



**THE MEDIATING ROLE OF BRAND TRUST IN BUSINESS
MODEL INNOVATION AND BRAND LOYALTY---A CASE
STUDY OF GUIZHOU HOT SPRING HEALTH
TOURISM INDUSTRY IN CHINA**

**BY
XINYU XUE**

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XINYU XUE

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Prof.Poomthan Rangakulnuwat, Ph.D.
Examination Committee Chairperson

Piyaporn Chuchee, D.B.A.
Member

Chanakiat Samarnbutra, Ph.D.
Member

Samita Klinphong, Ph.D.
Member

Worapoj Sirichareechai, Ph.D.
Member and Co-Advisor

Nakamol Chansom, Ph.D.
Member and Advisor

Approved by Graduate School

(Prof.Suejit Pechprasarn, Ph.D.)

Dean of Graduate School

January 10, 2025

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Xinyu Xue

Researcher

6407668 : Xinyu Xue

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Dissertation Advisor : Nakamol Chansom, Ph.D.

Dissertation Co-Advisor : Worapoj Sirichareechai, Ph.D.

Abstract

The evolution of business models mirrors the changing times, and understanding the customer-brand relationship in each era is crucial. Researching factors that affect customer brand trust and loyalty offers valuable strategies for merchants. While brand trust and loyalty are well-studied, the impact of different business model dimensions on these factors, and the mediating role of brand trust, is less explored. This study focuses on Guizhou Hot Spring Hotel to analyze how novel and efficient business models influence brand trust and loyalty, and the mediating role of brand trust in this relationship.

Using a literature review framework and cross-sectional survey, 305 questionnaires were collected from hotel users. Data analysis was conducted with SPSS27.0 and AMOS26.0, utilizing structural equation modeling to test the relationships. Results indicate that both novel and efficient business models positively impact brand trust and loyalty. Moreover, brand trust significantly mediates the effect of these business models on brand loyalty. This study provides insights into the dynamics between business models and brand perceptions, highlighting the importance of brand trust as a mediator in enhancing brand loyalty through different business model strategies.

(Total 232 pages)

Keywords: Brand Trust, Business Model Innovation, Brand Loyalty

Student's Signature _____ Dissertation Advisor's Signature _____

Dissertation Co-Advisor's Signature _____

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Abbreviations and Symbols

Symbol	Meaning
AGFI	Adjusted Goodness-of-Fit Index
AVE	Convergence Validity
BL	Brand Loyalty
BMI	Business Model Innovation
BT	Brand Trust
CFA	Confirmatory Factor Analysis
CMIN/DF	Degrees of Freedom
CR	Combined Reliability
CRM	Implementing Customer Relationship Management
CSR	Corporate Social Responsibility
EBBMI	Efficiency-Based Business Model Innovation
GFI	Goodness-of-Fit Index
IFI	Incremental Fit Index
NBBMI	Novelty-Based Business Model Innovation
NFI	Normed Fit Index
NPS	Net Promoter Score
RBV	Resource Based View
RFI	Relative Fit Index
RMI	Revenue Model Innovation
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
S.D.	Standard Deviation
SEM	Structural Equation Modeling
TLI	Tucker-Lewis Index
VAI	Value Architecture Innovation
VFA	Validation Factor Analysis
VOI	Value Offering Innovation

Chapter 1

Introduction

1.1 Background of the Study

In recent years, the health tourism industry in Guizhou, China, has witnessed a significant shift towards innovative business strategies aimed at enhancing visitor experiences and engagement. The "Guizhou Provincial Tourism Industry Plan" (Guizhou Provincial Tourism Bureau, 2018) outlines the strategic vision for leveraging the province's extensive hot spring resources to establish Guizhou as a leading destination for wellness tourism. This plan underscores the potential of the Guizhou Hot Spring Health Tourism Industry to drive regional development and attract global visitors seeking health and relaxation experiences. Furthermore, the Guizhou provincial government has articulated a vision to transform the region into "China's Hot Spring Province and a Global Wellness Destination" (Guizhou Provincial Government, 2019), reflecting the province's commitment to developing its hot spring resources and wellness tourism offerings as key components of its economic and cultural strategy. Addressing the challenges and opportunities within the Guizhou Hot Spring Health Tourism Industry requires a comprehensive approach that considers the unique qualities of Guizhou's thermal waters, the integration of traditional Chinese medicine, and the development of evidence-based wellness therapies. Zhang and Wang (2020) discuss the sustainable development of hot spring tourism in Guizhou, emphasizing the need for enhancing the therapeutic and recreational appeal of hot springs while ensuring sustainable development practices.

This research incorporates the theoretical insights of Zott and Amit(2010), particularly their NICE model, which emphasizes the significance of novelty and efficiency in creating value through business model innovation. By applying the NICE framework to the Guizhou Hot Spring Health Tourism Industry, the study aims to

explore how these dimensions of BMI can influence brand trust and loyalty, providing a foundational perspective for understanding the dynamic interplay between innovative business practices, customer perceptions, and market competitiveness in the context of health tourism.

Supporting this exploration, Balboni, Bortoluzzi, Pugliese, and Tracogna (2019) emphasize the importance of pursuing higher efficiency over the life cycle of a start-up, although not at the moment of its establishment. This insight is crucial for understanding how efficiency-based BMI can be strategically implemented in the wellness tourism sector to enhance brand loyalty over time. Additionally, the study by Hu and Chen (2016) on the effects of efficiency and novelty on technological innovation performance in Chinese manufacturing firms underscores the positive relationship between these business model themes and performance, suggesting a similar potential impact within the tourism industry.

Moreover, Ma et al. (2018) highlight the moderating effects of novelty-centered and efficiency-centered business model design themes on the relationship between green product innovation and firm performance. This finding suggests that a balanced approach to incorporating novelty and efficiency in business model innovations can significantly enhance firm performance, which can be extrapolated to the context of health tourism in Guizhou to foster brand trust and loyalty.

Chaudhuri and Holbrook (2001) examine the chain of effects from brand trust and brand affect to brand performance, including the role of brand loyalty, and find that purchase loyalty and attitudinal loyalty are critical in leading to greater market share and a higher relative price for the brand. This underscores the importance of brand trust in mediating the relationship between business model innovation and brand loyalty.

Ball, Coelho, and Machás (2004) show that customer loyalty can be explained substantially by customer satisfaction, trust, and communication, highlighting the direct and indirect effects among these constructs. This supports the notion that brand trust plays a crucial mediating role in the development of brand loyalty, especially in the context of innovative business models.

Delgado-Ballester and Munuera-Alemán (2001) focus on brand trust in the

context of consumer loyalty, suggesting the key role of brand trust as a variable that generates customers' commitment, particularly in high involvement situations where its effect is stronger compared to overall satisfaction.

Zhang, Li, Liu, Shen, and Li (2020) further explore the mediating effects of brand equity and travel motivation on the relationship between novelty and travel intention, providing valuable insights into how novelty in tourism management can enhance brand equity and intrinsic motivation, thereby increasing tourists' travel intentions. This research supports the notion that novelty-based BMI can play a crucial role in attracting and retaining tourists in the competitive wellness tourism market.

These studies collectively underscore the transformative potential of business model innovation in the health tourism industry, particularly within the unique cultural and economic context of Guizhou, China. By leveraging novelty-based and efficiency-based innovations, the Guizhou Hot Spring Health Tourism Industry can enhance brand trust and loyalty, contributing to sustainable growth and a loyal customer base.

1.2 Statement of the Problem

This study seeks to unravel the intricate dynamics between business model innovation (BMI), brand trust, and brand loyalty within the burgeoning sector of the Guizhou Hot Spring Health Tourism Industry. The central inquiries aim to dissect the mechanisms through which novelty and efficiency in BMI foster brand trust and, subsequently, how this trust translates into brand loyalty.

1.3 Research Questions

Based on the above research background, we propose the following research questions as below.

1.3.1 How does novelty-based business model innovation influence brand trust among consumers in the Guizhou Hot Spring Health Tourism Industry?

This question probes the ability of unique and innovative offerings to elevate

consumer trust, a critical component in the brand loyalty equation.

1.3.2 In what ways does efficiency-based business model innovation impact consumer trust within the Guizhou Hot Spring Health Tourism Industry?

This inquiry focuses on the operational side, examining how improvements in service delivery and process optimization contribute to building trust with the brand.

1.3.3 Does brand trust mediate the relationship between novelty-based business model innovation and brand loyalty in the Guizhou Hot Spring Health Tourism Industry?

By exploring this question, the study aims to understand whether the trust built through innovative offerings effectively translates into sustained loyalty from consumers.

1.3.4 Is there a mediating role of brand trust in the pathway from efficiency-based business model innovation to brand loyalty among consumers of the Guizhou Hot Spring Health Tourism Industry?

This question delves into the operational efficiencies of businesses and their capacity to engender loyalty through the establishment of trust.

1.3.5 What is the combined effect of novelty and efficiency in business model innovation on brand loyalty, mediated by brand trust, in the context of the Guizhou Hot Spring Health Tourism Industry?

This comprehensive question aims to capture the overarching relationship between BMI, brand trust, and loyalty, considering both the innovative and operational dimensions of business models.

Through these questions, the study endeavors to offer nuanced insights into how business model innovation — both from the angles of novelty and efficiency — can serve as a lever for enhancing brand trust and, by extension, loyalty within the specific context of health tourism in Guizhou. This exploration is crucial for businesses aiming to leverage BMI for strategic differentiation and to cement long-term relationships with their customers in a competitive landscape.

1.4 Research Objectives

The research aims to investigate the influence of two distinct forms of Business Model Innovation(BMI)—novelty-based and efficiency-based—on the development of brand trust and their subsequent effect on brand loyalty. And the specific research objectives are as follows:

1.4.1 Studying the impact of novelty based and efficiency based BMI on brand trust and loyalty in the hot spring health tourism industry in Guizhou.

1.4.2 Studying the mediating role of brand trust in business model innovation and brand loyalty.

1.4.3 Providing valuable insights for the strategic development of the health tourism market.

1.5 Significance of the Study

This research project unfolds significant implications for a wide array of stakeholders within the Guizhou Hot Spring Health Tourism Industry and the larger wellness tourism domain. It delves deeply into understanding how business model innovations, particularly those emphasizing novelty and efficiency, play a pivotal role in cultivating brand trust and subsequently, brand loyalty. This exploration is critical, as it sheds light on strategic business practices that could significantly bolster a competitive edge and ensure customer retention in a fiercely competitive market. By dissecting the nuanced role that brand trust plays in mediating the relationship between innovative business models and brand loyalty, the study offers a refined approach to brand management and customer relationship cultivation. Such insights are invaluable for policymakers, investors, and business owners, providing a robust foundation for crafting targeted strategies that harness cultural and economic strengths to fuel the sustainable growth of the wellness tourism sector and stimulate regional development (Gartner & Konečnik Ruzzier, 2011; Li & He, 2022).

Furthermore, this investigation aims to seamlessly bridge the gap between theoretical constructs and practical applications by weaving together insights from

tourism management, brand strategy, and innovation disciplines. It contributes to academic discourse by enriching the literature on brand loyalty and trust within the context of business model innovation, presenting a holistic framework for dissecting these dynamics in a specific regional and industry context. For industry practitioners, the strategies informed by the research findings are poised to guide the design and execution of business models that resonate with consumer expectations and align with prevailing market trends, thereby ensuring the wellness tourism industry's resilience and prosperity (Harrigan, Evers, Miles & Daly, 2017; Konečnik & Gartner, 2007).

The broader significance of this study is underscored by its potential to fortify the theoretical underpinnings of tourism studies, particularly through its exploration of the interplay among business model innovation, brand trust, and loyalty. This has practical ramifications for destination marketing organizations and tourism operators, equipping them with evidence-based strategies that align with contemporary travelers' demands for authenticity, efficiency, and personalized experiences. By focusing on the Guizhou Hot Spring Health Tourism Industry, this research not only promises to catalyze local economic upliftment but also contributes to the global dialogue on sustainable tourism practices. It emphasizes the critical importance of nurturing and preserving trust as a fundamental pillar of customer loyalty and business triumph, offering a blueprint for sustainable success in the evolving landscape of the wellness tourism industry (Šerić, Mikulić & Gil-Saura, 2018; Spieth, Roeth & Meissner, 2019).

1.6 Scopes and Limitations of the Research

The research on business model innovation (BMI) in tourism, particularly within the context of the Guizhou Hot Spring Health Tourism Industry, aims to explore the impact of novelty-based and efficiency-based innovations on brand trust and loyalty. This investigation is crucial for understanding how these innovations can drive economic development, improve quality of life, and cater to the growing demand for health-centric services in Guizhou, China. However, several limitations are inherent in this study:

1.6.1 Regional Specificity

The focus on the Guizhou Hot Spring Health Tourism Industry may limit the generalizability of the findings to other regions or industries. The unique cultural, economic, and natural resources of Guizhou provide a specific context that may not be replicable elsewhere.

1.6.2 Data Collection Biases

Relying on quantitative data from stakeholders introduces potential biases. Stakeholders' perceptions and experiences may not fully capture the broader impacts of BMI on brand trust and loyalty.

1.6.3 Dynamic Nature of the Tourism Industry

The tourism industry is subject to rapid changes due to policy shifts, economic fluctuations, and evolving consumer preferences. These external factors can significantly impact the applicability and relevance of the study's findings over time.

1.6.4 Limited Empirical Evidence

The limitation concerning the lack of empirical evidence on the "family business model" as an innovation driver in the tourism sector, highlighted by Arcese, Valeri, Poponi and Elmo (2020), indeed serves as a limitation of this research study. It underscores a specific gap within the scope of this investigation, pointing to a need for further empirical research to understand how different business models, including family-run businesses, contribute to innovation and sustainability in the tourism industry. This limitation directs attention to the broader challenge of identifying effective business models for fostering innovation within this sector.

1.6.5 Knowledge Transfer and Open Innovation

Szromek (2022) discusses the importance of open innovation and knowledge transfer in enhancing the value propositions of cultural heritage tourism sites. The study indicates a correlation between managers' attitudes towards open innovation and the innovation outcomes, underscoring the potential for open innovation to contribute to sustainable business practices in tourism.

These limitations underscore the need for a cautious interpretation of the study's findings and suggest areas for future research. Addressing these limitations could provide a more comprehensive understanding of the role of business model innovation

in enhancing brand trust and loyalty within the tourism industry.

1.7 Definitions and Explanations

Business Model Innovation (BMI) BMI refers to the strategic restructuring of a firm's value proposition, revenue models, and operational processes to create new avenues for value creation and capture. Souto (2015) defines BMI as a means for obtaining competitive advantages in the tourism and hospitality sectors, emphasizing the importance of adopting new models and concepts that support innovation for sustainable competitive advantages.

Novelty-Based Business Model Innovation(NBBMI) This dimension of BMI involves introducing new and unique business concepts or models that diverge from traditional practices, aimed at capturing customer interest and opening new markets. According to Spieth et al. (2019), novelty-based BMI impacts customers' brand perceptions by introducing value offering innovations that can positively influence brand equity while potentially affecting brand loyalty. Zott and Amit theorize that this involves the creation of new transaction structures to generate value, which can be through novel activities, novel linkages between activities, or novel ways of governing those activities. This conceptualization suggests that novelty in BMIs can disrupt existing market structures and create new opportunities for customer engagement and value creation. Brannon and Wiklund (2016) further elaborate on the importance of breaking established industry recipes through business model innovation, highlighting the role of novel business models in achieving competitive advantage and industry leadership.

Efficiency-Based Business Model Innovation(EBBMI) EBBMI focuses on refining and improving existing business models to enhance operational efficiency, reduce costs, and improve customer satisfaction, often through the integration of advanced technologies or streamlined processes. Spieth et al. (2019) also note that efficiency-based BMI, through value architecture innovation, can have an inverted U-

shaped relationship with brand trust, highlighting the complexity of its impact on customer perceptions. According to Zott and Amit, efficiency-based BMI focuses on redesigning transaction structures to reduce transaction costs or make transactions more efficient. This can involve streamlining processes, enhancing synergies among activities, or optimizing governance mechanisms, all aimed at delivering value to the customer more efficiently and effectively. Johansson and Mollstedt (2006) suggest a more narrow focus on the value of complementary services in e-business, emphasizing efficiency and the reduction of transaction costs as key drivers of financial performance.

Brand Trust(BT) A consumer's confidence in a brand's reliability and integrity, which is crucial for establishing a sustainable relationship between the customer and the brand. Chaudhuri and Holbrook (2001) discuss brand trust as a key determinant of brand performance, linking it directly to brand loyalty and emphasizing its role in the development of purchase loyalty and attitudinal loyalty.

Brand Loyalty(BL) The tendency of consumers to continuously purchase or support a preferred brand over its competitors, often characterized by repeated buying and a positive attitude towards the brand. Gartner and Konečnik Ruzzier (2011) explore the dimensions of tourism destination brand equity, including loyalty, and how it plays a crucial role in tourists' evaluation of a destination, underlining the importance of loyalty in the context of tourism.

These definitions offer a foundational understanding of the key concepts that will be explored throughout the study, providing a comprehensive framework for analyzing the impact of business model innovation on brand trust and loyalty within the tourism industry.

These insights from Zott and Amit, supported by empirical findings from Brannon and Wiklund (2016) and Johansson and Mollstedt (2006), provide a comprehensive understanding of how novelty and efficiency in BMI can significantly impact customer engagement, value creation, and financial performance.

Chapter 2

Literature Review

2.1 Introduction

Business Model Innovation (BMI) has emerged as a pivotal concept in the strategic management and growth process of firms across various industries. BMI encompasses the introduction of novel elements into a company's value proposition, revenue streams, and operational logistics—commonly referred to as novelty-based innovation. It reflects a firm's endeavor to differentiate its offerings to capture new market segments or enhance customer experience. Concurrently, efficiency-based innovation focuses on refining existing processes to bolster operational efficiency and cost-effectiveness, thereby strengthening the company's competitive position. Both dimensions have become integral to businesses aiming to adapt to rapidly changing markets and consumer demands, ensuring sustainable growth and profitability.

In the context of the Guizhou Hot Spring Health Tourism Industry in China, the concept of business model innovation (BMI) takes on a critical role. This industry, poised at the intersection of cultural heritage and modern wellness trends, has witnessed the burgeoning significance of both novelty-based and efficiency-based BMI. Novelty-based BMI reflects the introduction of new and unique wellness experiences, leveraging Guizhou's abundant hot spring resources to offer differentiated services that can enhance customer engagement and brand trust. Efficiency-based BMI, on the other hand, focuses on optimizing operational processes and service delivery to improve customer satisfaction and trust, thereby fostering brand loyalty. The mediating role of brand trust in this relationship is crucial as it encapsulates the degree to which these innovations are not only accepted but also embraced by customers, ultimately driving brand loyalty and contributing to sustainable corporate growth in this niche market.

The diverse categories of innovation within tourism, including product, process,

managerial, marketing, and institutional innovations, and acknowledges the critical role of entrepreneurship, technology, and territorial industry clusters in fostering innovation. Martínez-Román, Tamayo, Gamero and Romero (2015) highlight the positive relationship between innovative outcomes in products and processes and business profitability in the Andalusian hospitality industry, suggesting that innovation leads to sustainable brand loyalty. Souto (2015) emphasizes the importance of adopting new business models and concepts that support innovation for achieving sustainable competitive advantages in tourism and hospitality sectors.

These insights offer a comprehensive understanding of the role of business model innovation in enhancing brand trust and loyalty within the tourism industry, particularly in the context of the Guizhou Hot Spring Health Tourism Industry.

The purpose of this literature review is to establish a comprehensive foundation for understanding the dynamic interrelations among business model innovation, brand trust, and brand loyalty in the context of the Guizhou hot spring health tourism industry. By examining existing theories and empirical studies, this review aims to identify gaps in the current knowledge and set a theoretical framework that guides the investigation. The review covers key concepts and theoretical underpinnings related to the constructs of business model innovation, brand trust, and loyalty, exploring how these elements interact to influence consumer behavior and business performance. The insights from Spieth et al. (2019) highlight the significant impact of business model innovation on consumer perception and brand loyalty.

2.1.1 Purpose of the Literature Review

The literature review serves multiple critical functions in this research. Firstly, it provides a detailed exploration of the conceptual and empirical backgrounds of each key construct—business model innovation, brand trust, and brand loyalty. Understanding these concepts thoroughly is crucial for applying them accurately within the specific context of health tourism in Guizhou. Secondly, this review identifies the relationships and potential causality between these constructs as reported in existing studies, which helps in hypothesizing the interactions within the health tourism context. Studies like those by Mekhum and Sriupayo (2020) and Lertwannawit and Nak (2016) provide empirical evidence of how brand trust and

loyalty can be influenced by innovative business strategies in the tourism sector .

Additionally, the literature review assesses the methodologies previously employed in similar studies, which aids in refining the research design and methods for this study. This approach ensures that the research contributions are grounded in theory while offering new insights. Finally, by critically analyzing the strengths and weaknesses of existing research, this literature review sets the stage for this study to address unexplored areas or gaps, thereby advancing the understanding of how innovative business models can be leveraged to enhance brand trust and loyalty in a rapidly evolving industry. The synthesis of theoretical and empirical insights from various studies underscores the complexity and multifaceted nature of the constructs under examination, making a substantial contribution to the field.

2.1.2 Scope of the Review

The scope of this literature review is deliberately broad yet focused, encompassing several key areas within the realms of business model innovation, brand trust, and brand loyalty, specifically tailored to the health tourism sector. The review traverses various disciplines including marketing, tourism management, and business strategy, reflecting the interdisciplinary nature of the research topic. It spans a diverse range of literature from peer-reviewed journal articles, industry reports, and case studies, to book chapters and conference proceedings that are pertinent to understanding the complex interplay between these constructs.

2.1.2.1 Business Model Innovation

This segment of the review focuses on the concept of business model innovation in the context of the service industry, with a specific emphasis on tourism. It explores different types of innovations that businesses undertake to enhance their competitive edge and meet changing consumer demands. This includes examining novel revenue streams, service delivery methods, and customer engagement strategies that are particularly relevant to the health tourism sector. Insights from Spieth et al. (2019) underscore the significance of these innovations in shaping consumer perceptions and brand loyalty.

2.1.2.2 Brand Trust

In exploring brand trust, the review delves into the psychological and behavioral

aspects of how consumers develop trust towards a brand. It looks at the factors that contribute to building and sustaining trust, including consistency, reliability, transparency, and ethical behavior. Special attention is given to how these factors operate in the tourism industry, where customer experience is pivotal. Mekhum and Sriupayo (2020) provide empirical evidence on the critical role of brand trust in enhancing brand loyalty within the health tourism industry.

2.1.2.3 Brand Loyalty

The review of brand loyalty investigates the factors that lead customers to remain loyal to a brand over time, despite the presence of competitive alternatives. It examines both the emotional and rational bases of loyalty, including satisfaction, attachment, perceived value, and quality of service. The role of loyalty programs and customer relationship management strategies in fostering loyalty within the tourism sector is also analyzed. The study by Lertwannawit and Nak (2016) illustrates how service quality directly influences brand loyalty through the mediating role of brand trust.

2.1.2.4 Contextual Focus on Guizhou's Hot Spring Health Tourism

A significant portion of the review is dedicated to understanding the unique aspects of the hot spring health tourism industry in Guizhou. This involves a review of the regional tourism strategy, consumer behavior in health tourism, and the specific attributes of Guizhou's hot springs that attract tourists. The impact of cultural, economic, and environmental factors on business models and brand strategies in this regional context is also scrutinized. Insights from Yi, Khan, and Safeer (2022) emphasize how innovative business practices adapted to local contexts can significantly enhance brand loyalty and consumer engagement in health tourism sectors across Asia.

