Kazakhstan requires a balance between positive economic impacts and negative social and environmental impacts.

In conclusion, there is an enormous and increasing amount of research on the critical variables affecting Kazakhstan's tourism resources, infrastructure growth, and visitor happiness. There have been more published papers overall, and there has been a discernible increase in citations as well suggesting that academics are actively pursuing these issues. The increased trend in publication rates highlights a paradigm change in our knowledge of the critical components that enable the development of sustainable tourism in emerging nations.

5.1 Limitations and recommendations for future studies

The study's limitations stem from the author's inability to visit all the tourist sites in Kazakhstan. The study's possible drawbacks include issues with generalizations and inadequacies in the data collection process. Since the primary data was obtained electronically and the author has access to a large number of participants, however, the e-distribution fails to observe the feedback of participants when interviewing face to face. The data collection for this study was limited in time, seasonal fluctuations in tourism have not have been taken into consideration in the study. The time of year, local events, and economic situations may all have a substantial impact on visitor fulfillment and satisfaction, all of which may not have been taken

into account in the analysis. Likewise, the study did not take into consideration additional variables that can have an impact on the sustainable tourism business, such as costs, locations, client demographics, and travel aims. Moreover, External variables that affect tourism, such geopolitical concerns, financial instability, or worldwide occurrences (like pandemics), might not have been taken into consideration in this study. These factors could have an impact on tourist satisfaction and opinions of Kazakhstan as a travel destination. The study only looked at a few areas of Kazakhstan, which might not accurately reflect the varied travel environment there. Varied regions and areas may have various infrastructure, tourist resources, and visitor satisfaction levels, which could restrict how broadly the results can be generalized.

Future studies should be taken into account a wider geographical scope that encompasses a greater variety of Kazakhstani locations. This could provide a more comprehensive picture of the nation's tourism environment by enabling a comparative study of infrastructure, tourism resources, and visitor satisfaction across various regions.

Recommendations include the addition of extra factors in future research, such as key stakeholder interviews in the entertainment, hotel, food services, and leisure industries. It would also be beneficial to compare Kazakhstan's tourism industry's entrepreneurial spirit to other Central Asian countries and neighbors such as Kyrgyzstan and Uzbekistan. Moreover, looking at the expansion of tourism in nations going through "factor-driven economic development phase" and interviewing business owners about the factors influencing sustainable tourism and managing a travel agency could yield insightful information. Last but not least, more study on the creation and use of sustainable tourism strategies in Kazakhstan is necessary, as are initiatives to identify viable approaches to promote sustainable tourism in the nation.
It is recommended to future researchers to implement measures to enhance the infrastructure for tourism in rural areas, such as building public transportation, hotels, and road networks. Future research may look at Kazakhstan's current tourism policies and evaluate how well they support the growth of sustainable tourism in the country. This could entail assessing how well regulations adhere to global sustainability criteria and pinpointing areas in need of further development.

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