2.1.2.5 Integration and Theoretical Framework

Lastly, the review seeks to integrate these individual strands into a cohesive theoretical framework that can explain the relationships between business model innovation, brand trust, and brand loyalty in a health tourism context. This framework will guide the empirical investigation by hypothesizing how innovative business practices influence trust and loyalty among tourists in Guizhou's hot springs. The

framework incorporates studies such as those by Spieth et al. (2019), who discuss the implications of business model innovations on customer perceptions and brand loyalty, providing a basis for understanding how these dynamics play out in the specific context of Guizhou's health tourism.

Through this extensive review, the study aims to capture a holistic view of the existing theories and practices, while identifying innovative strategies that could be beneficial for stakeholders in the health tourism industry. The ultimate goal is to provide a detailed, scholarly foundation that supports the research hypotheses and contributes to both academic knowledge and practical applications in tourism management.

2.2 Theoretical Background on BMI

The theoretical underpinnings of Business Model Innovation (BMI) encompass an array of frameworks that explain how firms create, deliver, and capture value. In the context of the Guizhou Hot Spring Health Tourism Industry, novelty-based BMI pertains to introducing groundbreaking offerings such as unique health treatments or wellness experiences, which can enhance customer perception of the brand's value, leading to increased trust. Efficiency-based BMI, on the other hand, focuses on optimizing operations and customer experiences, leading to operational excellence that reinforces trust and loyalty. Theories such as the Resource-Based View (RBV) suggest that by leveraging unique resources—like Guizhou's hot springs—firms can develop competitive advantages that are difficult for competitors to imitate, thus boosting brand equity and enlarging market share. Through this lens, both forms of BMI are seen as critical in developing a loyal customer base that values the brand's distinctiveness and operational effectiveness.

Morris, Schindehutte and Allen (2005) discuss the entrepreneur's business model as a unified perspective, emphasizing the importance of integrating novelty and efficiency in creating, delivering, and capturing value to achieve sustainable competitive advantages. Baden-Fuller and Haefliger (2013) explore the relationship between business models and technological innovation, highlighting how business

models mediate the link between technology and firm performance, and how the right technology decisions can enhance brand trust and loyalty. Demil and Lecocq (2010) focus on business model evolution and the search for dynamic consistency, illustrating how continuous innovation in business models can sustain firm performance and customer loyalty over time.

These theoretical perspectives provide a comprehensive understanding of how novelty-based and efficiency-based BMI can significantly impact brand trust and loyalty within the tourism industry, particularly in the context of the Guizhou Hot Spring Health Tourism Industry.

2.2.1 Definition and Conceptualization

Business Model Innovation (BMI) refers to the process through which firms fundamentally rethink their logic of value creation, capture, and delivery mechanisms to enhance their performance and competitiveness. Unlike product or process innovations, BMI affects multiple aspects of a business model, including the value proposition, customer segments, revenue streams, and the cost structure. The concept embraces changes in the ways businesses operate and deliver value to their stakeholders, aiming not just at incremental improvements but at transforming the industry norms and expectations.

At its core, business model innovation involves the introduction of novel concepts into a business's framework of operations that fundamentally change the way value is delivered. This can include re-configuring the value chain, exploring new market segments, or implementing cutting edge technologies to enhance service delivery. Scholars like Osterwalder and Pigneur have characterized the business model through nine building blocks, which include key partners, activities, resources, value propositions, customer relationships, channels, customer segments, cost structure, and revenue streams. Innovation can occur in any of these areas and often requires a holistic change across several of them. Spieth et al. (2019) discuss how various dimensions of BMI affect customer brand perceptions and loyalty.

2.2.2 Importance of BMI

The importance of business model innovation has been emphasized significantly in contemporary business strategy, primarily due to its potential to provide sustainable

competitive advantages. In the rapidly evolving business landscapes, especially in sectors like tourism, where consumer preferences and technological capabilities change swiftly, the ability to innovate business models can determine a firm's survival and success. BMI allows organizations to differentiate themselves in saturated markets, respond to environmental and societal changes, and exploit new opportunities that arise from technological advancements.

In the context of the tourism industry, and specifically within the health tourism sector, BMI is crucial for adapting to the dynamic preferences of healthconscious travelers who are increasingly looking for more personalized, seamless, and enriching experiences. For regions like Guizhou, which is cultivating its identity around health tourism through its hot springs, BMI can facilitate the development of unique offerings that cater to niche markets, enhancing both tourist satisfaction and regional competitiveness.

Moreover, business model innovation is critical for aligning the operational practices of tourism businesses with sustainable and responsible tourism principles. This alignment is increasingly important as consumers and stakeholders become more environmentally conscious and socially aware. Innovative business models in health tourism can integrate eco-friendly practices, promote local culture, and ensure economic benefits to the local communities, thereby contributing to the long-term sustainability of the tourism sector.

Overall, the theoretical exploration of BMI in this literature review sets the stage for understanding its applications in the specific context of Guizhou's hot spring tourism industry. By doing so, it seeks to uncover the potential pathways through which innovative business models can enhance brand trust and loyalty among tourists, fulfilling both economic objectives and broader social and environmental goals.

2.2.3 Conceptualizing NBMI

The scope of this literature review encompasses a comprehensive analysis of business model innovation (BMI) within the context of the tourism industry, with a particular focus on health tourism. This review aims to explore a broad array of sources to provide a holistic understanding of the current theoretical frameworks, empirical findings, and practical applications of BMI in enhancing competitiveness

and sustainability in tourism.

2.2.3.1 Broad Themes Covered

1)Theoretical Foundations

This review will delve into the fundamental theories underpinning business model innovation, including definitions, components, and strategic importance. Spieth et al. (2019) provide a detailed analysis of how various dimensions of business model innovation can affect customer brand perceptions and loyalty, emphasizing the strategic importance of innovative models in business success.

2)Sector Specific Applications

The review will narrow down to the application of BMI in the tourism sector, highlighting case studies and practical examples where innovative business models have led to enhanced economic performance and customer satisfaction. Particular attention will be given to health tourism, an area that has seen rapid growth and where innovation can lead to significant competitive advantage. Yi, Khan, and Safeer (2022) discuss how innovation activities in Asian markets enhance brand loyalty and contribute to sustainable business practices, particularly in the health tourism sector .

3)Impact on Brand Trust and Loyalty

An essential part of this review will assess how business model innovations impact brand trust and loyalty, particularly in the tourism industry. This involves examining how changes in business models can influence customer perceptions, satisfaction, and behavioral intentions. Mekhum and Sriupayo (2020) highlight how factors like brand goodwill, experience, and personality in the health tourism sector significantly affect brand loyalty, underlining the impact of innovative practices on brand trust and loyalty.

4)Sustainability and Social Responsibility

Considering the increasing importance of sustainability, the review will also cover how BMI can be leveraged to promote environmental stewardship, cultural preservation, and social responsibility within the tourism industry. Studies such as those by Yi, Khan, and Safeer (2022) illustrate how business model innovations in the Asian tourism sector are not only enhancing brand loyalty but also advancing sustainable business practices, highlighting the integration of environmental and social

responsibilities into core business strategies.

2.2.3.2 Geographical Focus

While the review will consider global literature to provide a comprehensive understanding, it will emphasize innovations in regions like Guizhou, China, known for its burgeoning health tourism sector centered around hot springs. This regional focus will help contextualize the global concepts in a specific area that is looking to expand its tourism capabilities through innovative practices. The insights from Spieth et al. (2019) provide an example of how business model innovations can be adapted to specific regional contexts, enhancing both competitiveness and sustainability.

2.2.3.3 Methodological Considerations

The review will include studies from a variety of methodologies, including qualitative case studies, quantitative analyses, and mixed method approaches. This will ensure a robust understanding of BMI from multiple perspectives and provide a richer, more nuanced understanding of its effects. The diversity of methodologies reflects the complexity of innovations in tourism business models, as shown in the empirical research by Mekhum and Sriupayo (2020), which used a survey approach to analyze brand loyalty in the health tourism context of Thailand.

2.2.3.4 Time Frame

The literature from the past two decades will be primarily considered to ensure relevance and timeliness in understanding the dynamics of BMI in the tourism industry. However, foundational theories developed earlier that remain pertinent to current business model innovations will also be included.

In summary, the scope of this review is designed to furnish stakeholders in the tourism industry, particularly in sectors like health tourism, with insights into how innovative business models can not only drive economic success but also enhance customer loyalty and fulfill broader societal goals. The findings aim to contribute to both academic knowledge and practical applications in the field.

2.2.4 Novelty Based Business Model Innovation (NBMI)

Novelty Based Business Model Innovation (NBMI) is characterized by the introduction of new and unique concepts or practices within a business model that distinctly set a company apart from its competitors. This form of innovation often

involves the incorporation of groundbreaking technologies, pioneering services, or radical changes to the way business is conducted. The essence of NBMI lies in its ability to redefine the market landscape, create new market niches, or redefine customer expectations and experiences.

2.2.4.1 Key Aspects of NBMI

1) Value Propositions

NBMI often redefines what value is offered to customers. This could mean offering a completely new product or service that meets previously unaddressed needs or significantly enhancing the quality or convenience of existing offerings. Harrigan, et al. (2017) discuss how customer engagement innovations can redefine value propositions, significantly altering customer expectations and satisfaction within the tourism industry.

2) Revenue Models

Innovations in how companies generate revenue can also be a part of NBMI. This might include implementing a subscription-based pricing model where there was none, or introducing pay-per-use services in industries traditionally dominated by flat-rate pricing structures. Menidjel, Benhabib, and Bilgihan (2017) provide insights into how changing revenue models through customer personality traits like innovativeness can drastically shift market dynamics.

3) Market Engagement

NBMI can involve finding novel ways to engage with markets, such as tapping into previously unexplored customer segments or utilizing cutting-edge marketing techniques like virtual reality or augmented reality to enhance customer interaction and engagement. Kumar and Kaushik (2017) highlight how brand identification and technology utilization can open new avenues for customer engagement and market penetration.

Technological Utilization: Often, NBMI leverages emerging technologies to create new business processes, enhance customer interactions, or improve operational efficiencies. This utilization ranges from AI-driven customer service platforms to blockchain for secure, transparent transactions.

2.2.4.2 NBMI in the Context of Health Tourism

In the health tourism sector, Novelty Based Business Model Innovation (NBMI) plays a crucial role in distinguishing service providers in a highly competitive market. Health tourism, which includes wellness retreats, medical tourism, and spa services, among others, is particularly conducive to NBMI due to the personal and innovative nature of the services offered. Applications of NBMI in health tourism are as follows:

1) Personalized Wellness Programs

Utilizing big data and AI to create personalized health and wellness plans for tourists, which can adapt based on realtime feedback and health monitoring, offers a novel approach that enhances customer satisfaction and outcomes. This strategy is supported by research from Kumar and Kaushik (2017), who explore how technologydriven customization can significantly improve the effectiveness of health tourism offerings.

2) Integration of Local Culture

Innovatively incorporating local traditions and practices into the health tourism experience can significantly enhance the uniqueness of the offering. For example, using indigenous herbal treatments or traditional healing practices as part of spa services. Harrigan et al.(2017) discuss the impact of integrating local cultural elements into health tourism services on enhancing tourist engagement and satisfaction .

3) Sustainable Practices

Developing business models that prioritize environmental sustainability and local community involvement can not only cater to the growing market of ecoconscious travelers but also help preserve the natural and cultural resources that health tourism depends on.

4) Telehealth Services

Introducing telehealth services as part of a health tourism package, where guests can receive followup consultations and care through online platforms after they return home, extends the care continuum and enhances customer loyalty.

5) Experience Customization

Leveraging technology to allow customers to customize their health tourism experiences extensively—from choosing their room views and wellness activities to

personalized dietary plans—can significantly enhance the novelty and appeal of the service. Rezaei, Jayashree and Fouladivanda (2016) provide insights on how deep customization in tourism services, facilitated by advanced technologies, leads to higher customer satisfaction and retention.

By integrating these innovative practices, health tourism businesses can significantly enhance their competitive edge, attract a broader customer base, and improve customer retention. The next section will delve deeper into the theoretical underpinnings that support these innovations and the empirical evidence demonstrating their effectiveness.

2.2.5 Efficiency Based Business Model Innovation (EBMI)

2.2.5.1 Understanding EBMI

Efficiency Based Business Model Innovation (EBMI) focuses on improving the operational efficiency and effectiveness of a business model. This form of innovation seeks to optimize existing resources, streamline processes, and enhance productivity, often resulting in cost reductions and improved service delivery. EBMI can be a crucial strategy for companies aiming to sustain their competitive advantage by maximizing the use of their current assets and capabilities. Core elements of EBMI are as follows:

1) Process Optimization

Implementing advanced process management techniques such as lean management or Six Sigma to reduce waste, improve quality, and increase efficiency in service delivery. Research by Harrigan et al. (2017) highlights how these methodologies can transform customer engagement and operational effectiveness in tourism management.

2) Supply Chain Management

Innovating the supply chain and logistics to reduce costs, improve speed, and ensure the reliability of service delivery, which is especially critical in health tourism where timeliness and dependability are key. Studies by Mody et al. (2017) discuss the impact of efficient supply chain management on enhancing tourist satisfaction and loyalty through reliable service delivery.

3) Technology Integration

Using technology to automate tasks, enhance data collection and analysis, and facilitate better resource management. Technologies such as IoT (Internet of Things) and cloud computing can significantly streamline operations and reduce operational costs. Kumar and Kaushik (2018) have demonstrated how the integration of digital technologies can improve the customization and responsiveness of services in health tourism, leading to greater customer satisfaction.

4) Resource Management

Better management of human resources and physical assets to optimize performance and reduce inefficiencies. This includes training staff to multitask and implementing energy-efficient practices in facilities management. Research by Rahman et al. (2021) shows how effective resource management contributes to sustainable practices and enhances organizational efficiency in the tourism sector.

2.2.5.2 EBMI's Impact on Health Tourism

In health tourism, where the quality of service and cost-effectiveness directly influence customer satisfaction and business sustainability, EBMI can play a transformative role. Efficient business models in health tourism not only enhance customer experiences but also ensure that businesses can deliver these experiences consistently and sustainably. Influences of EBMI on health tourism are as follows:

1) Enhanced Customer Service

Streamlined processes lead to quicker service delivery and less waiting time for health tourists, which is crucial in medical and wellness tourism where customer satisfaction depends significantly on the efficiency of service delivery. A study by Harrigan et al. (2017) highlights how customer engagement through efficient service processes improves satisfaction and loyalty in the tourism industry.

2) Cost Management

By reducing operational costs through efficiency innovations, health tourism providers can offer more competitive pricing or reinvest savings into improving service quality, thus attracting a broader market base. Research by Kumar and Kaushik (2018) shows how efficient resource management can lead to reduced costs and enhanced service offerings in the tourism sector.

3) Sustainability Practices

Implementing sustainable practices such as water and energy conservation in the operation of health tourism facilities not only reduces costs but also appeals to ecoconscious travelers, thereby enhancing the business's market appeal.

4) Improved Resource Allocation

Efficient use of resources ensures that the highest quality of care and service is maintained, which is crucial for retaining clientele in a sector where personal experience and satisfaction are paramount. The work by Chen and Lee (2021) explores how strategic resource allocation improves service quality and customer retention in health tourism.

5) Technologydriven Solutions

For example, the use of digital platforms for appointment scheduling, realtime customer feedback, and virtual health assistance can significantly enhance the operational efficiency of health tourism businesses.

By focusing on these areas, health tourism businesses can achieve higher levels of operational excellence, which is crucial for maintaining competitiveness in the dynamic and rapidly growing health tourism industry. The subsequent sections will explore empirical studies that support the effectiveness of EBMI and discuss the strategies for successfully implementing these innovations in the health tourism context.

2.2.6 Interlinking BMI with Brand Trust and Loyalty

The connection between Business Model Innovation (BMI) and brand trust and loyalty is pivotal in understanding the full impact of innovative business strategies on customer behavior and business sustainability. BMI can significantly influence a brand's reputation and customer loyalty by altering how services are delivered and perceived in the marketplace.

2.2.6.1 Impact of BMI on Brand Trust

Brand trust is the customer's confidence in the brand's reliability and integrity, and it is fundamental for fostering longterm relationships with customers. Innovative business models can enhance brand trust in several ways:

1) Transparency and Communication

By leveraging technology to enhance transparency—for instance, through realtime updates about services or changes in the business model—companies can build more trust with their clients. Clear communication about why changes are made and how they benefit the customer reinforces the brand's commitment to customercentric values. This approach has been supported by research indicating that transparency significantly enhances consumer trust, especially in service-oriented sectors like tourism.

2) Consistency in Service Delivery

Implementing innovative business models that focus on enhancing operational efficiency and service quality ensures consistent service delivery. When customers receive consistent positive experiences, their trust in the brand strengthens.

3) Enhanced Customer Experiences

Innovations that lead to new and improved customer interactions, such as personalized services through data analytics or enhanced customer support systems, directly contribute to increased trust by demonstrating the brand's dedication to fulfilling customer needs and preferences.

By focusing on these elements, businesses can leverage BMI to enhance brand trust, ultimately leading to greater customer loyalty and competitive advantage. These relationships are essential for companies looking to thrive in competitive markets, where trust and loyalty are increasingly important for longterm success.

2.2.6.2 Impact of BMI on Brand Loyalty

Brand loyalty is the outcome of continued positive experiences that create emotional attachments between customers and the brand. The role of BMI in enhancing brand loyalty involves not only meeting but often exceeding customer expectations through innovative practices:

1) Value Creation

Business model innovations often aim to provide superior value through unique offerings that are not available in the traditional models. For instance, a health tourism provider might implement a business model that includes wellness programs tailored

to individual health profiles, significantly enhancing customer perceived value and fostering loyalty.

Through BMI, companies can differentiate themselves from competitors. This differentiation, whether through novel customer engagement strategies, sustainability practices, or superior operational efficiency, can make a brand more attractive and retain customers over time. Genç (2020) discusses how business model innovations in sustainable tourism practices not only differentiate a brand but also enhance its appeal and customer retention by aligning with modern consumer values toward sustainability .

2) Adaptation to Market Changes

Rapid adaptation to market changes through flexible business models not only helps maintain operational effectiveness but also shows customers that the brand is resilient and forward thinking. This adaptability can increase customer loyalty as consumers prefer to stick with brands that are perceived as leaders and innovators in their space. Pappu and Quester (2016) provide evidence that innovativeness in brand strategies leads to increased brand loyalty by continuously meeting the evolving expectations of consumers.

3) Emotional Connection

By introducing models that focus on enhancing customer engagement and interaction, companies can develop stronger emotional connections with their customers. Emotional connections are critical for brand loyalty as they influence repeat purchases and word of mouth recommendations.

2.2.6.3 Empirical Evidence and Theoretical Support

Research in various sectors, including tourism, technology, and retail, shows a positive correlation between innovative business models, brand trust, and loyalty. Theoretical frameworks such as the Service Dominant Logic (SDL) and Relationship Marketing emphasize the importance of value cocreation and relational exchanges facilitated by innovative business models in building trust and loyalty. For example, Pappu and Quester (2016) found that perceived quality mediates the relationship between brand innovativeness and brand loyalty, highlighting the role of innovative business models in enhancing brand performance metrics. Menidjel et al. (2017) also

noted that personality traits like consumer innovativeness moderate the relationship between brand trust and loyalty, suggesting that innovative business models could differentially impact customers based on their disposition towards novelty.

In summary, the interlinking of BMI with brand trust and loyalty is crucial for businesses aiming to sustain competitive advantages and foster longterm customer relationships. By continuously innovating their business models, companies not only enhance their operational efficiencies and service offerings but also significantly improve their relationships with customers, leading to increased trust and loyalty. This section sets the stage for a deeper discussion on specific strategies and real world examples of businesses successfully implementing these concepts.

2.3 Brand Trust(BT)

Brand trust is a cornerstone concept in the study of consumer behavior, brand management, and marketing strategies. It plays a critical role in forming customer relationships and determining business success, especially in industries where the decision-making involves a high degree of risk and uncertainty.

Literature in marketing and business strategy emphasizes the crucial role of brand trust in fostering brand loyalty. Trust is often conceptualized as the expectation by consumers that a brand is reliable and will act in their interest, which is essential for repeat business and customer commitment. Studies suggest that trust mediates the relationship between business model innovation and brand loyalty, arguing that trust-building practices can significantly amplify the positive effects of BMI on loyalty. Innovative practices that resonate with customers and exceed their expectations tend to enhance trust, which in turn solidifies loyalty. This is particularly relevant in service industries like health tourism, where customer experience is paramount. The link between brand trust and loyalty is well-established, with numerous studies confirming that trust is a precursor to loyalty, especially in contexts where the customer-brand relationship is central to the business offering.

Delgado-Ballester and Munuera-Alemán (2001) explore the key role of brand trust as a variable that generates customers' commitment, especially in situations of

high involvement, where its effect is stronger in comparison to overall satisfaction. This underscores the importance of brand trust in developing brand loyalty. Chaudhuri and Holbrook (2001) examine the chain of effects from brand trust and brand affect to brand performance, including the role of brand loyalty, and find that purchase loyalty and attitudinal loyalty are critical in leading to greater market share and a higher relative price for the brand. Ball, Coelho, and Machás (2004) show that customer loyalty can be explained substantially by customer satisfaction, trust, and communication, highlighting the direct and indirect effects among these constructs.

These studies collectively highlight the foundational role of brand trust in mediating the relationship between business model innovation and brand loyalty. Understanding and leveraging this mediating role can provide businesses, particularly in sectors like health tourism, with a strategic approach to cultivating deeper customer relationships and loyalty, aligning with the evolving expectations and values of their target markets.

2.3.1 Definition and Significance of Brand Trust

2.3.1.1 Definition of Brand Trust

Brand trust is defined as the willingness of the average consumer to rely on the ability of the brand to perform its stated function. It is the expectation by the consumer that the brand's promises—explicit or implicit—will be fulfilled unconditionally and consistently over time. This trust forms the basis for building meaningful customer relationships and can significantly impact consumer loyalty and satisfaction.

2.3.1.2 Significance of Brand Trust

1) Customer Loyalty and Retention

Trust is a primary driver of brand loyalty. Customers who trust a brand are more likely to repurchase and less likely to switch to a competitor. This loyalty not only helps in retaining customers but also reduces the cost of acquiring new ones.

2) Premium Pricing

Brands that establish a high level of trust can often command premium pricing because customers are willing to pay more for products or services they believe are reliably superior in quality and performance.

3) Brand Advocacy

Trusted brands are more likely to enjoy positive word of mouth recommendations. Satisfied and trusting customers act as brand advocates, spreading positive reviews and experiences that can attract new customers.

4) Resilience to Negative Information

When a brand has built a solid trust foundation, it is more resilient to potential negative publicity. Customers with a high trust level are more likely to give the brand the benefit of the doubt during crises or negative exposure.

5) Competitive Advantage

In highly competitive markets, brand trust can be a significant differentiator. It can be particularly impactful in industries where products and services are complex or similar in features and benefits, making trust a crucial decision making factor.

2.3.1.3 Theoretical Frameworks Supporting Brand Trust

1) Social Exchange Theory

This theory posits that trust is built through a series of interactions that are perceived as beneficial to the consumer, leading to longterm relationships.

2) Commitment Trust Theory of Relationship Marketing

Developed by Morgan and Hunt, this theory suggests that trust and commitment are key mediating variables that determine the outcome of relationship marketing efforts.

3) Cognitive and Affective Trust Model

This model distinguishes between cognitive trust, which is based on the belief in the competence and reliability of the brand, and affective trust, which is based on emotional bonds and feelings of security with the brand.

Empirical studies across various sectors, including retail, ecommerce, and service industries, consistently find that higher levels of brand trust correlate with better performance outcomes such as increased market share, higher margins, and improved shareholder value. For instance, a study by Luk and Yip (2008) demonstrated that brand trust, particularly brand intentions, significantly affects consumer spending on individual brands and can be moderated by factors such as monetary sales promotions, affecting the purchasing behavior. Similarly, Kabadayi and Alan (2012) found that

brand trust and consumers' brand affect significantly influence consumers' brand loyalty, highlighting the strategic importance of trust in consumer behavior and marketing management.

2.3.2 Determinants of Brand Trust from the Questionnaire

In understanding brand trust, it's essential to dissect the specific elements that contribute to its development among consumers. The questionnaire designed for the study helps in identifying and analyzing these determinants by directly capturing consumer perceptions and attitudes toward the brand.

2.3.2.1 The Role of 'Interest' in Building Trust

One of the critical determinants of brand trust identified through the questionnaire is the 'interest' a brand generates among its consumers. Interest, in this context, refers to the extent to which a brand captures and holds the attention and curiosity of its customers through its offerings, communications, and overall brand experience. Importance of interest in building trust are as follows:

1) Engagement

A brand that succeeds in maintaining high levels of consumer interest often sees higher engagement rates. This engagement is crucial for establishing a foundation on which trust can be built. When consumers are engaged, they are more likely to absorb positive information about the brand and its products, leading to a more profound trust.

2) Relevance

Interest is closely tied to relevance; a brand that remains relevant to its consumers' needs and desires keeps their interest peaked. Relevance can come from innovation, alignment with consumer values, or the ability to meet consumer demands effectively.

3) Emotional Connection

Interest often stems from an emotional connection with the brand. Emotional connections are powerful in building trust as they transcend rational evaluations based on attributes like price or quality alone.

4) Information Seeking

When a brand piques interest, consumers are more inclined to seek additional information about it. This search behavior can lead to greater familiarity and,

consequently, more trust, as consumers feel more informed and confident in their choices.

2.3.2.2 Strategies to Enhance Interest

Innovative Marketing Campaigns: Utilizing creative and innovative marketing strategies that resonate with target audiences can significantly boost interest. Campaigns that are memorable and align with the core brand message are particularly effective.

Customer Centric Product Development: Products that address specific consumer needs or provide solutions to their problems can generate significant interest. Involving customers in the product development phase can also enhance interest and engagement.

Storytelling: Effective storytelling that communicates brand values and the benefits of products can captivate consumers. Stories that are authentic and wellaligned with the brand's identity can foster a stronger emotional connection.

Interactive and Immersive Experiences: Offering interactive experiences, whether online or offline, can significantly increase consumer interest. These experiences help in creating memorable interactions with the brand, which aids in building trust.

Empirical studies such as those by Delgado and Munuera (2001) highlight the key role of brand trust in generating customers' commitment, emphasizing its greater effect in high involvement situations compared to overall satisfaction. Additionally, Lau and Lee (1999) reveal that brand characteristics significantly impact a consumer's trust in a brand, positively correlating with brand loyalty.

2.3.2.3 Reliance as a Pillar of Trust

Reliance is another fundamental determinant of brand trust that emerged from the questionnaire responses. It represents the confidence consumers place in a brand's ability to consistently deliver on its promises and meet their expectations over time. This aspect of trust is crucial because it directly influences a consumer's willingness to depend on the brand for future needs. Significance of reliance in establishing trust are as follows:

1) Consistency

Consumers develop reliance when a brand consistently delivers quality products and services. This consistency ensures that consumers feel secure in their expectations of the brand's performance, fostering a trustful relationship.

2) Dependability

A brand that proves itself dependable allows consumers to feel confident in making repeat purchases and choosing the brand over competitors. Dependability is especially important in sectors where the cost of failure or disappointment is high.

3) Predictability

In the context of brand interactions, predictability is comforting to consumers. Knowing what to expect from a brand at every touch point — from product performance to customer service—can significantly enhance trust.

4) Fulfillment of Promises

Brands that fulfill their marketing promises tend to build trust more effectively. This alignment between what is advertised and what is delivered is critical in cementing consumer reliance and trust.

2.3.2.4 Strategies to Strengthen Reliance

1) Quality Control

Implementing stringent quality control measures ensures that products and services meet the brand's standards consistently, which is vital for building reliance.

2) Clear Communication

Transparent and clear communication about product features, benefits, and potential drawbacks helps in setting realistic expectations, which supports the development of reliance.

3) Customer Service Excellence

Providing excellent customer service, including efficient problem resolution and after-sales support, reinforces a brand's reliability and builds consumer reliance.

4) Feedback Mechanisms

Regularly soliciting and responding to customer feedback demonstrates a brand's commitment to continuous improvement and reliability.

Expanding on these foundational elements, the subsequent parts of the literature

review will delve into other crucial determinants of brand trust identified through the questionnaire, such as transparency, honesty, and emotional connection, illustrating how each plays a role in shaping the overall trust landscape between consumers and brands.

Empirical studies discuss the connection between brand trust and consumer confidence in brand attributes, suggesting that trust in a brand significantly enhances consumer loyalty through perceived product quality and safety.

2.3.2.5 The Impact of 'Not Disappointed'

The attribute of 'not being disappointed' by a brand significantly contributes to building and maintaining brand trust, as indicated by the questionnaire responses. This factor hinges on the brand's ability to meet or exceed customer expectations consistently, thereby avoiding negative experiences that can erode trust. Understanding the impact of not being disappointed are as follows:

1) Meeting Expectations

Customers enter into a brand interaction with certain preconceived expectations based on the brand's promises, past experiences, or marketing communications. When these expectations are met consistently, it solidifies trust, as customers feel that they can rely on the brand without the fear of disappointment.

2) Exceeding Expectations

Brands that not only meet but exceed expectations often generate significant customer goodwill and trust. This can include surpassing quality expectations, providing exceptional value, or delivering superior customer service. These actions set the brand apart in a competitive market.

3) Avoidance of Negative Experiences

Avoiding negative experiences is crucial for maintaining brand trust. Negative experiences, even if rare, can disproportionately affect customer perceptions and damage trust more significantly than positive experiences can build it.

4) Recovery and Resolution

When disappointments do occur, the brand's ability to quickly and effectively resolve issues can either mitigate or reverse potential damage to trust. Effective resolution practices demonstrate a brand's commitment to customer satisfaction and

reliability.

2.3.2.6 Strategies to Minimize Disappointment

1) Accurate and Honest Advertising

Ensuring that all marketing materials accurately reflect the product or service capabilities prevents unrealistic expectations that lead to disappointment.

2) Regular Product and Service Updates

Keeping offerings up-to-date with market demands and customer expectations can prevent them from becoming outdated or irrelevant, which could lead to disappointment.

3) Proactive Customer Engagement

Engaging with customers proactively to identify and address potential dissatisfaction before it escalates can significantly reduce instances of disappointment.

4) Effective Complaint Handling

Establishing a robust mechanism for addressing customer complaints and feedback ensures that any dissatisfaction is dealt with promptly and effectively, minimizing the impact on trust.

By prioritizing these strategies, brands can significantly reduce the likelihood of customer disappointment, thereby strengthening the foundation of trust. Subsequent sections will explore additional aspects of brand trust, such as transparency and emotional connection, which are also vital in shaping the overall trust dynamics between consumers and brands.

Empirical studies discuss the differential effects of brand betrayal and disappointment on brand recovery, emphasizing that a quick recovery following an exclusive brand offering positively impacts the brand relationship among disappointed customers. Another study by Delgado and Munuera (2001) focuses on the role of satisfaction and loyalty in the context of brand trust, highlighting how trust is crucial in high-involvement situations.

2.3.2.7 Addressing and Resolving Concerns

The ability of a brand to address and effectively resolve consumer concerns is a critical determinant of brand trust. This aspect, as highlighted by the questionnaire responses, emphasizes the responsiveness and responsibility of a brand towards its

customers' needs and issues. Effective resolution not only repairs trust but can also enhance it, transforming potential negative experiences into positive outcomes that reinforce customer loyalty. Understanding the importance of addressing concerns are as follows:

1) Prompt Response

Quick responsiveness to customer inquiries and complaints shows that a brand values its customers and their time. This responsiveness is often the first step in building trust after a customer has expressed a concern.

2) Effective Problem Solving

Beyond just a quick response, effective problem-solving involves understanding the root cause of the issue and providing a solution that satisfies the customer. This may involve refunds, replacements, or other compensatory actions that demonstrate the brand's commitment to customer satisfaction.

3) Empathy and Understanding

Showing empathy during interactions with customers who are facing issues is crucial. Empathetic communication helps in alleviating frustration and builds an emotional connection, which is fundamental to trust.

4) Follow Up

After resolving a customer's issue, following up to ensure that the solution was satisfactory and that no further problems have occurred helps to solidify the trust relationship. This followup demonstrates that the brand cares about the longterm satisfaction of its customers, not just a temporary fix.

2.3.2.8 Strategies to Enhance Resolution of Concerns

1) Training Customer Service Teams

Equipping customer service personnel with the necessary skills and authority to handle complaints can significantly enhance the resolution process. This includes training in technical aspects of products/services, as well as in communication and empathy.

2) Creating Multiple Channels for Feedback

Providing customers with multiple channels (e.g., phone, email, social media) to express their concerns ensures that they can reach the brand through their preferred

method, increasing the likelihood of prompt and effective communication.

3) Implementing Customer Relationship Management (CRM) Systems

These systems can help in tracking complaints and resolutions, ensuring that no customer concerns are overlooked and that there is accountability for resolution.

Transparent Communication: Keeping customers informed about the status of their complaints and what to expect in terms of timelines and possible solutions can manage expectations and reduce frustration.

2.3.3 Impact on Brand Trust

When customers see that a brand consistently addresses and resolves concerns effectively, they feel more secure in their choice of that brand, knowing that any potential issues they face will be handled satisfactorily. This assurance is fundamental to building a trusting relationship.

Empirical studies discuss the direct influence of brand image and organizational image on customers' perceptions of value, emphasizing the critical role of these perceptions in establishing trust and loyalty. Further research highlights the mediated influence of brand image, company image, and employee trust on customer value through customers' perceptions of service quality, reinforcing the importance of effectively managing brand interactions to maintain trust.

2.3.3.1 The Value of Sincerity in Brand Trust

Sincerity in brand interactions plays a pivotal role in establishing and maintaining trust. It involves honest communication, transparency, and a genuine commitment to the well-being of customers. The questionnaire results indicate that customers highly value sincerity, perceiving it as a foundation for trust, which significantly influences their ongoing loyalty to a brand. Defining sincerity in brand interactions are as follows:

1) Honest Communication

This means providing truthful information about products and services, including any potential drawbacks or limitations. Honest communication helps set realistic expectations, which, when met, reinforce trust.

2) Transparency

Transparency involves openly sharing information about business practices, including sourcing, pricing, and the handling of customer data. It reassures customers

that the brand has nothing to hide and is confident in its ethical standards.

3) Genuine Commitment

Demonstrating a real commitment to customer satisfaction, rather than just pursuing profit, shows that a brand values its customers beyond the transactional relationship. This might include going above and beyond in customer service, engaging in community service, or contributing to social causes.

2.3.3.2 Strategies for Enhancing Sincerity in Brand Relationships

1) Consistent Values

Aligning all business operations and communications with core brand values and ensuring that these values are consistently demonstrated at every touchpoint. This consistency helps build a strong, sincere brand identity.

2) Customer Centric Policies

Developing policies that prioritize customer needs and wellbeing, such as flexible return policies or proactive customer support, can demonstrate sincerity.

3) Engagement and Dialogue

Regularly engaging with customers through forums, social media, and other platforms to gather feedback and genuinely respond to their concerns helps to build a dialogue based on sincerity.

4) Ethical Advertising

Ensuring that marketing and advertising campaigns are truthful and do not exaggerate the benefits of products or services to mislead customers.

2.3.3.3 Impact of Sincerity on Brand Trust

When customers perceive a brand as sincere, their trust deepens, leading to several positive outcomes:

Reduced Customer Skepticism: Sincerity helps in lowering the natural skepticism customers may have towards marketing claims, making them more open to brand messages.

Enhanced Loyalty: Trust built on the foundation of sincerity is likely to result in increased customer loyalty, as customers prefer to stick with brands that they believe are honest and have their best interests at heart.

Positive Word of Mouth: Sincere brands often benefit from positive word of mouth

as satisfied customers are more likely to share their positive experiences with others.

Resilience in Crisis: Brands that have established a reputation for sincerity are better equipped to handle crises or public relations issues. Customers are more forgiving and supportive when they believe a brand is fundamentally honest and wellintentioned.

Empirical studies such as those by Han and Sung (2008) explore the effects of brand personality on brand trust and affect, finding that dimensions like sincerity significantly impact brand trust levels. Another study by Laroche, Habibi & Richard (2013) examines the moderating effects of brand personality on the relationship between website quality and online trust, emphasizing the importance of sincerity in building online consumer trust.

2.4 Brand Loyalty(BL)

2.4.1 Definition of Brand Loyalty

Brand loyalty, defined as a consumer's consistent preference for a particular brand over its competitors, is a cornerstone of effective marketing strategies. This preference often stems from satisfaction with the product or service, the perceived performance of the brand, or a sense of familiarity and comfort associated with it. Such loyalty not only drives repeat business but also lowers the overall cost of sales and marketing by reducing the need to continually attract new customers (Huang & Sarigöllü, 2014). As a result, brand loyalty is frequently regarded as a key performance indicator within businesses, reflecting their success in retaining customers and fostering enduring relationships.

Brand loyalty encompasses multiple dimensions, including attitudinal and behavioral loyalty. Attitudinal loyalty refers to a customer's positive emotional response towards a brand, characterized by trust, preference, and affection. It signifies the customer's favorable perceptions and feelings about the brand, although it does not always directly result in repeated purchases (Chaudhuri & Holbrook, 2001). In contrast, behavioral loyalty is evidenced through observable actions, such as frequent purchases or continuous engagement with the brand. This dimension is quantifiable

and serves as a direct measure of loyalty in business analysis (Kumar & Kaushik, 2017).

The significance of brand loyalty lies in its multifaceted benefits. Firstly, loyal customers provide a steady stream of revenue through their repeated purchases and tend to be less sensitive to price variations, which enhances financial stability (Reichheld & Teal, 1996). Retaining these customers is also substantially more cost-effective than acquiring new ones, as the costs associated with customer acquisition can be up to five times higher. This cost efficiency stems from the reduced need for intensive marketing and sales efforts aimed at new customer acquisition (Kotler & Keller, 2016). In competitive markets, a loyal customer base is crucial for defending market share, as it creates a barrier to entry for new competitors and limits the growth potential of existing rivals (Aaker, 1991). Furthermore, loyal customers often act as brand advocates, generating positive word-of-mouth and social media endorsements that bolster the brand's reputation and attract new customers more effectively than traditional advertising methods (Dick & Basu, 1994). Additionally, these customers are more likely to provide valuable feedback and engage in beta testing, aiding companies in their efforts to innovate and refine their offerings based on genuine user experiences (Vargo & Lusch, 2004). Therefore, brand loyalty not only ensures revenue stability and cost efficiency but also plays a vital role in maintaining market competitiveness, fostering brand advocacy, and driving product innovation.

However, building and sustaining brand loyalty in today's market presents several challenges. The intensification of global competition and the accessibility of alternative options through digital platforms have made it increasingly difficult for brands to retain customers (Porter, 1980). Consumer preferences are also in a state of rapid flux, influenced by evolving trends and tastes, which can quickly alter customer loyalty. To maintain loyalty, brands must be agile and responsive to these shifts. Economic fluctuations further complicate this landscape, as downturns and shifts in economic conditions can prompt consumers to seek more cost-effective alternatives, thereby affecting their loyalty to a brand (Quelch & Jocz, 2009). Additionally, the relentless pace of technological advancement disrupts traditional business models and consumer behaviors, compelling brands to continuously innovate to keep their loyal

customers engaged (Christensen, 1997). These factors underscore the complex and dynamic nature of cultivating brand loyalty in the contemporary market.

In conclusion, brand loyalty is a multifaceted concept that embodies a consumer's consistent preference for a favored brand, influenced by both psychological and practical factors. Understanding and nurturing these dimensions are essential for achieving sustainable business growth and securing a competitive advantage in the marketplace.

2.4.2 Elements of Brand Loyalty as Indicated by the Survey

2.4.2.1 Sustained Attention as a Loyalty Indicator

Sustained attention, defined as the continuous focus a consumer directs towards a brand over time, emerges as a critical indicator of brand loyalty, as revealed through the survey. In today's information-saturated market, attracting and maintaining consumer attention is increasingly challenging. Sustained attention in the context of brand loyalty refers to the degree to which customers consistently engage with a brand's communications, products, and services. This engagement includes regular interactions with the brand's social media pages, frequent visits to the brand's website, and consistent engagement with email marketing.

Measuring sustained attention involves tracking various engagement metrics such as visit frequency, page views, time spent on site, and interaction with content. Additionally, repeat purchases serve as a direct measure of sustained attention, indicating that the brand remains top of mind for the consumer. For service-based industries, high subscription renewal rates can also indicate sustained attention and customer satisfaction.

The impact of sustained attention on business is multifaceted. Continuous engagement provides businesses with valuable data, enabling more accurate consumer profiling and targeted marketing efforts. Moreover, with a deeper understanding of customer preferences, companies can effectively introduce related products or upgrades, thus enhancing the customer's lifetime value. Brands that successfully capture sustained attention are better positioned to withstand market fluctuations and competitive pressures, contributing to overall brand resilience.

Strategies to foster sustained attention include content marketing, personalization,

loyalty programs, and community building. High-quality, relevant content that resonates with the target audience can keep consumers engaged, whether through blogs, videos, podcasts, or newsletters. Personalizing the shopping experience and communications to align with individual consumer preferences can significantly enhance sustained attention, as seen in personalized emails, product recommendations, and user-specific offers. Rewarding repeat interactions and purchases with loyalty points, exclusive offers, or early access to new products can further encourage sustained attention. Additionally, building a community around a brand through forums, social media groups, or events can foster ongoing relationships and engagement.

However, maintaining sustained attention presents several challenges. The era of content saturation makes it difficult for brands to stand out without overwhelming consumers. Rapid technological advancements continuously disrupt established communication channels, necessitating that brands adapt their strategies to remain relevant. Furthermore, with numerous brands competing for attention, maintaining consumer focus is challenging, especially if the brand does not consistently innovate or provide new value.

In conclusion, sustained attention is a crucial component of brand loyalty, reflecting a consumer's ongoing engagement with a brand. Successfully managing this element requires strategic efforts to provide continuous value and maintain relevance, thereby fostering a deeper and enduring connection with the brand.

2.4.2.2 The Decision to 'Subscribe to Attention'

The decision to "subscribe to attention" represents a pivotal commitment in the customer brand relationship, indicating a deeper level of engagement and a more deliberate choice to stay informed and involved with the brand. This element of brand loyalty goes beyond casual interaction and signifies a more structured and continuous interaction between the consumer and the brand.

1) Definition and Importance of 'Subscribe to Attention':

Subscribing to attention refers to the act of a customer opting in to receive regular updates and communications from a brand through various channels like newsletters, membership clubs, or premium content services. This subscription is a strong indicator

of trust and interest in the brand, as it involves a conscious decision to allow direct and ongoing communication.

2) Measuring 'Subscribe to Attention':

Subscription Rates: The number of customers who sign up for newsletters, alerts, or loyalty programs can provide quantitative data on the effectiveness of engagement strategies.

Engagement Levels: The frequency and depth of interactions that follow subscription, such as opening emails, clicking on links, and participating in events, further measure engagement.

Conversion Rates: Tracking how many subscribers take the next steps in the purchasing process can help gauge the impact of these committed relationships on sales.

3) Impact of 'Subscribe to Attention' on Business:

Customer Retention: Subscribers are more likely to become repeat customers, contributing to more stable revenue streams.

Predictable Communication: Subscriptions help businesses plan their marketing activities more effectively, knowing they have a guaranteed audience.

Enhanced Customer Feedback: Regular interactions through subscription channels provide ongoing feedback from customers, enabling quicker adjustments to products and services.

4) Strategies to Encourage Subscriptions:

Value Proposition: Offering exclusive content, discounts, or first access to new products can entice customers to subscribe.

Ease of Subscription: Simplifying the subscription process with clear and immediate benefits can increase signup rates.

Quality Content: Providing high quality, relevant content that exceeds expectations can keep subscribers engaged and less likely to unsubscribe.

Regular Updates: Keeping a consistent schedule of communication that respects the customer's time and preferences is crucial in maintaining a healthy subscription base.

5) Challenges in Managing Subscriptions:

Managing Expectations: Subscribers often have high expectations for the value they receive, requiring brands to continuously deliver high quality content and offers.

Over-communication: Bombarding subscribers with too frequent or irrelevant communications can lead to subscription fatigue and high optout rates.

Privacy Concerns: Customers are increasingly sensitive about their data privacy. Transparent communication about the use of data and adherence to privacy standards is essential to maintain trust.

In summary, the decision to subscribe to a brand's attention is a significant step in the relationship between the customer and the brand. It serves as both a metric and a catalyst for deeper engagement and loyalty. Effective management of this relationship, balancing informative communication with respect for customer preferences and privacy, is vital for cultivating longterm brand loyalty.

2.4.2.3 'Pay Subscription' A Financial Commitment to Loyalty

The concept of 'Pay Subscription' highlights a financial commitment where customers choose to invest monetarily in a brand's offerings, often in exchange for premium content, exclusive services, or enhanced experiences. This step in brand loyalty transcends regular engagement and embodies a direct, economic endorsement of the brand's value.

1) Understanding 'Pay Subscription':

'Pay Subscription' involves customers signing up for recurring payments in return for continued access to a brand's products or services. This could include memberships, premium access privileges, or regular product deliveries. This type of subscription indicates a deeper level of trust and dependency on the brand, reflecting a customer's willingness to commit financially on an ongoing basis.

2) Measurement of 'Pay Subscription' Impact:

Revenue Consistency: Regular subscriptions provide a steady revenue stream and can help predict future financial performance more accurately.

Customer Lifetime Value: Subscribers often have a higher lifetime value, as they not only pay regularly but also tend to be more loyal and less pricesensitive.

Churn Rate: Monitoring how many subscribers cancel their subscriptions

provides insights into customer satisfaction and the perceived ongoing value of the subscription.

3) Business Advantages of 'Pay Subscription':

Financial Stability: Regular subscription payments stabilize cash flow, allowing better financial planning and investment in growth activities.

Enhanced Customer Engagement: Subscription models encourage ongoing interaction between the brand and the customer, fostering stronger relationships.

Customized Offerings: Subscription models allow brands to gather detailed customer data, enabling more personalized marketing and product development.

4) Strategies to Promote 'Pay Subscription':

Exclusive Benefits: Offering benefits that are only available to subscribers, such as special discounts, exclusive products, or early access to new releases, can motivate customers to subscribe.

Trial Periods: Providing a trial period where customers can experience the subscription benefits at a low cost or for free can reduce initial hesitations.

Flexible Terms: Offering easy pause, skip, or cancel options can make subscriptions more attractive by reducing perceived risk.

5) Challenges with 'Pay Subscription':

Subscription Fatigue: With many brands moving to subscription models, consumers might feel overwhelmed and reluctant to add more recurring expenses.

Maintaining Value: Subscribers require continuous proof of value to justify their ongoing financial commitment, necessitating constant innovation and quality control by the brand.

Customer Acquisition Costs: Acquiring subscribers can often be more expensive than other types of customers due to the need for more significant upfront incentives and marketing.

6) Future Trends in 'Pay Subscription':

Bundling Services: Combining various services into a single subscription package is becoming a popular way to offer better value and simplicity to consumers.

Community Building: Brands might leverage subscription models to build a sense of community among subscribers, enhancing loyalty through shared experiences and

exclusive member events.

In conclusion, 'Pay Subscription' represents a potent symbol of trust and loyalty in the brand customer relationship, underscoring a mutual commitment that extends beyond transactional interactions. Effective management of this relationship, ensuring continual value and adapting to evolving customer expectations, is critical for sustaining longterm brand loyalty.

2.5 Mediating Role of Brand Trust

The mediating role of brand trust between business model innovation (BMI) and brand loyalty is a critical aspect in both novelty-based and efficiency-based contexts. This relationship suggests that innovations in a business model, whether they introduce newness or improve efficiency, positively impact brand trust. This increased trust, in turn, fosters greater brand loyalty among consumers. Novelty-based BMI can differentiate a brand, making it more attractive and trustworthy to customers, while efficiency-based BMI enhances customer satisfaction through better service delivery, leading to trust and loyalty. These dynamics underscore the importance of brand trust as a bridge that connects the innovative efforts of a company with the loyalty of its customers, validating the Hypothesis related to brand trust's mediating role.

Le, Ngo, and Aureliano-Silva (2021) explored the contribution of corporate social responsibility (CSR) on SMEs' performance in an emerging market, highlighting the mediating roles of brand trust (BT) and brand loyalty (BL). Their findings reveal significant and positive relationships among CSR, BT, BL, and firm performance, emphasizing the mediating effect of BT and BL between CSR and firm performance. This study underscores the broader applicability of brand trust as a mediator, not only in the context of BMI but also in CSR initiatives, suggesting that trust and loyalty are key mediators in various strategic efforts aimed at enhancing firm performance.

Hidayanti, Nuryakin, and Farida (2018) investigated the effects of brand experience and brand trust on enhancing brand commitment and brand loyalty. Their study supports the mediating role of brand trust in strengthening the relationship between brand experience and brand loyalty, further validating the importance of trust

in mediating the effects of various brand-related initiatives on loyalty.

These studies collectively highlight the foundational role of brand trust in mediating the relationship between business model innovation and brand loyalty. Understanding and leveraging this mediating role can provide businesses, particularly in sectors like health tourism, with a blueprint for cultivating deeper customer relationships and loyalty, aligning with the evolving expectations and values of their target markets.

2.5.1 Theoretical Perspectives on Mediation

The concept of mediation in the context of brand trust involves exploring how brand trust acts as an intermediary mechanism that influences the relationship between other variables, such as business model innovation (BMI) and brand loyalty. This section delves into the theoretical frameworks that underpin the mediating role of brand trust, drawing from psychology, marketing, and organizational behavior literature.

2.5.1.1 Fundamentals of Mediation

Mediation analysis helps to clarify the nature and the mechanism through which an independent variable influences an outcome through one or more intervening variables. In simpler terms, it seeks to explain how and why certain effects occur. In the realm of brand trust, understanding mediation involves examining how trust built through innovative business practices and customer experiences translates into loyal behaviors and attitudes towards a brand.

2.5.1.2 Theories Supporting Mediation

1) Social Exchange Theory

This theory posits that the interactions between a business and its customers are transactions where each party expects to give and receive something of value. Brand trust develops when customers perceive that a company is fair and reciprocates their loyalty and engagement with quality service and benefits. This trust, once established, mediates the relationship between the initial engagement (induced by innovative business models) and subsequent customer loyalty.

2) Commitment Trust Theory

This theory, crucial in relationship marketing, argues that trust and commitment

are key mediating variables that explain why relationships persist over time. Trust increases customers' confidence in the risk associated with brand interactions, encouraging deeper commitment. Thus, in contexts where businesses innovate their models to better meet customer needs, trust mediates the relationship by reducing perceived risk and fostering a commitment that evolves into loyalty.

3) Theory of Reasoned Action

This model suggests that a person's behavior is determined by their intention to perform the behavior, which is itself influenced by their attitudes and subjective norms. Brand trust can be seen as a pivotal attitude influencing the intention to revisit or recommend a brand, thus mediating the impact of business model innovations on loyalty outcomes.

4) Operationalization in Health Tourism

In health tourism, where the choice of provider can significantly impact wellbeing, the mediating role of brand trust becomes even more critical. Tourists' trust in a health tourism brand could decisively mediate the effectiveness of business model innovations in achieving higher customer satisfaction and loyalty. For instance, if a health resort introduces a new wellness program (BMI), the success of this initiative in fostering loyalty may heavily depend on the level of trust tourists have in the brand's ability to deliver promised outcomes.

This theoretical backdrop sets the stage for empirical investigation into how brand trust can serve as a mediating factor between innovative business practices in health tourism and the loyalty such innovations foster among tourists. The following sections will explore empirical evidence and real-world applications of these theories in the health tourism sector.

2.5.2 Mediation Effects Between Business Model Innovation (BMI) and Brand Loyalty (BL)

The mediation effect of brand trust between business model innovation and brand loyalty encapsulates how trust built through strategic innovations can enhance customer loyalty. This section discusses the pathways through which business model innovations influence brand loyalty via the intermediary of brand trust, incorporating empirical findings and theoretical insights. Pathways of influence are as follows:

1) Direct and Indirect Effects

Business model innovations can directly impact brand loyalty by enhancing customer experiences, streamlining service delivery, and offering value that meets or exceeds expectations. However, the indirect effects through brand trust are significant. Innovations that enhance customer satisfaction and exceed expectations typically boost trust, which in turn, leads to greater loyalty. This mediation effect is critical because it underscores that simply innovating is not enough; the innovations must also foster trust to effectively translate into loyalty.

2) Enhanced Perceptions of Reliability and Competence

Innovations in a business model, such as the introduction of advanced health technologies in health tourism or more personalized customer service, often improve the perceived competence and reliability of a brand. When customers believe a brand is capable and reliable, their trust increases, serving as a crucial mediator that encourages deeper loyalty. For instance, if a health resort adopts cutting-edge health monitoring systems that provide guests with realtime health data, this innovation could significantly increase trust by highlighting the brand's commitment to customer wellbeing.

3) Consistency and Predictability

Consistency in delivering value and maintaining service quality is vital for trust building. Business model innovations that help maintain or improve consistency—such as standardized processes that ensure every customer interaction is of high quality—contribute to building trust. This trust, in turn, makes customers more likely to remain loyal to the brand, as they come to rely on the predictability of superior experiences.

4) Empirical Evidence

Studies on Consumer Behavior: Research in various sectors shows that when companies introduce innovations that customers perceive as valuable and aligned with their needs, trust tends to increase, mediating the relationship between these innovations and customer loyalty. For example, a study in the telecommunications sector found that when companies introduced flexible data plans and transparent billing practices (forms of BMI), customer trust increased, which significantly

predicted higher loyalty.

5) Case Studies in Health Tourism

In health tourism, several case studies illustrate how innovations tailored to enhance customer wellness and convenience have fostered trust. For instance, resorts that have integrated holistic health approaches with traditional tourism activities report higher customer trust and return rates, indicating strong brand loyalty.

6) Quantitative Analysis

Structural Equation Modeling (SEM): SEM is often used to quantitatively assess the mediation effects of brand trust between business model innovation and brand loyalty. This approach helps in understanding the strength and significance of indirect effects. Analysis typically reveals that while BMI can directly influence loyalty, the indirect pathway through brand trust often has a stronger and more sustained impact on customer retention and advocacy.

This comprehensive exploration of the mediation effects provides a robust framework for businesses in the health tourism sector (and other sectors) to strategize their innovations not just for immediate attraction but for building lasting trust and loyalty among their clientele. The subsequent sections will delve into specific strategies that businesses can adopt to leverage this mediation effect effectively.

2.5.3 Questionnaire Insights on the Mediating Role of Brand Trust

The analysis of questionnaire responses provides empirical support for the mediating role of brand trust in the relationship between business model innovation (BMI) and brand loyalty (BL) within the health tourism sector. This section details how customer feedback underscores the pivotal role of brand trust in transforming innovative business practices into sustained customer loyalty.

2.5.3.1 Key Findings

1) Increased Trust Through Innovation

Responses indicate that customers place a high value on innovations that are not just novel, but also enhance their overall experience. Innovations perceived as improving service quality or customer safety directly increased customers' trust in the brand. For instance, feedback on the introduction of personalized wellness programs and advanced booking systems showed a positive correlation with increased trust

levels, which, in turn, were linked to higher loyalty scores.

2) Innovations That Address Customer Needs

The data reveals a strong preference for innovations tailored to specific customer needs and expectations. Customers expressed greater trust in brands that demonstrated understanding and responsiveness to their needs, particularly in terms of personalized services and health-oriented amenities. This trust appears to act as a crucial mediator, encouraging deeper loyalty to the brand.

3) Consistency and Reliability of Service

Customers frequently cited consistency and reliability as major factors influencing their trust. Innovations that enhanced operational efficiency—thereby making services more reliable—were particularly effective in building trust. For example, improvements in scheduling and treatment consistency at health resorts were often mentioned as reasons for increased trust.

4) Transparency and Communication

Effective communication of innovations was also seen as vital. Brands that transparently communicated what innovations were being implemented and how they would benefit the customer scored higher on trust. This transparency seems to reassure customers, contributing to a stronger trust-loyalty linkage.

2.5.3.2 Quantitative Metrics

Correlation Analysis: Statistical tests, such as Pearson's correlation, were applied to measure the strength of the relationship between perceived innovations in business models and the level of trust reported by customers. The analysis consistently showed a positive correlation, indicating that effective BMI leads to higher trust.

2.5.3.3 Regression Analysis

Further regression analysis highlighted that brand trust significantly mediates the relationship between BMI and BL. The beta coefficients indicated that while BMI has a direct effect on BL, the indirect effect via brand trust is stronger and statistically significant.

2.5.3.4 Customer Testimonials

Several respondents specifically mentioned that their repeat visits and recommendations to others were influenced significantly by their trust in the brand.

This was particularly the case when they felt that the brand continuously innovated in ways that prioritized customer health and safety.

2.5.3.5 Implications for Practice

These insights suggest that health tourism providers should focus not only on implementing innovative business models but also on ensuring that these innovations are perceived as valuable and directly beneficial by customers. Furthermore, maintaining transparency and consistency in these innovations can amplify trust, thereby fostering stronger loyalty. These findings inform strategic decisions in service design and marketing communications to maximize the positive impact of BMI through enhanced brand trust.

This detailed analysis from the questionnaire provides a clearer understanding of how BMI impacts brand trust and, subsequently, brand loyalty, offering actionable insights for businesses looking to strengthen their market position through customer centric innovations.

2.5.4 Empirical Studies on BMI, Brand Trust, and Brand Loyalty

In the exploration of the intricate relationships among business model innovation (BMI), brand trust, and brand loyalty, several empirical studies provide valuable insights. These studies collectively underscore the pivotal role of BMI in fostering brand trust, which in turn, enhances brand loyalty, a critical factor for the sustainable success of businesses, including those in the Guizhou Hot Spring Health Tourism Industry.

Spiehl et al. (2019) conducted a comprehensive study that delves into how different dimensions of BMI—specifically value offering innovation, value architecture innovation, and revenue model innovation—affect customers' brand perceptions, including brand trust and loyalty. Their findings reveal that revenue model innovation significantly impacts brand trust, which fully mediates the relationship between revenue model innovation and brand loyalty. This study highlights the importance of innovating the revenue model as a strategy to enhance brand trust and loyalty. Kittur, Chatterjee, and Upadhyay (2022) further expand on the relationship between innovation capabilities and brand image in the B2B context, finding that trust acts as a mediator between innovation capabilities and a strong B2B

brand image. Their research underscores the significance of trust in the innovation process, suggesting that trust-building practices can significantly amplify the positive effects of BMI on brand loyalty. In the healthcare sector, Hilman and Hanaysha (2015) explore the impact of advertising on relationship quality, including brand trust, in the Malaysian automotive market. Their findings indicate that advertising spending has a significant positive effect on brand trust, commitment, satisfaction, and overall relationship quality, providing insights into the role of communication in enhancing brand trust and loyalty. Lastly, Geng, Cui, Nazir, and An (2022) investigate how CSR and perceived ethics contribute to corporate reputation and product innovativeness, finding that both positively correlate with product innovativeness, brand equity, and customer trust. This study highlights the importance of ethical practices and CSR in building brand trust and loyalty, aligning with the proposed study's focus on trust as a mediator between BMI and brand loyalty. These empirical studies collectively underscore the multifaceted impact of BMI on brand trust and loyalty, offering valuable insights for businesses aiming to enhance their competitive edge and customer retention strategies. Building upon the foundational insights provided by Spieth et al. (2019), Kittur, Chatterjee, and Upadhyay (2022), and others, it's crucial to further explore the dynamics between business model innovation (BMI), brand trust, and brand loyalty through additional empirical studies. Notably, the work of Zott, Amit, and Massa (2011) offers a seminal perspective on BMI, emphasizing the strategic configurations that can enhance value creation. Their framework is instrumental in understanding how innovative business models can foster brand trust and loyalty, serving as a cornerstone for the following literature analysis. Zott et al. (2011) provide a comprehensive overview of BMI, highlighting its significance in creating competitive advantages and enhancing customer value. Their research underscores the importance of innovative business models in fostering brand trust and loyalty, setting a theoretical foundation for subsequent empirical investigations. Frow et al. (2015) explore the strategic management of co-creation processes in business model innovation. Their findings suggest that co-creation enhances brand trust by actively involving customers in the innovation process, thereby strengthening brand loyalty. Saebi and Foss (2015) discuss how different open innovation strategies require

distinct business model adaptations. Their study indicates that aligning BMI with open innovation can significantly enhance brand trust, as transparency and inclusivity in innovation are valued by customers. Chesbrough (2010) highlights the opportunities and challenges associated with BMI, particularly in the context of open innovation. His work suggests that overcoming barriers to BMI can lead to increased brand trust and loyalty by delivering superior value to customers. Teece (2010) articulates the critical role of business models in the strategic management of innovation. He argues that a well-designed business model not only facilitates innovation but also enhances brand trust and loyalty through differentiated value propositions. Baden-Fuller and Haefliger (2013) examine the interplay between business models and technological innovation. Their research indicates that innovative business models that leverage new technologies can significantly enhance brand trust by offering unique and valuable customer experiences. Kindström and Kowalkowski (2014) discuss how product-centric firms can innovate through services, emphasizing a multidimensional business model perspective. Their findings suggest that service innovation can enhance brand trust and loyalty by adding value beyond the physical product. Amit and Zott (2012) further elaborate on the concept of value creation through BMI. They argue that innovative business models are essential for building brand trust and loyalty in a competitive market. Clauss (2017) focuses on the measurement of BMI, providing tools for assessing its impact on performance. This study underscores the importance of BMI in enhancing brand trust and loyalty through empirical evidence. Cucculelli and Bettinelli (2015) investigate the relationship between BMI and firm performance, highlighting the role of brand trust and loyalty as mediators. Their research provides empirical support for the positive impact of BMI on brand trust and loyalty.

These studies collectively reinforce the significance of innovative business models in enhancing brand trust and loyalty. They provide a robust theoretical and empirical foundation for understanding the mechanisms through which BMI influences customer perceptions and behaviors, offering valuable insights for the Guizhou Hot Spring Health Tourism Industry and beyond.

2.6 Hypotheses

2.6.1 Hypothesis 1: Novel business models have a positive impact on brand trust.

Based on the literature review and the conceptual framework, the first hypothesis posits that novelty-based Business Model Innovation (BMI) positively affects brand trust. This hypothesis is grounded in the understanding that innovative business models, particularly those centered around novelty, can significantly enhance customer perceptions of a brand, thereby fostering a higher level of trust.

One pivotal study supporting this hypothesis is by Ma et al. (2018), who explored the moderating effects of novelty-centered and efficiency-centered business model design on the relationship between green product innovation and firm performance. Their findings suggest that a novelty-centered design theme better fits firm performance, implying that innovative approaches to business models can enhance brand perception and trust.

Additionally, Balboni et al. (2019) examined how changes in business model design themes, including novelty, impact a start-up's growth performance. Their research highlights the importance of novelty in the initial stages of a start-up, suggesting that innovative business models can play a crucial role in building brand trust and loyalty from the outset.

Im, Bhat, and Lee (2015) further contribute to this hypothesis by examining consumer perceptions of product creativity, emphasizing the role of novelty. They found that novelty influences perceptions of coolness, which in turn affects consumers' attitudes towards the product. This suggests that novelty in business models, by making a brand appear more "cool" and innovative, can significantly enhance brand trust.

Gronum, Steen, and Verreyne (2016) investigate the relationship between innovation in the business model, business model design themes, and firm performance. They advocate for novelty-centered design themes, arguing that such innovations unlock and translate value from innovation to firm performance more effectively than efficiency-centered themes. This underscores the potential of novelty-

based BMI to enhance brand trust by delivering unique value to customers.

Hock, Clauss, and Schulz (2016) delve into the impact of organizational culture on a firm's capability to innovate the business model. They find that novelty-oriented cultural values foster capabilities in favor of business model innovation, suggesting that a culture inclined towards novelty can enhance brand trust by fostering innovative practices.

These studies collectively support the hypothesis that novelty-based Business Model Innovation has a positive effect on brand trust. By introducing innovative and novel elements into their business models, firms can significantly enhance how consumers perceive and trust their brands.

2.6.2 Hypothesis 2: Efficient business models have a positive impact on brand trust.

Efficiency-based Business Model Innovation (BMI) has a positive impact on brand trust. This hypothesis suggests that when companies streamline their operations and focus on improving the efficiency of their business models, they can enhance the trust that customers place in their brands.

Supporting this hypothesis, Spieth et al. (2019) conducted a study that explored how different dimensions of BMI, including value offering innovation (VOI), value architecture innovation (VAI), and revenue model innovation (RMI), affect customers' brand perceptions. Their findings indicate that revenue model innovation, which is closely related to efficiency improvements, has a positive impact on brand trust. This suggests that efficiency-based innovations in the business model can significantly enhance the trust customers have in a brand.

Guo, Pang, and Li (2018) examined the role of top management team diversity in shaping the performance of business model innovation, focusing on both novelty-centered and efficiency-centered business models. Their findings highlight that efficiency-centered business model innovation has a significant positive relationship with firm performance, suggesting that such innovations, by improving operational efficiency, can enhance brand trust indirectly through improved performance.

Balboni et al. (2019) focused on the role of efficiency and novelty design themes in the growth performance of high-tech start-ups. Their research underscores the

importance of pursuing higher efficiency over the life cycle of a start-up, implying that efficiency-based innovations are crucial for building a trustworthy and successful brand .

Hock et al. (2016) explored the impact of organizational culture on a firm's capability to innovate its business model, linking cultural values to the firm's innovation capabilities. While their study primarily highlights the role of novelty-oriented values, the emphasis on strategic sensitivity and resource fluidity as capabilities fostered by an efficiency-oriented culture suggests that such a culture can enhance brand trust through more efficient business practices.

Latifi, Nikou, and Bouwman (2021) investigated the causal mechanisms through which business model innovation affects firm performance in SMEs. Their findings indicate that efficiency growth, as a result of BMI, plays a crucial role in enhancing firm performance, which can be linked to increased brand trust as customers value efficient and reliable operations.

These studies collectively support the hypothesis that efficiency-based Business Model Innovation positively impacts brand trust. By focusing on efficiency improvements, companies can not only enhance their operational performance but also strengthen the trust that customers have in their brands.

2.6.3 Hypothesis 3: Novel business models have a positive impact on brand loyalty.

The impact of novelty-based Business Model Innovation (BMI) on brand loyalty, suggesting that innovative approaches to business models, particularly those that introduce new and unique elements, can significantly enhance customer loyalty to a brand.

Pappu and Quester (2016) investigated how consumers' perceptions of brand innovativeness affect brand loyalty, with a specific focus on the mediating role of perceived quality. Their findings reveal that perceived quality fully mediates the impact of brand innovativeness on brand loyalty, indicating that innovative brands that are perceived as high quality can foster stronger loyalty among consumers.

Hasan et al.(2020) examined the influence of consumer trust and perceived risk on brand loyalty in the context of voice-controlled AI, like Siri. While their study

primarily focuses on trust and risk, the novelty value of using Siri was found to significantly influence brand loyalty, especially among consumers who are less brand-involved and more innovative. This suggests that the novelty of a product or service can enhance brand loyalty, particularly when it introduces innovative features that appeal to consumer innovativeness.

Murray et al.(2017) compared new and established store design prototypes of the same retailer to examine their impact on retail brand loyalty. Their findings suggest that store novelty and complexity can promote both store design pleasure and retail brand loyalty outcomes, indicating that novel and complex store designs can enhance brand loyalty at the retail level .

Elsäßer and Wirtz (2017) explored the rational and emotional factors influencing customer satisfaction and brand loyalty in a B2B setting. While their study focuses on a different context, the inclusion of novel and innovative elements in a brand's offering is implied to have a positive impact on brand loyalty, suggesting that novelty in business models can foster loyalty in both B2C and B2B markets.

Hu et al. (2020) discussed how business model design can achieve customer loyalty through the mediating role of customer citizenship behavior. Their findings show that both efficiency-centered and novelty-centered business model designs are antecedents of customer loyalty, indicating that novel approaches to business model design can directly and indirectly affect customer loyalty through enhanced customer engagement.

These studies collectively support the hypothesis that novelty-based Business Model Innovation has a positive impact on brand loyalty. By introducing innovative and novel elements into their business models, firms can not only enhance the perceived value of their offerings but also foster stronger loyalty among their customer base.

2.6.4 Hypothesis 4:Efficiency oriented business models have a positive impact on brand loyalty

The efficiency-based Business Model Innovation (BMI) has a positive impact on brand loyalty. This hypothesis is grounded on the premise that improvements in operational efficiency, through innovative business models, can lead to enhanced

customer satisfaction and loyalty by providing better value, service, and experience.

Hashim, Tajuddin, and Zainol (2020) explored the innovative roles of community engagement as a moderator in the consumer perspective model for Malaysia-origin fashion brands. Their study, while focusing on community engagement, indirectly supports the notion that efficiency in engaging consumers through innovative business models can strengthen brand loyalty. The research highlights the importance of efficiently managing consumer-brand relationships to build strong brand equity and loyalty.

Rezaei, Jayashree, and Fouladivanda (2016) examined the impact of contractual switching costs, price fairness, and brand image on telecommunications subscribers' satisfaction and loyalty. Their findings suggest that efficiency in pricing and contractual terms, as part of an innovative business model, can significantly influence brand loyalty. This underscores the role of efficiency-based innovations in enhancing customer perceptions and loyalty to a brand.

Pappu and Quester (2016) investigated how brand innovativeness, which includes efficiency improvements, affects brand loyalty. Their study found that perceived quality fully mediates the impact of brand innovativeness on brand loyalty, indicating that efficiency-based innovations that enhance perceived quality can lead to increased brand loyalty.

Spieth et al. (2019) conducted a study on how business model innovation affects customers' brand perceptions, including brand loyalty. Their research suggests that innovations in the business model, particularly those that improve efficiency, can positively impact brand loyalty by enhancing brand trust and equity.

Milojević, Todorović, and Lutovac (2016) discussed the challenge of brand management in the globalization process, emphasizing the importance of efficiency and innovation in branding strategies. Their analysis implies that efficiency-based business model innovations can strengthen brand loyalty by adapting to global market demands and enhancing competitive advantage.

These studies collectively support the hypothesis that efficiency-based Business Model Innovation positively impacts brand loyalty. By focusing on improving operational efficiencies, companies can enhance customer satisfaction and loyalty,

thereby securing a competitive edge in the market.

2.6.5 Hypothesis 5: Brand trust has a positive impact on brand loyalty

This hypothesis suggests that the introduction of novel and unique elements into a business model can enhance brand loyalty, primarily through brand trust. Brand trust acts as a crucial intermediary that translates the positive perceptions generated by novelty-based BMI into stronger loyalty towards the brand. Supporting this hypothesis, Huang (2017) found that sensory experiences, a component of novelty in brand experiences, are a major driver of brand love, which in turn significantly influences brand loyalty. Although this study focuses on brand love, the underlying mechanism of transforming sensory (novel) experiences into loyalty through an emotional connection (such as trust) supports the proposed hypothesis.

2.6.6 Hypothesis 6: Brand trust has a mediating effect on brand loyalty in innovative business models.

The brand trust plays a mediating role in the relationship between novelty-based Business Model Innovation (BMI) and brand loyalty. This study highlights the mediating role of brand love, closely related to brand trust, in transforming sensory experiences into brand loyalty (Huang, 2017). Lim and Jiang (2019) explored the effects of dialogic communication of Corporate Social Responsibility (CSR) on brand loyalty, mediated by customers' online brand community engagement and brand trust. Their findings underscore the mediating role of brand trust in enhancing brand loyalty, suggesting that effective communication, which can be a part of novelty-based BMI, strengthens brand loyalty through increased brand trust.

Menidjel, Benhabib, and Bilgihan (2017) investigated the relationships among brand satisfaction, trust, and loyalty, and the moderating effects of personality traits in the context of fast-moving consumer goods. Their findings indicate that brand loyalty is most affected by satisfaction through the mediation of brand trust, supporting the notion that trust can mediate the relationship between novel brand experiences (leading to satisfaction) and loyalty.

Veloutsou (2015) examined whether the strength of positive brand relationships can mediate between trust, satisfaction, attitude towards the brand, and loyalty. The study found that consumer brand relationship strength is a strong predictor of brand

loyalty, suggesting that trust plays a mediating role in this dynamic, especially in the context of novel brand experiences leading to enhanced loyalty.

These studies collectively support the hypothesis that brand trust mediates the relationship between novelty-based Business Model Innovation and brand loyalty. By fostering trust through innovative and novel business practices, firms can significantly enhance brand loyalty among their customer base.

2.6.7 Hypothesis 7: Brand trust has a mediating effect on brand loyalty in an efficient business model.

The mediating role of brand trust in the relationship between efficiency-based Business Model Innovation (BMI) and brand loyalty. This hypothesis posits that efficiency improvements in a business model can enhance brand loyalty through the intermediary effect of brand trust. Brand trust serves as a crucial link, translating the reliability and effectiveness of efficiency-based innovations into stronger loyalty among customers.

Supporting this hypothesis, a study by Hidayanti, Nuryakin, and Farida (2018) investigated the effects of brand experience and brand trust on enhancing brand commitment and brand loyalty. The research found that brand trust supports brand commitment, which in turn supports brand loyalty. This suggests that brand trust can mediate the relationship between the efficiency aspects of brand experience (such as ease of use and reliability) and brand loyalty.

Pappu and Quester (2016) explored how consumers' perceptions of innovativeness, which can be linked to efficiency-based BMI, affect brand loyalty. They found that perceived quality fully transmits the impact of brand innovativeness onto brand loyalty, indicating that brand trust, closely related to perceived quality, plays a mediating role in this relationship.

Huang (2017) examined the mediating roles of brand love and brand trust between brand experiences and brand loyalty. The study found that sensory experience, which can be enhanced by efficiency-based innovations, mainly drives customers' brand trust, further influencing brand loyalty. This underscores the mediating role of brand trust in transforming efficiency improvements into increased loyalty.

Khan et al.(2019) assessed the mediating role of brand trust and commitment in

the relationship between brand engagement, brand experience, and brand loyalty in the online service context. Their findings support the hypothesis by showing that both brand engagement and experience, which include efficiency aspects, exert indirect effects on brand loyalty via brand trust.

Lim and Jiang (2019) explored the effects of dialogic communication of CSR on brand loyalty, mediated by online brand community engagement and brand trust. Their findings indicate indirect effects of dialogic communication on brand loyalty through brand trust, suggesting that efficient CSR communication enhances brand trust, which in turn strengthens brand loyalty.

These studies collectively support the hypothesis that brand trust mediates the relationship between efficiency-based Business Model Innovation and brand loyalty. By improving efficiency, companies can enhance the trust customers have in their brands, leading to increased loyalty.

2.7 Comparative Literature Analysis

2.7.1 Analysis of Theoretical Similarities and Differences

The comparative literature analysis focuses on contrasting and aligning the theories underpinning the relationships among Business Model Innovation (BMI), Brand Trust (BT), and Brand Loyalty (BL) in the context of health tourism.

2.7.1.1 Theoretical Similarities

Common Ground in Relationship Marketing and Service Dominant Logic: Both frameworks emphasize the importance of customer relationships and value co-creation, which are pivotal when discussing BT and BL. These theories suggest that BMI, by enhancing customer engagement and value, fosters deeper trust and loyalty.

Resource Based View (RBV): This theory consistently supports the notion across various studies that strategic resources, such as innovative business models, contribute significantly to competitive advantage and can influence customer perceptions, including trust and loyalty.

2.7.1.2 Theoretical Differences

Perspective on Innovation Impact: Some theories, like Disruptive Innovation,

focus on how innovations can displace established markets and competitors, which contrasts with RBV and Relationship Marketing that view innovations as a means of enhancing existing customer value and satisfaction.

Role of Trust: In some models, trust is seen merely as a relational byproduct rather than a strategic imperative. Contrastingly, in the health tourism literature, trust is often portrayed as a critical, strategic asset that mediates the relationship between innovation and loyalty.

2.7.2 Comparative Study of Empirical Models

A comparative analysis of empirical models across different studies elucidates how researchers have operationalized BMI, BT, and BL within various contexts and how these models have varied in terms of construct definitions, relationships, and findings.

2.7.2.1 Similarities in Empirical Models

Mediating Role of BT: Consistent across various studies is the mediating role of brand trust between business model innovation and brand loyalty. This is frequently observed in sectors where customer relationship plays a crucial role, such as healthcare, banking, and tourism.

Direct and Indirect Effects: Many models demonstrate not only direct impacts of BMI on BT and BL but also indirect effects, thereby supporting the mediation hypothesis that is central to many theories.

2.7.2.2 Differences in Empirical Models

Construct Definitions: While some studies define BMI in terms of technological adoption, others view it more broadly, including organizational and strategic changes. Such differences can affect the interpretation of how BMI influences BT and BL.

Sector Specific Findings: The impact and significance of BMI, BT, and BL can vary significantly across different sectors. For instance, in technology sectors, BMI might more directly influence loyalty due to rapid innovation cycles, unlike in health tourism, where the influence of BMI on loyalty is significantly mediated by trust due to the high personal stakes and the servicecentric nature of the industry.

2.7.2.3 Conclusion

The comparative literature analysis highlights both convergence and divergence

in theoretical and empirical treatments of BMI, BT, and BL. Understanding these nuances is crucial for refining models and strategies tailored to the specific dynamics of health tourism, thereby enhancing theoretical robustness and practical relevance.

2.7.3 Methodological Comparisons

The examination of methodological approaches used in the study of Business Model Innovation (BMI), Brand Trust (BT), and Brand Loyalty (BL) reveals significant insights into how different research designs, data collection techniques, and analysis methods can influence outcomes and interpretations.

2.7.3.1 Quantitative vs. Qualitative Approaches

Quantitative Methods: Most studies employ quantitative methods, utilizing surveys and structured questionnaires to collect data from large samples. This approach is favored for its ability to generalize findings and apply statistical tests to confirm hypotheses about relationships between BMI, BT, and BL.

Qualitative Methods: Fewer studies use qualitative interviews, case studies, or ethnography, which can provide deeper insights into the nuances of brand trust and loyalty, particularly how customers perceive and interact with innovative business models. These methods are crucial for understanding context-specific variables that quantitative methods might overlook.

2.7.3.2 Analytical Techniques

Structural Equation Modeling (SEM): A prevalent tool in examining complex relationships where multiple variables interplay, such as the mediating effect of BT between BMI and BL.

Comparative Case Analysis: Used in qualitative studies to compare different instances of BMI and its impact on BT and BL across various settings or over time.

2.7.3.3 Sampling and Data Collection

Cross sectional vs. Longitudinal Studies: Cross sectional studies provide a snapshot in time, which is common in this research area, whereas longitudinal studies are rare but crucial for understanding changes in trust and loyalty as a result of prolonged exposure to business model innovations.

2.7.4 Target Population Analysis

The choice of target population in studies concerning BMI, BT, and BL varies

widely, significantly affecting the applicability and relevance of research findings.

2.7.4.1 Geographic Diversity

Developed vs. Developing Countries: Studies often focus on developed countries where data availability and business innovation rates are higher. However, emerging markets are increasingly featured due to their rapid adoption of innovative business models and different cultural dynamics affecting trust and loyalty.

Urban vs. Rural Settings: The urban population is typically targeted due to their higher engagement with innovative business models, especially in health tourism and technology sectors.

2.7.4.2 Demographic and Psychographic Factors

Age, Gender, and Income: These demographic factors are commonly analyzed to understand their influence on the reception of BMI and its impact on BT and BL. Younger, more affluent consumers may exhibit different responses compared to older or less affluent ones.

Psychographics: Interests, lifestyles, and values are less frequently studied but provide profound insights into why certain populations may be more receptive to innovative business models and exhibit stronger brand loyalty.

2.7.4.3 Conclusion

Methodological diversity in the study of BMI, BT, and BL underscores the complexity of these constructs and their interrelationships. A thorough methodological comparison helps identify best practices and areas needing further exploration, particularly in underserved populations or innovative methodologies. Understanding the target population nuances ensures that findings are not only statistically significant but also contextually relevant, catering to the specific needs and behaviors of varied demographic groups.

2.8 Conclusion

2.8.1 Synthesis of Literature Review Findings

The literature review has meticulously explored the dynamics between Business Model Innovation (BMI), Brand Trust (BT), and Brand Loyalty (BL) across various

industries with a specific focus on health tourism. The key findings indicate:

BMI's Role in Enhancing Brand Trust and Loyalty: There is a robust link showing that innovative business models significantly enhance brand trust, which in turn fosters greater brand loyalty. Innovations that add novelty and efficiency in business operations are particularly effective in creating a strong, trustworthy brand image that attracts and retains customers.

Mediating Role of Brand Trust: Brand trust emerges as a critical mediator that facilitates the translation of the positive effects of business model innovations into brand loyalty. This mediation is vital in industries where trust is a significant component of customer decisionmaking, such as health tourism.

Diverse Methodological Approaches: The review highlights the use of both quantitative and qualitative methods in the field, underscoring the complexity of studying BMI, BT, and BL. Structural Equation Modeling (SEM) stands out as a common analytical tool used to understand the interactions between these variables.

Impact of Demographic and Psychographic Variables: The literature underscores the importance of considering various demographic factors such as age, income, and cultural background, which can influence the effectiveness of BMI and the subsequent development of brand trust and loyalty.

2.8.2 Research and Practical Implications

2.8.2.1 Research Implications

Further Empirical Studies: There is a need for more empirical studies, particularly longitudinal studies that can track changes over time, to better understand the sustained impact of BMI on BT and BL.

Integration of Mixed Methods: Combining quantitative and qualitative methodologies could yield richer insights, especially in unpacking the nuances of how specific innovations impact brand trust and loyalty in different cultural and economic contexts.

Exploration of Understudied Markets: Emerging markets and diverse demographic segments offer fertile ground for exploring how different populations perceive and react to business model innovations.

2.8.2.2 Practical Implications

Strategic Implementation of BMI: Organizations, especially in health tourism, should strategically implement innovations that directly enhance customer value and experience, thereby building brand trust and fostering loyalty.

Customization of Business Models: Understanding the demographic and psychographic characteristics of their target market can help businesses tailor their innovations to meet specific needs and preferences, enhancing the effectiveness of their business models.

Building a Trust Centric Brand Image: Firms should focus on creating transparent, reliable, and customer-focused business models that reinforce trustworthiness, which is crucial for customer retention and advocacy.

2.8.2.3 Conclusion

This comprehensive review not only synthesizes the existing literature on BMI, BT, and BL but also highlights significant gaps and opportunities for future research. The findings are instrumental for academics and practitioners alike, offering a blueprint for further investigation and strategic decision-making in the context of business model innovation.

2.9 Conceptual Framework

2.9.1 Detailed Presentation of the Conceptual Framework

The conceptual framework for this study maps the interrelationships between Business Model Innovation (BMI), Brand Trust (BT), and Brand Loyalty (BL) within the health tourism industry. It illustrates how innovative business models influence brand trust and, through trust, affect brand loyalty.

2.9.1.1 Framework Components

1) **BMI as the Independent Variable:** This component represents the innovative strategies and practices that health tourism providers implement to enhance their service delivery, customer engagement, and market positioning.

2) **BT as the Mediator:** Brand trust acts as a mediator in the model, hypothesized to carry the influence of BMI to BL. It encapsulates the trust that consumers develop

towards a brand due to its innovative practices and perceived reliability.

3) BL as the Dependent Variable: This is the ultimate measure of a customer's repeated engagement with and advocacy for the brand, influenced by their trust in the brand.

2.9.1.2 Flow of Influence

The path from BMI to BT suggests that more innovative business models are likely to enhance consumer trust.

The path from BT to BL indicates that higher trust levels are expected to lead to greater loyalty.

The indirect path from BMI to BL through BT highlights the mediating role of trust.

2.9.2 Theoretical Justification of the Model

The theoretical underpinnings of the conceptual framework are derived from the Resource Based View (RBV) and Relationship Marketing Theory.

2.9.2.1 Resource Based View (RBV)

BMI is viewed as a strategic resource that can provide a competitive advantage. Innovations in business models are seen as valuable, rare, and difficult to imitate resources that create superior customer value and satisfaction.

RBV supports the idea that such strategic resources are crucial for building a sustainable competitive advantage, which in health tourism translates to higher brand trust and loyalty.

2.9.2.2 Relationship Marketing Theory

This theory emphasizes the importance of relationship development and maintenance with customers, which is crucial in servicebased industries like health tourism.

The linkage between BMI and BT is justified by the theory's assertion that innovative customer engagement strategies enhance trust. Subsequently, trust fosters loyalty, illustrating the natural progression from trust to loyalty as posited in relationship marketing.

2.9.3 Correlation with Survey Constructs

The constructs used in the survey are directly tied to each component of the

conceptual framework:

BMI Constructs: These include items measuring the introduction of new services, customer interaction innovations, and market adaptation strategies. These directly correlate to the BMI component of the framework.

BT Constructs: Survey items here assess the reliability, sincerity, and problem solving capabilities of the provider, aligning with the BT component in the framework.

BL Constructs: Items measuring repeated patronage, advocacy, and preference over competitors relate to the BL component.

The conceptual framework is structured to facilitate empirical testing of the hypothesized relationships between BMI, BT, and BL in health tourism. It is grounded in established theories and is supported by the survey constructs designed to capture the nuances of each component. This robust framework aims to deepen understanding of how business model innovations translate into sustained competitive advantages through brand trust and loyalty.

2.9.4 Conceptual Framework

The conceptual framework for this study, as Figure 2.1 and 2.2 depict, integrates the intricate relationships and related affecting-factors between novelty-based and efficiency-based business model innovation (BMI), brand trust, and brand loyalty, particularly within the context of the Guizhou Hot Spring Health Tourism Industry. It posits that both forms of BMI can significantly enhance brand trust, which in turn, fosters greater brand loyalty. This framework is supported by various studies that illustrate how innovative business practices, whether focused on novelty or efficiency, can cultivate trustful relationships with customers, ultimately leading to increased loyalty.

Zaidun, Muda, and Hashim (2020) propose a conceptual framework that underscores the moderating effect of brand trust on the relationship between customer brand engagement and brand loyalty. This framework suggests that engaging customers through innovative business models can lead to brand loyalty, especially when brand trust is present as a moderating variable.

Spieth et al. (2019) conducted a study to explore how BMI affects customers' brand perceptions, distinguishing between brand trust, brand loyalty, and brand equity.

Their findings indicate that different dimensions of BMI, such as value offering innovation and revenue model innovation, have varied impacts on brand trust and loyalty. This study contributes to understanding how efficiency and novelty in BMI can influence brand trust and loyalty from a customer-centric perspective.

Pappu and Quester (2016) examine how consumers' perceptions of innovativeness affect brand loyalty, highlighting the mediating role of perceived quality. Their findings provide evidence for the proposed mediation relationship, showing that perceived quality fully transmits the impact of brand innovativeness onto brand loyalty. This study supports the notion that novelty-based BMI can enhance brand loyalty through the mediation of brand trust, closely related to perceived quality.

Kasemsap (2015) introduces a framework that incorporates customer value, satisfaction, and brand loyalty, arguing that dimensions of customer value and satisfaction have a mediated positive effect on customer relationship management performance. This framework suggests that efficiency-based BMI can enhance customer value and satisfaction, leading to increased brand loyalty through the mediation of brand trust.

Yeboah-Asiamah, Nimako, Quaye and Buame (2015) assess the moderating role of satisfaction, trust, and brand image within the framework of implicit and explicit brand loyalty in the mobile telecommunication services in Ghana. Their findings indicate that brand trust plays a crucial role in transforming efficiency improvements into increased loyalty.

These studies collectively support the conceptual framework of the study, highlighting pivotal mediating role of brand trust in transforming innovative business strategies, whether focused on novelty or efficiency, into enduring customer loyalty.

The conceptual framework is constructed to examine the influence of two distinct forms of Business Model Innovation (BMI) — novelty-based and efficiency-based — on the development of brand trust and the subsequent effect on brand loyalty. The framework proposes that both forms of BMI exert a sequential impact on brand loyalty, mediated through brand trust. The model demonstrates that innovations in a company's services or efficiency improvements first foster trust among consumers, which is essential for achieving lasting brand loyalty. This systematic approach provides a

strategic perspective for the Guizhou Hot Spring Health Tourism Industry, suggesting that trust-building through BMI is a critical step towards ensuring customer loyalty.

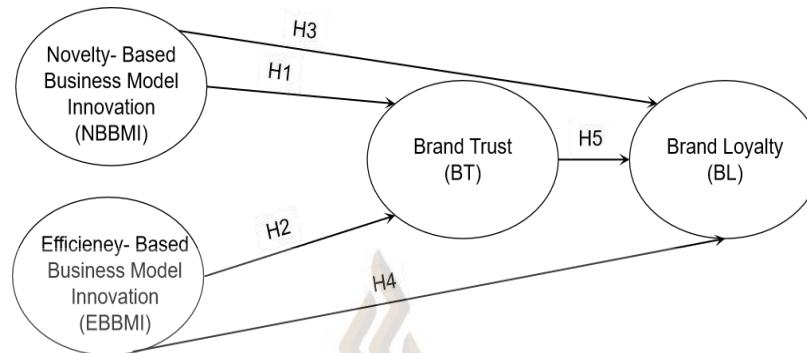


Figure 2.1 Conceptual Framework of BMI's Impact on Brand Trust and Brand Loyalty

Source:Researcher

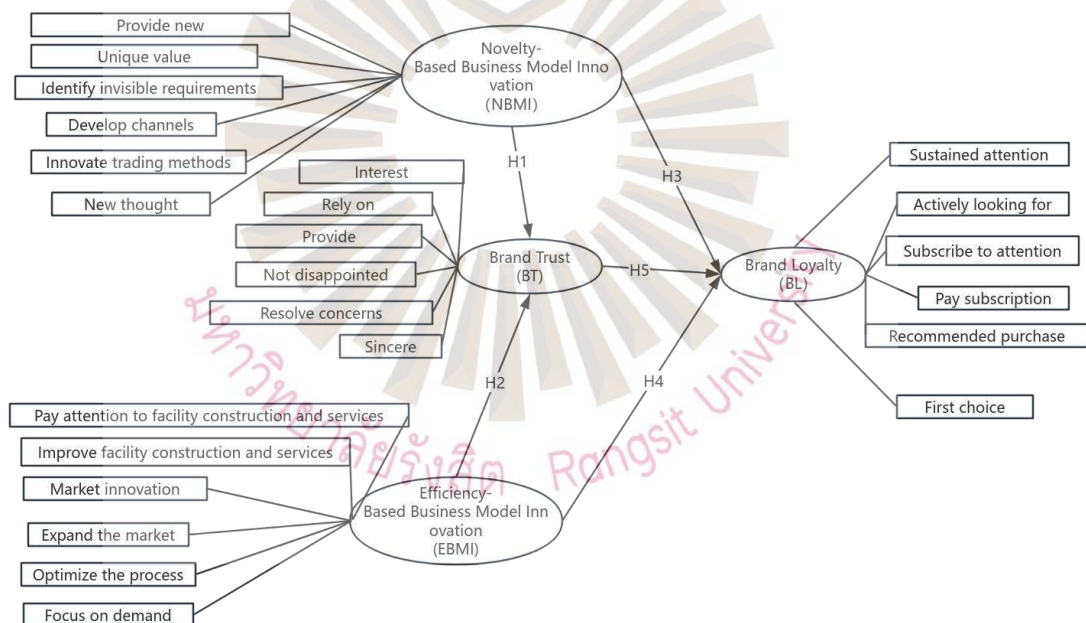


Figure 2.2 Factors of BMI's Impact on Brand Trust and Brand Loyalty

Source:Researcher

Chapter 3

Methodology

This chapter outlines the methodology for modeling research, sample collection, research methodology, and questionnaire design. The research methodology begins with selecting the appropriate measurement tool, followed by sample collection based on specific criteria to select a representative sample for the survey. After data collection, pre-processing is conducted to ensure the reliability and validity of the questionnaire data. This process ensures that the questionnaire has a high degree of reliability and validity before proceeding with the bulk data collection. This methodology chapter provides a comprehensive overview of the steps involved in studying the impact of novelty based and efficiency based BMI on brand trust and loyalty in the hot spring health tourism industry in Guizhou. By adopting innovative research methods and rigorous data analysis techniques, this study aims to provide valuable insights for the strategic development of the health tourism market.

3.1 population and sample

The survey respondents in this study were Chinese people who had been to hot spring tourism enterprises in Guizhou, which included respondents from hot spring hotels, hot spring villas, and hot spring-related industries, in particular hot spring hotels and hot spring villas.

The sample of this study is composed of people who have been to the Guizhou hot spring tourism industry in recent years, and through the screening question: whether you have often been to the hot spring tourism related industry in Guizhou in recent years to better ensure the accuracy of the survey subjects. Thoughts related to Guizhou hot spring tourism industry are collected, which are mainly views on innovative business model innovation, efficient business model innovation, brand trust

and brand loyalty.

Survey sampling is a critical method for data collection in social sciences, including tourism research. By employing these methodologies and insights from the literature, this study aims to provide a comprehensive understanding of the impact of novelty-based and efficiency-based BMI on brand trust and loyalty within the Guizhou Hot Spring Health Tourism Industry.

Hair et al.(2011) showed that the number of samples should be 5 to 10 times the number of variables theoretic all. In this study,it includes the basic information of and novelty business model innovation, efficiency business model innovation, brand trust, and brand loyalty. An online survey was sent to hot online collection of software, hoping to collect around 305 people who frequently travel to hot spring related places,This includes 80data (calculated by G * power software) for prediction testing. By the current popular online collection of the software impact, the use of online surveys has become increasingly popular in tourism research, providing a cost-effective and efficient means of data collection. However, researchers must be aware of potential limitations associated with online surveys, such as coverage errors and self selection biases, and adopt strategies to alleviate these issues (Hwang&Fesenmaier, 2004). Formal questionnaire Sample size formula : (Number of variables + Number of measurement items) *5= (4+24) *5=140, Collect sample size larger than 140, So, formal data for this study collect 225 samples.

3.2 Data Collection

This study employs a non-probability sampling method and convenient samplings to select qualified samples based on a screening question, utilizing intentional sampling to collect and analyze data. The research model focuses on four main variables: business model innovation of novelty, business model innovation of efficiency, brand trust, and brand loyalty. In the qualified sample, 32 questions related to the corresponding main constructs were distributed and measured. An online survey was planned to be sent to all customers using hot online collection of software.with a sample of 305 copies planned.

Non-probability sampling, including convenient sampling, is often utilized in tourism research due to the specific characteristics of the population of interest and the practical challenges of applying probability sampling methods in such contexts (Moser, 2022; Heckathorn, 1997). Convenient sampling is in the process of investigation by the investigator according to the principle of convenience, to determine the sampling unit. The biggest characteristic of convenience sampling is the ease of implementation and the low cost of investigation. Therefore, the convenience sample is not representative of the well-defined population, and it is of no significance to generalize the survey results of the overall sample to the population. Therefore, if the aim of the study is to make inferences about the relevant parameters of the population, using convenience sampling is not appropriate. But in scientific research, the use of convenient samples can generate some ideas as well as a preliminary understanding of the content of the research, or establish hypotheses.

The use of online surveys, facilitated by platforms like Questionstar, has become increasingly popular in tourism research, offering a cost-effective and efficient means of data collection. However, researchers must be mindful of the potential limitations associated with online surveys, such as coverage error and self-selection bias, and employ strategies to mitigate these issues (Hwang & Fesenmaier, 2004).

Data collection for this study was conducted through an online questionnaire link sent through the Questionstar online program. The online survey consisted of 32 questions covering basic demographic information items, novelty business model innovation, efficiency business model innovation, brand trust, and brand loyalty. In previous studies, a Five Likert scale was the main scoring method, while a five-point Likert scale was used for scoring in this study.

The impact of data collection methodology on organizational survey results shows that survey method accounts for a relatively small percentage of unique variance in the data, suggesting that practitioners may choose an administration method based on factors such as cultural fit and ease of implementation rather than issues of data quality (Church, 2001). A guide to the design and application of online questionnaire surveys highlights methodological aspects, planning and management, and ethical concerns that may arise while using online surveys, emphasizing the

importance of addressing these issues for successful data collection (Regmi et al., 2016).

3.2.1 Respondents and reasons

The following five reasons for choosing hot springs: Five Hot Springs are typical representatives of hot springs in Guizhou. Specifically, it covers different regions of Guizhou, China. This reflects the different spring qualities and benefits for human health in Guizhou, China. And there are different representatives of the oldest and modern hot spring complexes. What's more, the five hot springs are all typical hot springs with the highest tourist reception in Guizhou. Here's an introduction separately as follows:

1) Xifeng Hot Spring (with a long history and rare spring quality in the world, it has outstanding benefits for human health)

Guizhou Xifeng Hot Springs is one of the eight major hot springs in China, with a history of 90 years. Xifeng Hot Spring covers an area of about 130 acres, with a building area of 23000 square meters. The hot spring has three springs, with a daily inflow of over 1000 cubic meters and a water outlet temperature of around 55 degrees. The hot spring water has been identified by the state as "double calcium carbonate radon spring containing metasilicic acid and strontium". It is one of the rare high-quality natural medical and drinking mineral water in the world and famous in China. It contains a variety of trace elements beneficial to human body, and contains radioactive element radon. It has curative effects on rheumatism, chronic digestive tract disease, chronic liver disease, biliary tract disease, diabetes, gout, cardiovascular disease, hypertension, etc.

2) Shiqian Hot Springs (with the longest history, outstanding spring quality, and outstanding benefits for human health in Guizhou)

Guizhou Shiqian Hot Spring Scenic Area is the first national level hot spring group scenic area, a national 4A level tourist scenic spot, located at the foot of Songming Mountain in the southern part of Shiqian County, Guizhou.

Shiqian Hot Spring, also known as Chengnan Hot Spring, is one of the oldest hot springs in China. Its facilities were first built in the 34th year of the Ming Dynasty's Wanli era (1606 AD) and have a history of over 400 years. It has a unique traditional

bathing culture and is one of the only natural mineral hot springs in the country and one of the few in the world that can be both bathed and consumed directly.

Shiqian Hot Spring is rich in selenium, strontium, lithium, radon, zinc, iodine, metasilicic acid and other trace elements that are beneficial to human health care. It has a good auxiliary medical effect on diabetes, coronary heart disease, hypertension, arthritis, neuritis, skin diseases, etc. It is a well-known "hometown of spring capital" in China.

3) Jianhe Hot Springs (with outstanding spring quality and significant benefits to human health, it is an excellent case of upgrading and renovating in recent years based on customer needs)

The hot spring is located in Censong Town, northeast of Jianhe County, Guizhou Province. The location is named "Hot Spring Village", and the location of the spring eye is named "Hot Water Gully". There are six springs in the hot water ditch, which do not dry up all year round. The daily water output is about 5000 tons, and the outlet temperature is about 50 °C. The development of Hot Water Gully began in 1984. In 2015, Jianhe Hot Spring was successfully included in the provincial-level key demonstration tourist attraction of "100 Tourist Attractions in the Province" in Guizhou, and received support from the province and state.

In the summer of 2017, the newly built Jianhe Hot Spring City officially opened. The core area covers a total area of about 430 acres, with a construction area of about 100000 square meters and a total investment of about 1.2 billion yuan. It is a four season, all-weather operation project built according to the national 5A level scenic area standards, and is the only Miao and Dong cultural garden in China with a theme of health and wellness hot springs. In the same year as its opening, Jianhe Hot Spring City was rated as a national 4A level scenic spot.

According to the report issued by the French Hot Springs Certification Committee (a certification body for top global hot spring and mineral water brands such as Evian, Vichy, Lifuquan, and Yayang, and one of the most credible water quality certification bodies in Europe), after testing the quality of Jianhe Hot Springs and comparing it with the hot spring quality of two famous hot spring sanatoriums in France, Jianhe Hot Springs has the following medical value: 1. Recommended for the

treatment of rheumatic and respiratory diseases; 2. It can be considered for the treatment of varicose veins and skin diseases.

4) Poly International Hot Springs (the highest level hot spring complex that combines Guizhou with real estate development)

Poly International Hot Springs, as a key cultural project under Poly Group, adheres to the development model of the group's "cultural project", utilizes the regional culture of Guizhou and unique hot spring resources, integrates top domestic and foreign service institutions and management teams such as the United States, Hakone in Taiwan, and Zhuhai Yuwenquan International, and meticulously creates noble hot springs in Poly Hot Spring New City, a "national cultural ecological community" covering more than 800 acres in Guiyang, Guizhou.

Poly Hot Springs have a water temperature of 67 °C, colorless, with a slight smell of sulfur. They have a daily flow rate of over 1000 cubic meters and a pH value of 6.97. They are neutral springs with low mineralization and low irritation. They are rich in calcium, magnesium, potassium, sodium, iron, zinc, strontium, chlorine, fluorine, metasilicic acid, bicarbonate, sulfate, and other components. They belong to the category of calcium sulfate springs. Poly International Hot Springs have an inhibitory effect on the central nervous system, can calm, eliminate headaches, improve sleep, and balance the autonomic nervous system. Suitable for neurosis, autonomic dysfunction, etc. It has a significant effect on the circulatory system, can improve circulatory function and provide protection, and has a bidirectional regulatory effect on blood pressure. Suitable for early atherosclerosis, early hypertension, mild heart disease, etc.

5) Four Seasons Hot Springs (Guizhou Modern Hot Spring Complex)

The Four Seasons Guizhou Mountain Hot Spring Water World consists of three major sections: outdoor half mountain hot spring area, indoor leisure service area, and indoor marine amusement area. The outdoor half mountain hot spring area is based on high-quality deep mineral spring resources originating from underground depths of 70C at 3000 meters, and nearly a hundred different forms and functions of soaking pools are constructed. Guizhou is the first four season hydrophilic amusement base that integrates large indoor marine amusement parks, half mountain hot springs, and

water pools.

When entering the questionnaire survey stage, we will also create posters to introduce the participation process, exit matters, information confidentiality matters, etc., to ensure the smooth progress of the questionnaire survey. The total sample size is 300, and we will allocate 60 samples to each hot spring. To ensure the expected sample size is reached, taking into account the impact of questionnaire response rate, a total of no less than 350 questionnaires are expected to be distributed based on the actual survey situation. Additionally, in order to maintain sample diversity, it is estimated that 60-80 questionnaires will be distributed for each hot spring.

3.2.2 Steps for collecting data online

The first step is to register an account on the online platform and import or input the self-designed questionnaire into the website.

The second step is to set up the questionnaire according to the research purpose and design a questionnaire with a reasonable structure, complete content, convenient operation, and user-friendly interface.

Step three, clarify privacy protection statements and measures. Especially for sensitive issues, which involve personal life and are considered inconvenient for most people to express or state in public, it is necessary to maintain confidentiality for the questioner and specify specific confidentiality measures in advance when conducting sensitive issue investigations. And clearly state the purpose and privacy settings of the questionnaire (including not recording personal characteristics such as name, workplace, address, etc.), and the researcher or investigator shall be held legally responsible for any leakage.

The fourth step is the process of collecting data from online questionnaire surveys. When the respondents see or receive relevant links, they click on the relevant links to enter the questionnaire survey system, register or directly enter the questionnaire survey system to start filling out the questionnaire. After the respondents complete the questionnaire and click submit, the system will save the data filled out by the respondents.

The fifth step is to conduct regular checks and track the survey subjects during the collection process, in order to improve the feedback rate of the survey. A

combination of convenient sampling and open sample selection method is adopted. In order to enable respondents to fill out the questionnaire within the limited survey period, reminders can be expanded and sent to respondents during the survey to remind them to participate in the survey.

The online questionnaire survey conducted in this article was conducted on the "Questionnaire Star" website by publishing an online questionnaire. This website is a complete technical platform that supports the entire survey and research process from project design to data collection and website report browsing. The specific program functions include online registration, questionnaire design, questionnaire promotion, data collection, data analysis, interactive zones, etc.

In the specific operation process of online questionnaire survey, all functions of the survey website are implemented through online operation. After filling in basic information and registering on the survey website, surveyors can log in to the system to create survey questionnaires. After logging into the system, users only need to follow the following operation process to design a relatively user-friendly online survey questionnaire. After publishing the created survey questionnaire on the website, relevant online survey can be conducted.

By consulting relevant materials, we selected five typical hotels, including Xifeng Hot Springs, Jianhe Hot Springs, Shiqian Hot Springs, Poly International Hot Springs, and Four Seasons Hot Springs, which have a wide coverage, representative, long history, and modern complex. We also set screening questions in the questionnaire to ensure the accuracy of the survey subjects. After searching for the target audience, a step-by-step distribution is carried out based on the online questionnaire distribution. Firstly, the questionnaire is imported and set up on the online platform, and then connected or QR codes are distributed to the survey subjects to collect basic information about the research subjects, brand loyalty, brand trust, novelty, and efficiency based business models. After the survey subjects are filled out, we can view and export the information filled out by the survey subjects on the platform (click View Answers - and then click Export Answers - Export Excel spreadsheet data). When setting up online questionnaires, we need to protect and declare the privacy of the survey subjects, so that they can fill out survey related information with peace of

mind. After collection, ensure that the data is not used for any other activities except for this study.

3.3 Research tools

The online survey was divided into several sections consisting of 32 questions on basic demographic information, novelty business model innovation, efficiency business model innovation, brand trust, and brand loyalty. A 5-point Likert scale was used to assess the structure of the study (1=strongly disagree; 2=disagree, 3=neutral, 4=agree, 5=strongly agree). Brand trust was adopted from Chaudhuri and Holbrook (2001) and Laroche et al. (2012). Brand loyalty was adopted from Algesheimer et al. (2005). In this study, Cronbach's coefficient method, exploratory factor analysis, and confirmatory factor analysis: the data were tested for reliability and validity, internal consistency of the data, and structural and content validity (convergent validity (AVE) and combinatorial reliability (CR), and discriminant validity).

For the development and validation of the questionnaire, the study utilized methodologies similar to those found in the literature. For instance, confirmatory factor analysis (CFA) to ensure the questionnaire's validity and reliability mirrors the approach taken by Gómez-García, Matosas-López, and Ruiz-Palmero (2020) in their study on social networks use patterns among university youth. Their work involved a panel of judges and a large sample size to validate the questionnaire, achieving a Cronbach's alpha of 0.864, indicating high reliability.

Similarly, Singh and Banerjee (2018) conducted followed by CFA in their study exploring factors influencing celebrity endorsement credibility. Their findings underscore the importance of these analyses in establishing the structural validity of survey instruments. The Cronbach's alpha and composite factor reliability measures they obtained further support the use of these methods in assessing the reliability and validity of survey instruments.

Ho, Kwon, Park, Yoon and Kim (2017) also demonstrated the application of CFA in testing the reliability and validity of a Korean version of a questionnaire, achieving significant reliability scales (Cronbach α , 0.971) and confirming the questionnaire's

dimensional structure through CFA.

These examples from the literature validate the approach taken in this study to ensure the reliability and validity of the survey instrument used to explore the impact of business model innovation on brand trust and loyalty within the Guizhou Hot Spring Health Tourism Industry.

3.4 Questionnaire Scale Sources

Based on the recommendations of previous studies, the reliability and validity of the questionnaire were assessed prior to hypothesis testing to avoid instrumental errors and improve the accuracy of the material in this study. Validity refers to the ability of an instrument to accurately assess its intended purpose, with the amount of data collected by a measurement device depending on how well the measurement device corrects for random errors (Kimberlin & Winterstein, 2008). Scientists use various methods to improve translation, including forward translation, reverse translation, and cognitive testing. In forward translation, one or more language experts translate an object into a chosen language. In reverse translation, one or more linguists translate from the selected language to the source language to detect inconsistencies (Maneesriwongul & Dixon, 2004; Toma et al., 2017). Therefore, before proceeding with the formal collection of data, the reliability of this questionnaire was measured based on the data pretest. First, the internal consistency of the data was analyzed through reliability analysis to ensure the reliability of the data situation.

Brand trust reference Chaudhuri and Holbrook (2001), Laroche, Habibi, Richard and Sankaranarayanan (2012), which consists of 6 items to measure the brand trust situation. Brand loyalty adopts Algesheimer et al. (2005), which consists of 6 items to measure brand trust loyalty. Amit and Zott develop a systematic way to analyze and evaluate their business models. It represents novelty, lock, complementarity and efficiency, four key elements that contribute to a successful business model. Novelty: refers to the introduction of a new architecture, components or links into a product or service, thus generally achieving innovative and value-added effects. It can help companies identify differences from their competitors. Companies are encouraged to

think outside of the box and put forward innovative ideas to attract the attention of their target markets. This study cites six business model innovation to measure novelty. Efficiency: the last element of the business model. It can be recognized that cost-effectiveness and resource allocation are key to sustainable success. Companies need to find ways to simplify operations, reduce waste, and optimize resource use, also citing six items to measure efficient business model innovation.

According to the questionnaire design, referring to the appendix for details, the appearance is simple, easy to fill out, and the information feedback interface is friendly, in order to achieve the goal of improving survey feedback rate. After designing the questionnaire, it is necessary to select survey samples from the target population. The selection methods for online survey samples based on sampling methods include convenience sampling and probability sampling. Convenience sampling includes sampling without limiting the scope of survey questionnaire distribution, systematic sampling by website visitors, and a fixed sample composed of volunteers. Convenience sampling requires much less time and effort than probability sampling, and its cost is generally lower. Therefore, most online surveys currently use convenience sampling as the sampling method. The data collection for this questionnaire was conducted through online platforms.

After designing the entire process of organizing and implementing a questionnaire survey, and preparing in advance, the next step is to carry out a specific survey. Questionnaire based data collection requires the collected data to have characteristics such as accuracy, timeliness, comprehensiveness, economy, and pertinence.

1)Accuracy: The accuracy of data collection refers to the fact that the collected information must be true, reliable, realistic, and have small survey errors. Only by achieving accuracy in data collection can objective basis be provided for accurate analysis of data.

2)Timeliness: The data collected through data collection work not only requires accuracy, but also timely information. Only timely information can play a real analytical role and help make current decisions.

3)Comprehensiveness: Comprehensiveness refers to the requirement that the

collected information must be systematic and comprehensive, including all the necessary information for all units to be investigated. At the same time, the collected information should be systematic, facilitating systematic observation and analysis of data. This can reflect the development process, characteristics, and questions of the survey object from different levels and aspects.

4)Economy: Economy refers to the ability to obtain the required information with the minimum survey cost, while meeting certain accuracy requirements. Generally, the higher the accuracy requirement for data collection, the greater the survey cost.

5)Targeted: Targeted requires each data collection task to adopt effective methods to collect accurate and effective data for specific research purposes and research objects.

3.5 Research Instruments

As can be seen from the sources of the table scale in Table 3.1, the mature scale (Amit and Zott,2012) is used for the novel business model innovation and efficiency business model innovation in this study. Brand Trust Scale (Chaudhuri & Holbrook, 2001; Laroche et al., 2012). Brand Loyalty Maturity Scale (Algesheimer, Dholakia & Herrmann, 2005). Combined with the Guizhou hot spring.

Table 3.1 Scale source

Variables	Questions
Novelty Business Model Innovation NOBMI	1.The hot spring health tourism industry provides customers with new products, services, information.
	2.The value brought to customers by the hot spring health tourism industry is unique and easily perceived.
	3.The hot spring tourism industry can identify consumers' hidden needs.
	4.The hot spring health tourism industry can develop new marketing channels and methods.
	5.The hot spring health tourism industry adopts innovative transaction methods.
	6.The hot spring health tourism industry gains new ideas and inventions through existing business operations.

Table 3.1 Scale source(cont.)

Variables	Questions
Efficiency Business Model Innovation EBMI	1.The hot spring health tourism industry focuses on perfecting hot spring facility construction or services.
	2.The hot spring health tourism industry continuously improves main hot spring facility construction or services to meet customer needs.
	3.The hot spring health tourism industry tends to follow market innovations or actions.
	4.The hot spring health tourism industry focuses on expanding the current market size.
	5.The hot spring health tourism industry continuously optimizes existing operational processes, knowledge, and technology.
	6.The hot spring health tourism industry focuses on the existing needs and satisfaction of partners.
Brand trust BT	1.I trust the hot spring health tourism industry I am interested in.
	2.I rely on the hot spring health tourism industry I am interested in.
	3.The Guizhou hot spring health tourism industry I am interested in provides me with what I expect.
	4.The hot spring health tourism industry I am interested in never disappoints me.
	5.I believe the hot spring health tourism industry I am interested in will sincerely address my concerns.
	6.I believe the hot spring health tourism industry I am interested in treats consumers with sincerity and without deceit.
Brand loyalty BL	1.I plan to continue following and listening to the content of the hot spring tourism industry I am interested in, in the near future.
	2.I will actively look for this hot spring health tourism industry I follow, to choose to listen to and discuss in the future.
	3.I plan to subscribe and follow other content of the hot spring health tourism industry I am interested in.
	4.If the hot spring tourism industry provider I am interested in charges a subscription fee, I would subscribe or register rather than switch to another brand.
	5.I would recommend others to purchase the products of this hot spring health tourism industry.
	6.This product will be my preferred purchase of the hot spring health tourism industry in the future.

Sources:Algesheimer, 2005; Amit, 2012; Chaudhuri, 2001.

The various important variables measured in this study were measured using a 5-level Likert scale. Therefore, the score degree of each latent variable is divided into 5 degrees as below in Table3.2. When the mean score of each latent variable is between

4.21 and 5.00; the mean between 3.41 and 4.20 is the greater agreement; the mean between 2.61 and 3.40 is the general consent; the mean sub between 1.81 and 2.60 is the strong disagreement; and the mean is between 1.00 and 1.80 is the strong disagreement.

Table 3.2 Description of the degree of score

Grade	Interval
Completely agree	4.21-5.00
Strongly agree	3.41-4.20
Agree	2.61-3.40
Disagree	1.81-2.60
Strongly disagree	1.00-1.80

Sources:Wu,2013.

Validity refers to the rationality and validity of the structure and content of the questionnaire, using the validation factor analysis model (CFA). The AMOS software tool is used to construct a confirmatory factor analysis measurement model, and the fit range of the measurement model fitting index is shown below in Table3.3.

Table 3.3 Model fitting index

Statistical Test Quantity		Indicators Conform To	Adaptation Standard
Model Fit Metrics	Absolute Adaptation Index	RMSEA	<0.10
		RMR	<0.08
		SRMR	
	The Parsimony Fit Index	CMIN/DF(NC)	1<NC<5
	Value-Added Adaptation Index	NFI	>0.8
		RFI	
		IFI	
		TLI	
		CFI	
	Convergence Validity Index		AVE
		Factor Load Coefficient	

Table 3.3 Model fitting index (cont.)

Statistical Test Quantity			Indicators Conform To	Adaptation Standard
Combined Reliability Index			CR	>0.7
Differentiation of Indicators	of	Validity	$\sqrt{AVE}$	>Correlation Coefficient Of Each Variable

Source:Purnomo, 2017; Wu, 2013.

After exploratory factor analysis, validated factor analysis was examined using structural equation modeling software (AMOS). Originating in cognitive science, validated factor analysis is designed to assess underlying psychological traits such as mood and satisfaction. It extracts the underlying structure from variables and shares most variance with the variable of interest. Validated factor analysis estimates latent variables based on correlated changes (e.g., associations, causality) in the dataset and can reduce data dimensionality, standardize multiple indicators' size, and account for the intrinsic relevance of the dataset (Byrne, 2013).

Anderson and Gerbing (1988) recommend a two-step approach to structural equation modeling, emphasizing the importance of assessing model fit through nested models and sequential chi-square difference tests. This approach allows for a more thorough evaluation of the model's validity and reliability.

Muthén and Asparouhov (2012) introduce a Bayesian approach to structural equation modeling, offering a flexible representation of substantive theory. This method is particularly beneficial for applications where nonidentified models might result from maximum-likelihood estimation, highlighting the advantages of Bayesian analysis in handling complex model structures.

Bentler and Bonett (1980) discuss the significance of goodness-of-fit tests in analyzing covariance structures, underscoring the need for comprehensive model evaluation beyond simple model comparison. Their work emphasizes the importance of considering a general null model for a more complete statistical and scientific evaluation of covariance structure models.

Besemer and O'quin (1999) confirm the validity of a three-factor structural equation model, demonstrating the utility of confirmatory factor analysis in

establishing construct validity. Their study provides strong support for the questionnaire's construct validity and the creativity model's three-dimensional structure.

These references underscore the critical role of validated factor analysis in assessing the structural validity of data, particularly in the context of psychological and behavioral research. By employing validated factor analysis, this study aims to ensure the reliability and validity of its findings, contributing to the theoretical and practical understanding of the impact of business model innovation on brand trust and loyalty.

Validation factor analysis (VFA) is used to validate the stability and accuracy of a scale with a defined structure. The basic process is, in the first step, to carry out the fitness test of the model, in the second step, to calculate the standardized factor loadings and standardized correlation coefficients, and in the third step, to manually calculate the convergent validity, combinatorial reliability, and discriminant validity by using the results of the software calculations (with the help of the software calculations, the formula for convergent validity is: $AVE = \frac{(\sum \lambda)^2}{N}$), and the formula for combinatorial reliability is: $CR = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \sum \varepsilon}$, where λ is the standardized factor loadings, N is the number of samples, and ε is the error. Distinguishing validity: Comparison is made with the help of standardized correlation coefficients and square root of AVE values between two dimensions. Observe whether the standardized correlation coefficient between two and two dimensions is less than the square root of the AVE value corresponding to the dimension to determine the appropriateness of the results.

In this study, the CFA method was selected to test the validity and reliability of the pretest. This study utilized both incremental and absolute metrics to test the metrics of validated factor analysis: Cardinality Ratio of Degrees of Freedom (CMIN/DF), Root Mean Square Error of Approximation (RMSEA), and Normed Fit Index (NFI).

Confirmatory Factor Analysis (CFA) is a statistical technique used to verify the factor structure of a set of observed variables. It allows researchers to test the

hypothesis that a relationship between observed variables and their underlying latent constructs exists. The CFA approach is particularly useful in validating the structure of a questionnaire or scale, ensuring that the items accurately reflect the constructs they are intended to measure (Babyak & Green, 2010).

The CMIN/DF ratio is a measure of model fit, with values less than 3 indicating a good fit between the model and the data. The RMSEA assesses the fit of the model to the data, with values less than 0.06 indicating a good fit, and the NFI compares the fit of the proposed model to a null model, with values closer to 1 indicating a better fit (Hoofs, van de Schoot, Jansen, & Kant, 2017).

These metrics were chosen for their ability to provide a comprehensive assessment of the model's fit, taking into account the complexity of the model and the size of the sample. By employing these metrics, the study aims to ensure the reliability and validity of the questionnaire used to measure the constructs of interest.

3.5.1 Chi-square values

The chi-square value in confirmatory factor analysis (CFA) is a critical measure used to assess the fit between the hypothesized model and the observed data. A non-significant ($p > 0.05$) chi-square value suggests a small possibility of inconsistency between the model and the actual data, indicating a good fit. Conversely, a significant chi-square value suggests a lack of fit between the theoretical model estimation matrix and the observed data matrix. The chi-square value's sensitivity to sample size is a well-documented issue, with larger samples more likely to yield significant chi-square values, potentially leading to the rejection of the theoretical model (French & Finch, 2006; Meade, Johnson, & Braddy, 2008).

The optimal sample size for chi-square tests in CFA is considered to be between 100 and 200. However, in questionnaire-based research, sample sizes are often above 200 to ensure overall model fit assessment through additional fit indices (Ripdon, 1995). Real-world data evaluation of theoretical models often finds limited substantive help from statistics due to the influence of estimated parameters and sample size. The more parameters estimated (greater degrees of freedom), the more variables affecting the hypothesized model, leading to a more apparent poor fit hypothesis type; large sample sizes often result in large chi-square values, making it easy to reject the null

hypothesis and accept the opposing hypothesis, indicating a poor fit between the hypothesized model's covariance matrix and the observed data (Anderson & Gerbing, 1988).

Significant chi-square values can still be acceptable under certain conditions, acknowledging the complexity of real-world data and the limitations of statistical tests in capturing the nuances of theoretical models. This understanding is crucial for interpreting CFA results, especially when considering the role of sample size and model complexity in influencing chi-square values and the overall assessment of model fit.

$$\chi^2 = (n - 1) F(S; \sum \hat{\sigma}_{ij}^2) \quad (3-1)$$

3.5.2 Cardinal degrees of freedom ratio

The chi-square degrees of freedom ratio is a critical measure in confirmatory factor analysis (CFA), indicating the fit between a hypothesized model and observed data. A smaller chi-square degrees of freedom ratio suggests a better fit, with a ratio of less than 2 generally indicating a good fit of the hypothesized model (Carmines & McIver, 1981). This ratio, also known as the canonical chi-square (NC), provides insights into model overfitting or underfitting. A value less than 1.00 suggests overfitting, while values greater than 2.0 or 3.0 (with a more lenient threshold of 5.0) indicate underfitting, suggesting the model does not adequately reflect the real observational data (Huang, 2004).

The sensitivity of the chi-square value to sample size is a well-documented issue, with larger samples more likely to yield significant chi-square values, potentially leading to the rejection of the theoretical model. This sensitivity underscores the importance of considering sample size when interpreting the chi-square degrees of freedom ratio. According to Herzog, Boomsma, and Reinecke (2007), the traditional maximum likelihood ratio statistic overestimates nominal Type I error rates, especially under conditions of multivariate normality, as sample size and model complexity increase. This overestimation highlights the need for alternative statistics or adjustments to account for model-size effects and ensure accurate model evaluation.

Moreover, the chi-square degrees of freedom ratio's reliance on the chi-square

value as the numerator and its inability to correct the power issues of too many statistical tests further complicate its interpretation. As such, significant chi-square values can still be acceptable under certain conditions, acknowledging the complexity of real-world data and the limitations of statistical tests in capturing the nuances of theoretical models (Anderson & Gerbing, 1988).

3.5.3 RMSEA (asymptotic residual mean square and square root) and RMR (residual mean square and square root)

In the evaluation of Structural Equation Modeling (SEM) models, RMSEA (Root Mean Square Error of Approximation) and RMR (Root Mean Square Residual) serve as critical indices for assessing model fit. RMSEA evaluates the fit of the model to the covariance matrix, while RMR measures the average residual between the observed and model-implied covariance matrices. A lower RMSEA value indicates a better fit, with values less than 0.05 or 0.06 typically considered indicative of a good fit. Similarly, a lower RMR value suggests a closer match between the model and the observed data, contributing to a better overall model fit (Cudeck & Henby, 1991; Steiger, 1990).

The distinction between RMSEA and RMR lies in their focus: RMSEA considers the error of approximation in the population, while RMR focuses on the average discrepancy per equation in the sample. This difference underscores the importance of considering both indices in SEM model evaluation to obtain a comprehensive understanding of model fit. Moreover, the use of standardized residuals, which convert residual values to a mean of zero and a standard deviation of one, aids in interpreting the fit of the model. When the absolute value of standardized residuals exceeds 2, it suggests a lack of fit, indicating areas where the model may not adequately represent the data (Slevens, 1996).

The sensitivity of these indices to model specifications and sample size necessitates careful consideration in their application. For instance, RMSEA's performance can be influenced by the complexity of the model and the size of the sample, with larger samples potentially leading to more significant chi-square values and, consequently, higher RMSEA values. This sensitivity highlights the need for a nuanced interpretation of RMSEA and RMR values, considering the context of the

study and the characteristics of the data (Brosseau-Liard, Savalei, & Li, 2012; Lai & Green, 2016).

To address the issue of non-standardized residual values, which can result in the RMR indicator varying due to the scale of the data, the study employs the Standardized Root Mean Square Residual (SRMR) as a measure. SRMR represents the average of the standardized residual covariances, with its values ranging between 0 and 1. A larger value indicates poorer model fit, while a value of 0 signifies a perfect fit. Generally, a model fit is considered acceptable if the SRMR value is 0.05 or less (Hu & Bentler, 1999).

The SRMR is advantageous because it standardizes the residual values, making the difference value unaffected by the scale of the measurement unit. This standardization allows for a more accurate assessment of model fit across different scales and units of measurement. According to Shi, Lee, and Maydeu-Olivares (2019), SRMR is a robust measure of model fit that is less sensitive to sample size compared to other fit indices, making it a reliable indicator of model fit in structural equation modeling.

Furthermore, the SRMR complements other fit indices by providing a measure of fit that is easy to interpret and apply across various model specifications and sample sizes. Its use alongside other indices, such as RMSEA and CFI, provides a comprehensive evaluation of model fit, ensuring that the model accurately represents the observed data (Lai & Green, 2016).

RMSEA for asymptotic residual mean square error of approximation (root mean square error of approximation), its concept is similar to the NCP value (NCP value for noncentrality parameter, i.e., non-centralization parameter, its value is equal to $X^2 - DF$. NCP value is equal to 0, that is, the theoretical model and the actual data best fit), which is based on the above concept of approximation difference value ($= \Sigma \text{ matrix} - \Sigma(\theta) \text{ matrix}$). indicates that the theoretical model is the best fit to the actual data), which is estimated based on the concept of approximate difference value ($= \Sigma \text{ matrix} - \Sigma(\theta) \text{ matrix}$) mentioned above. The meaning is the difference between the average Σ and $\Sigma(\theta)$ for each degree of freedom (discrepancy), and since degrees of freedom are taken into account, the complexity of the model can be taken into account as well. The

RMSEA value is usually regarded as the most important fitness indicator information, and is given by the following formula.

$$\text{Overall RMSEA} = \sqrt{\frac{F_0}{df}} = \sqrt{\max\left(\frac{F_{ML}}{df} - \frac{1}{N-1}, 0\right)}; \text{Estimated RMSEA} = \sqrt{\frac{\hat{F}_0}{df}}. \quad (3-2)$$

F_0 in the the above formula is the population discrepancy function value, which represents the estimated value of the fitness function when a model is used to fit the overall covariance matrix Σ . When the model is fully adapted, the overall dissimilarity function F_0 value is equal to 0, at this time the RMSEA value is equal to 0.

RMSEA (Root Mean Square Error of Approximation) is a widely recognized fit index in structural equation modeling (SEM), serving as an absolute index without a baseline model. Its value reflects the model's fit, with lower values indicating better fit. Generally, an RMSEA value above 0.10 suggests poor model fit; values between 0.08 and 0.10 indicate mediocre fit; values between 0.05 and 0.08 suggest reasonable fit; and values below 0.05 are indicative of good fit (Browne & Cudeck, 1993). Sugawara and McCallum (1993) argue that RMSEA values below 0.01 represent an excellent model fit, while Steiger (1989) suggests that values less than 0.05 indicate a good fit. Byrne (1998) points out that RMSEA values above 0.08 suggest a reasonable approximation error. MacCallum et al. (1996) further elaborate on RMSEA cutoff points, indicating that values between 0.08 and 0.10 suggest an ordinary fit, but values above 0.10 show a poor fit.

The RMSEA's sensitivity to model specifications and sample size necessitates careful interpretation. For instance, its performance can be influenced by the complexity of the model and the size of the sample, with larger samples potentially leading to more significant chi-square values and, consequently, higher RMSEA values. This sensitivity highlights the need for a nuanced interpretation of RMSEA values, considering the context of the study and the characteristics of the data (Brosseau-Liard, Savalei, & Li, 2012; Lai & Green, 2016).

The Root Mean Square Error of Approximation (RMSEA) is a critical fit index in structural equation modeling, offering insights into model fit without relying on a baseline model. Hu and Bentler (1999) advocate for an RMSEA value less than 0.06 as indicative of acceptable model fit, while McDonald and Ho (2002) consider an

RMSEA value up to 0.08 as an acceptable threshold, suggesting good fit for values less than 0.05. Unlike the chi-square value, RMSEA's stability is less influenced by sample size, making it a preferred index for evaluating model fit (Manh & Bala, 1994). However, Bemler and Yuan (1999) caution that RMSEA values can be overestimated in small samples, potentially indicating poor fit for well-specified models.

Recent studies have further explored the performance of RMSEA in various conditions. Kenny, Kaniskan, and McCoach (2015) highlight that RMSEA often falsely indicates poor fit in models with small degrees of freedom and small sample sizes, recommending against computing RMSEA for such models. This is echoed by Brosseau-Liard, Savalei, and Li (2012), who found that two robust corrections for RMSEA in nonnormal data show that the correction developed by Li and Bentler (2006) reduces bias in small samples without altering the population value, making it a preferable choice for researchers.

These findings underscore the nuanced interpretation required when using RMSEA, especially in the context of small samples or models with limited degrees of freedom. Researchers are advised to consider these factors to avoid misinterpreting model fit based on RMSEA values alone.

3.5.4 GFI and ACFI

GFI is the goodness-of-fit index, which is also translated as the goodness-of-fit index. The GFI index is used to show the amount of variance and covariance in the observation matrix (S matrix) that can be predicted by the replication matrix ($\hat{\Sigma}$ matrix), whose value is the ratio of the squared sum of the differences between the observation matrix of the sample data and the theoretically constructed replication matrix (matrix) to the "observed variance" (Yu, 2006). The value of GF is the ratio of the sum of the squares of the differences between the "observation matrix (S matrix) of the sample data and the theoretically constructed replication matrix ($\hat{\Sigma}$ matrix) to the "observed variance" (Yu, 2006). If the value of GF is larger, it means that the theoretical construct replication matrix ($\hat{\Sigma}$ matrix) explains more variance in the

observation matrix (S matrix) of the sample data, and the fit between the two is higher. The value of GFI ranges from 0-1, and the closer the value is to 1, it means that the model fit is better, while the smaller the value of GFI, the poorer the model fit is. The general criterion is that the CFI value is greater than 0.90, which indicates that the model path diagram has a good fit with the actual data. GF value is equivalent to the coefficient of determination (R^2) in the compound regression analysis, and the larger the value of R^2 , the larger the amount of explainable variance; in the SEM analysis, the CFI value can be regarded as the degree of assuming that the model covariance can explain the covariance of the observed data.

The GFI indicator is defined by the following formula.

$$GFI = 1 - \frac{F\left(S; \hat{\Sigma}\right)}{F\left(S; \hat{\Sigma}(0)\right)}, \text{ the formula is similar to } = 1 - \frac{ERROR_{VAR}}{TOTAL_{VAR}} \quad (3-3)$$

The formula for CFI is as follows.

$$GFI = 1 - \frac{tr\left[\Sigma^{-1}(s - \Sigma)\right]^2}{tr\left(\Sigma^{-1}s\right)^2} \quad (\text{The formula is expressed as The GFI value is the}$$

ratio of the weighted information of the measure S adapted to the Σ weighted information, the ratio part of the formula is similar to the ratio of the residual variance to the total variance, when S and Σ are aggregated, the numerator in the formula is 0 and the GFI value is equal to 1)

The GFI value in the definition is equivalent to the generalized multiple correlation coefficient proposed by Specht (1975), which is similar to the concept of coefficient of determination in compound regression, indicating that all the variance and covariance of S can be explained by Σ , thus equivalent to R in compound regression analysis. where $F\left(S; \hat{\Sigma}(0)\right)$ is the fitness function of the null model when all parameters are zero. This coefficient is similar to the concept of coefficient of determination in compound regression, which represents the portion of the variance and covariance of all S that can be explained by Σ , and thus is equivalent to R^2 in compound regression

analysis. $F\left(S; \hat{\Sigma}(0)\right)$ is the value of the fitness function of the null model when all the parameters are zero.

AGFI is the adjusted goodness-of-fit index. The adjusted GFI value is not affected by units, and its estimation formula, taking into account both the number of estimated parameters and the number of observed variables, utilizes the ratio of the degrees of freedom of the hypothetical model to the number of model variables to modify the GFI index. The formula is as follows.

$$AGFI = 1 - (1 - GFI) \left[\frac{(p+q)(p+q+1)}{df} \right] \quad (3-4)$$

It can also be expressed as follows.

$$AGFI = 1 - (1 - GFI) \left(\frac{k(k+1)}{2df} \right) \quad (3-5)$$

k denotes the number of variables in the model, df denotes the degrees of freedom of the model. The AGFI value adjusts the degrees of freedom in the GFI value, resulting in more parameters in the model but with lower indicator values. Behind this adjusted value, a reasonable presentation can reformulate the S-matrix and by adding more estimated parameters to the model. When the S-matrix is reproduced correctly and completely, the final model presented is just the discriminative model (Stevens, 1996).

The larger the GFI value is, the larger the AGFI value will be, and the AGFI value is between 0 and 1. The closer the value is to 1, the better the fit of the model is; the smaller the GFI value is, the worse the fit of the model is. The general criterion is that the AGFI value is greater than 0.90, which indicates that the model path diagram has a good fit with the actual data (Hu & Bentler, 1999). Scholars Bollen & Jöreskog (1993) even think that the value of the evaluation index for good model fit should be increased to more than 0.92. In model estimation, the AGFI estimate is usually smaller than the GFI estimate. The ACFI value is equivalent to the adjusted coefficient of determination in the compound regression analysis (adjusted R^2), thus the AGFI value will take into account the number of estimated parameters at the same time, and when the number of estimated parameters is higher, the ACFI value will be relatively larger, and the conclusion of assuming a better model fit will be obtained. So far, there is no statistical probability distribution of the two GFI and AGFI values, and thus no explicit test of the two values can be conducted.

3.5.5 Value-added adaptation indicators

In the realm of structural equation modeling, value-added adaptation indicators serve as critical measures for assessing the fit of a model against a baseline model, which posits that all observed variables are uncorrelated (Bentler, 1990). These indicators, including the Normed Fit Index (NFI), the Relative Fit Index (RFI), the Incremental Fit Index (IFI), the Tucker-Lewis Index (TLI), and the Comparative Fit Index (CFI), offer nuanced insights into the model's performance relative to a null model where observed variables are assumed to be independent (Bollen & Long, 1993).

1) The NFI, introduced by Bentler and Bonett (1980), evaluates model fit by comparing the chi-square value of the hypothesized model to that of the null model, with values closer to 1 indicating a better fit .

2) The RFI, as proposed by Bollen (1986), adjusts the NFI for the degrees of freedom, thereby providing a more accurate assessment of model fit considering model complexity.

3) The IFI, developed by Bollen (1989), takes into account model complexity and sample size, offering a robust indicator of model fit that is less sensitive to sample size variations.

4) The TLI, also known as the NNFI, adjusts the model fit based on the degrees of freedom, rewarding models that do not overfit by adding unnecessary parameters (Tucker & Lewis, 1973).

5) The CFI, introduced by Bentler (1990), compares the fit of the hypothesized model to that of a baseline model, adjusting for sample size and model complexity, with higher values indicating a better fit.

These indices collectively provide a comprehensive framework for evaluating the adequacy of structural equation models, allowing researchers to discern the extent to which their models accurately represent the underlying data structure. By comparing the hypothesized model's performance against a baseline of no relationships among variables, these value-added adaptation indicators facilitate a deeper understanding of model efficacy and areas for improvement.

The TLI indicator is used to compare the degree of fit between two opposing

models, or to compare the degree of fit between a proposed model and a null model. The value of the TLI indicator ranges from 0 (the model is not fit at all) to 1 (the model is fit at all), and the indicator is also known as the non-normalized fit indicator (NNFI), which is a modified version of the NFI (i.e., it also takes into account the degree of freedom or the complexity of the model, and takes the degree of freedom as one of the measures of the model complexity). It is a modified NFI (i.e., taking into account the degree of freedom or model complexity, which is also one of the measures of model complexity), while the NFI value is a ratio used to compare the difference in the chi-square value between a proposed model and a null model, relative to the chi-square value of the null model. As for the CFI metric value, it is a modified version of the NFI metric value, which represents the improvement of the non-centralized parameter when measuring the improvement from the most restrictive model to the most saturated model, and is defined in terms of the chi-square distribution of the non-centralized parameter (with k degrees of freedom) and its non-centralized parameter (Yu, 2006; Bentler & Bonet, 2006, 1980). In the fitness table data output from LISREL, the NNFI value (Non-Normed Fit Index) is presented, while the TLI value is directly presented in AMOS, and in the baseline comparisons (baseline comparisons) index values, including NFI value, RFI value, IFI value, TLI value, and CF value.

The NFI values were estimated using the following formula.

$$NFI = \frac{X^2_{null} - X^2_{test}}{X^2_{null}} \quad (3-6)$$

The NNFI values (TLI values, Tucker-Lewis Indicator) were estimated using the following formula.

$$NNFI = \frac{\left(\frac{X^2_{null}}{df_{null}} - \frac{X^2_{test}}{df_{test}} \right)}{\frac{X^2_{null}}{df_{null}} - 1} \quad (3-7)$$

The formula for estimating the IFI value is as follows.

$$IFI = \frac{X^2_{null} - X^2_{test}}{X^2_{null} - df_{test}} \quad (3-8)$$

In the above equations, df_{null} and df_{test} represent the degrees of freedom of the

null model and the hypothetical model, respectively; while X^2_{null} and X^2_{test} represent the chi-square values of the null model and the hypothetical model, respectively.

The Comparative Fit Index (CFI) was developed by Bentler (Bentler, 1990; Hu & Bentler, 1995), which adapts Bentler's original fitness index (BFI, which is also known as the RNI index). The BFI index is estimated by the following formula.

$$BFI = \frac{(X^2_{null} - df_{null}) - (X^2_{test} - df_{test})}{X^2_{null} - df_{null}} \quad (3-9)$$

Since the BFI indicator value is not between 0 and 1, it is not easy to use, the adjusted BFI is CFI, and the CFI value is between 0 and 1.

The NFI and NNFI indicators are relativistic values that reflect the extent to which a hypothetical model differs from an independent model that assumes no covariation among the observed variables. It is found that in small samples and large degrees of freedom, for a hypothetical model with an ideal fit, the NFI value is underestimated to check the model fit situation. Therefore, scholars have proposed the NNFI index, which takes into account the influence of degrees of freedom, and the relationship between the two is similar to that between the GFI and its adjusted index value AGFI. Because of the adjustment of the degrees of freedom in the NNFI value, the range of the NNFI value may be beyond the range between 0 and 1, which shows that the NNFI value is more fluctuating. At the same time, the NNFI value may be lower than the other index values, which may lead to the paradoxical phenomenon that the NNFI value shows that the theoretical model fit is unsatisfactory when the other index values show that the hypothetical model fits (Qiu & Hao, 2005).

NFI value, RFI value, IFI value, CFI value, TLI value is mostly between 0 and 1, the closer to 1 means the better model fit, the smaller means the worse model fit, of which the TLI value (NNFI value), CFI value, IFI value may be greater than 1. Scholar Bentler (1995) found that: even in the case of small samples, the CFI value of the hypothetical model fit estimate is still very stable, the closer to 1, the more effective CFI value can improve the degree of noncentrality, the actual value of CFI value is greater than 1, and the actual value of CFI value can improve the degree of noncentrality. Scholar Bentler (1995) found that: even in a small sample, the CFI value of the hypothesis model fit estimation is still very stable, the closer the CFI

index value of 1, that is, the more effective to improve the degree of non-concentrality (noncentrality), CFI value of the actual value of the actual value of the CFI may be greater than 1 or less than 0, but in the presentation of the data will only be presented in the data between 0 and 1. Generally speaking, the above five index values are used to determine whether the model path diagram and the actual data are suitable or not, and the standard is 0.90 or above. Scholars Hu and Bentler (1999) pointed out that if the RF value is greater than or equal to 0.95, the fitness of the model is quite perfect.

3.6 Validity and reliability tests

Validity and reliability are essential components of research methodology, ensuring that assessment tools accurately measure what they are intended to and do so consistently. Validity refers to the ability of an assessment tool to accurately measure the expected outcomes (Mohaian, 2017), while reliability pertains to the consistency of these measurements (Sullivan, 2011). The interplay between validity and reliability enhances the scientific accessibility and minimizes potential biases in research (Pannucci & Wilkins, 2010). In this context, Cronbach's alpha is employed to assess the reliability of instruments, serving as a measure of internal consistency among test items. This coefficient is a widely accepted index in psychological, educational, and social research for overcoming the limitations of the split-half method (Tavakol & Dennick, 2011).

Cronbach's alpha, or Cronbach's reliability coefficient, is instrumental in estimating the internal consistency of a test, signifying how closely related a set of items are as a group. It is a pivotal statistic for evaluating the reliability of a scale, indicating the extent to which all items measure the same concept or construct. The formula for Cronbach's alpha provides a method to estimate this internal consistency, making it a cornerstone of reliability assessment in social research.

Cronbach's (reliability) coefficient (Cronbach's alpha), is the most commonly used in psychological or educational tests to assess the reliability of the reliability tool. Based on a certain formula to estimate the internal consistency of the test, as an indicator of reliability to overcome the shortcomings of the partial halving method, is

currently the most commonly used index of reliability in social research, it is to measure a group of synonymous or parallel test "sum" of the reliability. Cronbach's coefficient formula:

$$\alpha = \left(\frac{n}{n-1} \right) \left(1 - \left(\frac{\sum S_i^2}{S_t^2} \right) \right) \quad (3-10)$$

α is the reliability coefficient, n is the number of test questions, S_i^2 is the variance of each subject's score on each question, and S_t^2 is the variance of the total score obtained by all subjects.

In general, the higher the coefficient, the higher the reliability of the instrument. In basic research, a reliability of at least 0.80 is acceptable, in exploratory research, a reliability of 0.70 is acceptable, a reliability between 0.70 and 0.98 is considered high, and a reliability below 0.5 is considered low and must be rejected.

3.7 Data pre-testing

Data pretesting is often used before formal analysis to verify the rationality of the questionnaire design by small sample size. "Whether we are social researchers or epidemiologists, designing surveys or clinical trials, we aim to provide validated, reliable, sensitive, unbiased, and complete results." Collins (2003, p.229). Even with detailed guidelines on how to correctly design questionnaires (see Brace, 2008; Dillman, 2011; Rowley, 2014), it is difficult for actual researchers to identify and suppress all potential problems that may arise during data collection (Hulland et al., 2017). Therefore, it is necessary to pretest the questionnaire to ensure that there is no ambiguity in the questionnaire questions and that the respondents can understand the design and intention of the questions (Sekaran, 2003).

Therefore, the collected data included 80 samples (Cooper & Schindler, 2011) presented samples from 25 to 100 individuals (Cooper & Schindler, 2011) to test and determine the rationality and hypothesis of the study questionnaire.

First, the basic information distribution of the sample object is the basic information of the sample. Later, the distribution of each variable was analyzed.

Finally, the reliability validity of the questionnaire data was tested by confirmatory factor analysis. Pre-validation of the hypothesis with reasonable reliability and validity.

The questionnaire is not designed to be used casually, but must also have good reliability and validity. Therefore, collect data through pre testing for analysis. If the reliability and validity are low, further revision of the questionnaire is needed; Pre testing is a small sample survey conducted before the formal survey to test the validity of the questionnaire and avoid significant errors and unnecessary losses during the formal survey. The reliability and validity of the questionnaire are often comprehensively evaluated through project analysis, reliability and structural validity testing.

1) Project Analysis

Project analysis focuses on each item in the scale, mainly evaluating the appropriateness of measurement items. Methods for measuring items include homogeneity testing and extreme group testing. The homogeneity test method is to test the correlation coefficient between each item of the scale and the total score of the scale; The extreme group test method divides the total score of the scale into high and low groups and uses independent sample T-test for testing. The T-value is used as the critical ratio or decision value (CR value) of the question. The larger the T-value ($|t| > 3$) and reaching a significance level, the better the discriminability of the scale. Items that do not reach a significant level of decision value are removed. At the same time, it is best to observe that the correlation coefficient between the question and the total scale should be above 0.30 and reach a statistically significant level; If the correlation coefficient between the correction question and the total score is too small, or if the coefficient suddenly increases after deleting a certain question item, it indicates that the question should be deleted.

2) Factor analysis

The purpose of factor analysis is to obtain the construct validity of the scale and extract variable common factors representing complex data structures. Validity refers to the degree to which a test can measure the intended construct in order to ensure the accuracy of the test score. The better the validity, the more it can reflect the authenticity of the measured content. It mainly includes two forms: content validity

and structural validity. Content validity reflects the appropriateness of measuring the content and scope of the scale. The questionnaire items used in this study mainly come from mature scales widely used in existing literature with high citation rates, and are judged through expert scoring, thus having high content validity. Structural validity refers to the ability of a scale to measure the theoretical level of construct or feature, and the commonly used method for measuring construct validity in the field of social sciences is factor analysis.

3) Reliability analysis

After conducting factor analysis on the scale, the reliability and validity of the scale are tested, that is, the reliability test of the scale, and the degree to which the reliability measurement results are affected by measurement errors. This study used the Cronbach coefficient to test the internal consistency reliability coefficient of the scale. The higher the Cronbach coefficient, the higher the reliability of the scale. According to Wu Minglong's standard classification, the Cronbach coefficient of the scale is best when it is greater than 0.7, and a range of 0.6 to 0.7 is barely acceptable; The coefficient of the total scale is best above 0.8, and the best is at 0.9. The correlation between the item and the total needs to be greater than 0.5 (some literature also indicates a correlation greater than 0.35, which can also indicate that it is more appropriate), and the Cronbach coefficient value after deleting the item is smaller than the total Cronbach coefficient value. This item should be retained.

Firstly, by observing the distribution of basic information, scale scores and item scores, reliability and validity, as well as the results of item analysis and hypothesis testing.

3.7.1 Basic Information Distribution

The basic information distribution of the pre survey subjects (N=80) is shown in Table 3.4. Among the gender distribution, the male group has the most, with 43 people accounting for 53.8%, and the female group has 37 people accounting for 46.3%; In the age distribution, the 19-35 age group has the most, with 28 people accounting for 35.0%, followed by the 36-45 age group (with 21 people accounting for 26.3%), the 46-60 age group (with 17 people accounting for 21.3%), and the 60 and above age group (with 9 people accounting for 11.3%). The 18 and below age group has the least,

with 5 people accounting for only 6.3%; In the distribution of educational backgrounds, there are 29 people with a bachelor's degree, accounting for 36.3%, followed by vocational or college education (16 people, accounting for 20.0%), master's degree or above (18 people, accounting for 22.5%), and high school education (11 people, accounting for 7.5%). The number of people with a junior high school or below education is the least, with 6 people, accounting for only 7.5%; In the distribution of monthly income levels, the highest income level is between 10001-15000 yuan, with 39 people accounting for 48.8%, followed by 15001-20000 yuan (with 20 people accounting for 25.0%) and 5001-10000 yuan (with 16 people accounting for 20.0%). The lowest income level is between 5000 yuan and below, with 5 people accounting for only 6.3%; In terms of occupational distribution, ordinary employees have the highest number, with 38 people accounting for 47.5%, followed by government agencies or civil servants (with 17 people accounting for 21.3%), students (with 16 people accounting for 20.0%), and farmers (with 5 people accounting for 6.3%), while corporate executives have the lowest number, with 4 people accounting for only 5.0%; Among the distribution of marital status, 54 are married, accounting for 67.5%, while the least are unmarried, with 26 people, accounting for only 32.5%; In the distribution of the number of visits to hot springs in a year, the highest is twice a year, with 34 people accounting for 42.5%, followed by three visits per year (with 20 people accounting for 25.0%), one visit per year (with 13 people accounting for 16.3%), and four visits per year (with 7 people accounting for 8.8%). The lowest is four visits per year or more, with 6 people accounting for only 7.5%; Among the hotels that have been experienced, the number of visitors is relatively balanced among them. Among them, 18 people have experienced Guizhou Four Seasons Hot Springs, accounting for 22.5%, followed by Jianhe Hot Springs (17 people, accounting for 21.3%), Poly Hot Springs Resort (16 people, accounting for 20.0%), and Xifeng Hot Springs (16 people, accounting for 20.0%), while 13 people have experienced Shiqian Hot Springs, accounting for only 16.3%.

Table 3.4 Basic Information Distribution

Variable	Frequency	Percent
Gender		
Male	43	53.8
Female	37	46.3
Total	80	100.0
Age		
18 and below	5	6.3
19-35 years	28	35.0
36-45 years	21	26.3
46-60 years	17	21.3
Over 60	9	11.3
Total	80	100.0
Educational background		
Junior high school and below	6	7.5
High school	11	13.8
Technical secondary school and junior college	16	20.0
Bachelor's degree	29	36.3
Graduate degree and above	18	22.5
Total	80	100.0
Monthly income level		
5000 yuan and below	5	6.3
5001-10000 yuan	16	20.0
10001-15000 yuan	39	48.8
15001-20000 yuan	20	25.0
Total	80	100.0
Occupation		
Farmer	5	6.3
Student	16	20.0
Ordinary employee	38	47.5
Government agency or civil servant	17	21.3
Corporate executive	4	5.0
Total	80	100.0
Married	54	67.5
Single	26	32.5
Total	80	100.0
Many times do you visit hot springs each year		
Once	13	16.3
Twice	34	42.5

Table 3.4 Basic Information Distribution(cont.)

Variable	Frequency	Percent
Three times	20	25.0
Four times	7	8.8
More than four times	6	7.5
Total	80	100.0
Hot spring have you experienced		
Shi Qian Hot Spring	13	16.3
Xi Feng Hot Spring	16	20.0
Poly Hot Spring Resort	16	20.0
Jian He Hot Spring	17	21.3
Four Seasons Guizhou Hot Spring	18	22.5
Total	80	100.0

3.7.2 Variable scores and item situation

The pre test results show that the average and standard deviation of each variable and item are shown in Table 3.5: the average of the six items in the novel business model is 3.81, and the standard deviation is 0.90; The average value of the efficiency oriented business model for 6 items is 3.65, with a standard deviation of 1.32; The average value of brand trust for 6 items is 3.66, with a standard deviation of approximately 1.14; The average value of brand loyalty for 6 items is 3.81, with a standard deviation of 1.13. The score level of each variable is relatively high.

Table 3.5 Score of Various Variables and Items

N0.	Measurement Items	Mean	S. D.
NBBMI1	The hot spring health tourism industry provides customers with new products, services, information.	3.85	1.14
NBBMI2	The value brought to customers by the hot spring health tourism industry is unique and easily perceived.	3.79	1.11
NBBMI3	The hot spring tourism industry can identify consumers' hidden needs.	3.71	1.08
NBBMI4	The hot spring health tourism industry can develop new marketing channels and methods.	3.80	1.27
NBBMI5	The hot spring health tourism industry adopts innovative transaction methods.	3.80	1.17
NBBMI6	The hot spring health tourism industry gains new ideas and inventions through existing business operations.	3.89	1.11

Table 3.5 Score of Various Variables and Items(cont.)

N0.	Measurement Items	Mean	S. D.
NBNMIscore		3.81	0.90
EBBMI1	The hot spring health tourism industry focuses on perfecting hot spring facility construction or services.	3.65	1.16
EBBMI2	The hot spring health tourism industry continuously improves main hot spring facility construction or services to meet customer needs.	3.63	1.34
EBBMI3	The hot spring health tourism industry tends to follow market innovations or actions.	3.74	1.19
EBBMI4	The hot spring health tourism industry focuses on expanding the current market size.	3.56	1.20
EBBMI5	The hot spring health tourism industry continuously optimizes existing operational processes, knowledge, and technology.	3.65	1.24
EBBMI6	The hot spring health tourism industry focuses on the existing needs and satisfaction of partners.	3.65	1.20
EBBMIscore		3.65	1.02
BT1	I trust the hot spring health tourism industry I am interested in.	3.75	1.32
BT2	I rely on the hot spring health tourism industry I am interested in.	3.71	1.26
BT3	The Guizhou hot spring health tourism industry I am interested in provides me with what I expect.	3.57	1.30
BT4	The hot spring health tourism industry I am interested in never disappoints me.	3.64	1.41
BT5	I believe the hot spring health tourism industry I am interested in will sincerely address my concerns.	3.64	1.39
BT6	I believe the hot spring health tourism industry I am interested in treats consumers with sincerity and without deceit.	3.63	1.29
BTscore		3.66	1.14
BL1	I plan to continue following and listening to the content of the hot spring tourism industry I am interested in, in the near future.	3.94	1.31
BL2	I will actively look for this hot spring health tourism industry I follow, to choose to listen to and discuss in the future.	3.71	1.28
BL3	I plan to subscribe and follow other content of the hot spring health tourism industry I am interested in.	3.75	1.34
BL4	If the hot spring tourism industry provider I am interested in charges a subscription fee, I would subscribe or register rather than switch to another brand.	3.78	1.26

Table 3.5 Score of Various Variables and Items(cont.)

N0.	Measurement Items	Mean	S. D.
BL5	I would recommend others to purchase the products of this hot spring health tourism industry.	3.81	1.26
BL6	This product will be my preferred purchase of the hot spring health tourism industry in the future.	3.88	1.28
BLscore		3.81	1.13

3.7.3 Project Analysis

Calculate the total score of the innovative business model, using the top 27% of the total commercial score as the low group (1), the bottom 27% as the high group (2), and the remaining as the medium group. Then, the correlation between the items and the total score was calculated using the Cronbach coefficient, and the differences between the items and the high and low groups were analyzed using independent sample t-tests. The results are shown in Table 3.6.

There are significant differences in the total scores of each item in the high and low grouping, with t-values of -7.313, -6.382, -8.513, -7.310, -7.287, and -6.652, respectively. The p-values are all $p < 0.0001$, indicating that each item has good discriminability.

Table 3.6 Analysis of Novel Business Model Projects

Question items	Independent sample t-test for high and low grouping		Do you want to keep it
	T	P	
NBBMI1	-7.313	<0.001	keep
NBBMI2	-6.383	<0.001	keep
NBBMI3	-8.513	<0.001	keep
NBBMI 4	-7.310	<0.001	keep
NBBMI 5	-7.287	<0.001	keep
NBBMI 6	-6.652	<0.001	keep

**P<0.01

Calculate the total score of the efficiency oriented business model, with the top 27% of the total score as the low group (1), the bottom 27% as the high group (2), and the remaining being the medium group. Then, the correlation between the items and

the total score was calculated using the Cronbach coefficient, and the differences between the items and the high and low groups were analyzed using independent sample t-tests. The results are shown in Table 3.7.

There are significant differences in the total scores of each item in the high and low grouping, with t-values of -7.345, -12.455, -9.044, -7.980, -7.980, and -10.065, respectively. The p-values are all $p < 0.0001$, indicating that each item has good discriminability.

Table 3.7 Efficiency based Business Model Project Analysis

Question items	Independent sample t-test for high and low grouping		Do you want to keep it
	T	P	
NBBMI1	-8.459	<0.001	keep
NBBMI2	-9.290	<0.001	keep
NBBMI3	-12.538	<0.001	keep
NBBMI 4	-8.497	<0.001	keep
NBBMI 5	-7.681	<0.001	keep
NBBMI 6	-8.734	<0.001	keep

**P<0.01

Calculate the total score of brand trust, using the top 27% of the total score as the low group (1), the bottom 27% as the high group (2), and the remaining as the medium. Then, the correlation between the items and the total score was calculated using the Cronbach coefficient, and the differences between the items and high and low groups were analyzed using independent sample t-tests. The results are shown in Table 3.8.

There are significant differences in the total scores of each item in the high and low grouping, with t-values of -8.557, -7.584, -12.348, -11.676, -12.306, and -9.718, respectively. The p-values are all $p < 0.0001$, indicating that each item has good discriminability.

Table 3.8 Analysis of Brand Trust Projects

Question items	Independent sample t-test for high and low grouping		Do you want to keep it
	T	P	
BT1	-7.345	<0.001	keep

Table 3.8 Analysis of Brand Trust Projects(cont.)

Question items	Independent sample t-test for high and low grouping		Do you want to keep it
	T	P	
BTI2	-12.455	<0.001	keep
BT3	-9.044	<0.001	keep
BT4	-7.980	<0.001	keep
BT5	-7.980	<0.001	keep
BT6	-10.065	<0.001	keep

**P<0.01

Calculate the total score of brand loyalty, based on the top 27% of the total score as the low group (1), the bottom 27% as the high group (2), and the remaining as the medium. Then, the correlation between the items and the total score was calculated using the Cronbach coefficient, and the differences between the items and the high and low groups were analyzed using independent sample t-tests. The results are shown in Table 3.9.

There are significant differences in the total scores of each item in the high and low groups, with t-values of -8.459, -9.290, -12.538, -8.497, -7.681, and -8.734, respectively. The p-values are all $p < 0.0001$, indicating that each item has good discriminability.

Table 3.9 Analysis of Brand Loyalty Projects

Question items	Independent sample t-test for high and low grouping		Do you want to keep it
	T	P	
BL1	-8.557	<0.001	keep
BL2	-7.584	<0.001	keep
BL3	-12.348	<0.001	keep
BLI4	-11.676	<0.001	keep
BLI5	-12.306	<0.001	keep
BL6	-9.718	<0.001	keep

**P<0.01

3.7.4 Reliability analysis

Reliability analysis is used to test the reliability (internal consistency) of data. Generally, the Cronbach coefficient method is used for testing. The Cronbach

coefficient ranges from 0 to 1, and a questionnaire reliability coefficient greater than 0.7 is generally used to indicate good reliability.

This article uses the Cronbach coefficient method to test the reliability, as shown in Table 3.10. The total Cronbach coefficient value of the novel business model is 0.871, and the correlation (0.639, 0.736, 0.706, 0.656, 0.648, 0.654) after each item is greater than 0.5. Moreover, the Cronbach coefficient values (0.855, 0.838, 0.844, 0.853, 0.853, 0.852) after deleting this item are all lower than the total Cronbach coefficient value, indicating that each item of the novel business model does not need to be deleted and should be retained.

The total Cronbach coefficient value of the efficiency oriented business model is 0.909, and the correlation (0.713, 0.797, 0.780, 0.768, 0.692, 0.745) after each item is greater than 0.5. Moreover, the Cronbach coefficient values (0.898, 0.886, 0.889, 0.890, 0.901, 0.894) after deleting this item are all lower than the total Cronbach coefficient value, indicating that each item of the efficiency oriented business model does not need to be deleted and should be retained.

The total Cronbach coefficient value of brand trust is 0.929, and the correlation (0.808, 0.763, 0.836, 0.770, 0.793, 0.787) after each item is greater than 0.5. Moreover, the Cronbach coefficients (0.914, 0.919, 0.910, 0.919, 0.916, 0.919) after deleting this item are all lower than the total Cronbach coefficient value, indicating that each item of brand trust does not need to be deleted and should be retained.

The total Cronbach coefficient value of brand loyalty is 0.939, and the correlation (0.876, 0.773, 0.784, 0.811, 0.832, 0.828) after each item is greater than 0.5. Moreover, the Cronbach coefficients (0.920, 0.933, 0.932, 0.928, 0.926, 0.929) after deleting this item are all lower than the total Cronbach coefficient value, indicating that each item of brand loyalty does not need to be deleted and should be retained.

Table 3.10 Reliability Analysis

Construct and item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Construct 1:Novelty-Based Business Model Innovation			0.871
NBBMI1	0.639	0.855	
NBBMI2	0.736	0.838	
NBBMI3	0.706	0.844	

Table 3.10 Reliability Analysis(cont.)

Construct and item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
NBBMI4	0.656	0.853	
NBBMI5	0.648	0.853	
NBBMI6	0.654	0.852	
Construct 2:Efficiency-Based Business Model Innovation			0.909
EBBMI1	0.713	0.898	
EBBMI2	0.797	0.886	
EBBMI3	0.780	0.889	
EBBMI4	0.768	0.890	
EBBMI5	0.692	0.901	
EBBMI6	0.745	0.894	
Construct 3:Brand Trust			0.929
BT1	0.808	0.914	
BT2	0.763	0.919	
BT3	0.836	0.910	
BT4	0.770	0.919	
BT5	0.793	0.916	
BT6	0.787	0.916	
Construct 4:Brand Loyalty			0.939
BL1	0.876	0.920	
BL2	0.773	0.933	
BL3	0.784	0.932	
BL4	0.811	0.928	
BL5	0.832	0.926	
BL6	0.828	0.926	

3.7.5 Factor analysis

Validity analysis is used to test the structural validity of data, and this article uses confirmatory factor analysis to test it. Confirmatory factor analysis is used to verify the validity of structure. Firstly, the model suitability is observed to verify whether the confirmatory factor model is good. After the model has good adaptability, calculate the AVE (>0.7) and CR (>0.5) values through standardized factor loading coefficients, and compare the standardized correlation coefficients with the square root of the AVE values. If it has good validity, it indicates that the item does not need to be deleted.

The fitting results of confirmatory factor analysis model are shown in Table 3.11. The chi square degree of freedom ratio is $1.515 < 5$, and the RMSEA value is $0.081 < 0.10$. And two main indicators are good. The simplified fitting degree includes

IFI, TLI and CFI, indicating that the model has good fitting degree.

Table 3.11 Confirmatory Factor Analysis Model Adaptability

Index	Adaptation range	Actual measured value	Adapted or not
CMIN/DF	1<CN<5	1.515	Yes
RMSEA	<0.10	0.081	Yes
SRMR	<0.05	0.0651	Yes
GFI	>0.8	0.767	No
IFI	>0.9	0.913	Yes
TLI	>0.9	0.901	Yes
CFI	>0.9	0.911	Yes

The convergence validity (AVE) and combined reliability (CR) were calculated using standardized factor loading coefficients, and the results are shown in Table 3.12. From the results, it can be seen that the CR value of the novel business model is 0.873, and the AVE value is 0.534; The CR value of the efficiency oriented business model is 0.910, and the AVE value is 0.629; The CR value of brand trust is 0.929, and the AVE value is 0.687; The CR value of brand loyalty is 0.939, the AVE value is 0.720, and the convergence validity and combination reliability of each variable are greater than 0.7 and 0.5, indicating that this study has good convergence validity and combination reliability.

Table 3.12 Convergence Validity and Combination Reliability

	Path relationship	Estimate	AVE	CR
NBBMI	<--- NBBMI1	0.712	0.873	0.534
	<--- NBBMI2	0.800		
	<--- NBBMI3	0.731		
	<--- NBBMI4	0.708		
	<--- NBBMI5	0.723		
	<--- NBBMI6	0.708		
EBBMI	<--- EBBMI1	0.756	0.910	0.629
	<--- EBBMI2	0.853		
	<--- EBBMI3	0.831		
	<--- EBBMI4	0.805		
	<--- EBBMI5	0.721		
	<--- EBBMI6	0.784		
BT	<--- BT1	0.839	0.929	0.687

Table 3.12 Convergence Validity and Combination Reliability(cont.)

Path relationship		Estimate	AVE	CR
BT	<--- BT2	0.790	0.929	0.687
	<--- BT3	0.876		
	<--- BT4	0.823		
	<--- BT5	0.821		
	<--- BT6	0.822		
BL	<--- BL1	0.922	0.939	0.720
	<--- BL2	0.792		
	<--- BL3	0.812		
	<--- BL4	0.834		
	<--- BL5	0.865		
	<--- BL6	0.859		

In order to determine the discriminative validity of the measurement model, this paper used the Fornell-Larcker measurement standard to analyze the cross loading of indicators. To determine the discriminant validity, the square root of the extracted mean variance (AVE) is compared with the correlation of other structures.

The discriminant validity results are shown in Table 3.13. It can be seen from the results that there is a significant positive correlation between the novel business model and the efficiency business model, brand trust, and brand loyalty. The correlation coefficients are 0.359, 0.598, and 0.619, respectively, which are smaller than the square root of their AVE of 0.934; There is a significant positive correlation between efficiency based business models and brand trust and loyalty, with correlation coefficients of 0.532 and 0.611, respectively, which are smaller than the square root of their AVE of 0.954; There is a significant positive correlation between brand trust and brand loyalty, with a correlation coefficient of 0.691 less than the square root of its AVE of 0.829, indicating that this model has good discriminant validity and meets the criteria of Fornell and Larcker.

Table 3.13 Distinguished Validity

Variable	NBBMI	EBBMI	BT	BL
NBBMI	0.934			
EBBMI	0.359**	0.954		
BT	0.598***	0.532***	0.829	
BL	0.619***	0.611***	0.691***	0.849

Table 3.13 Distinguished Validity(cont.)

Variable	NBBMI	EBBMI	BT	BL
AVE	0.873	0.910	0.687	0.720

Note: Diagonal angles represent the square root of AVE. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The confirmatory factor analysis model is shown in Figure 3.1. From the results, it can be seen that the standardized factor loading coefficient is greater than 0.5, indicating a standardized correlation coefficient. The above results in Tables 3.14 indicate that the model has good convergent validity, combinatorial reliability, and discriminant validity. Therefore, there are no items that need to be deleted this time.

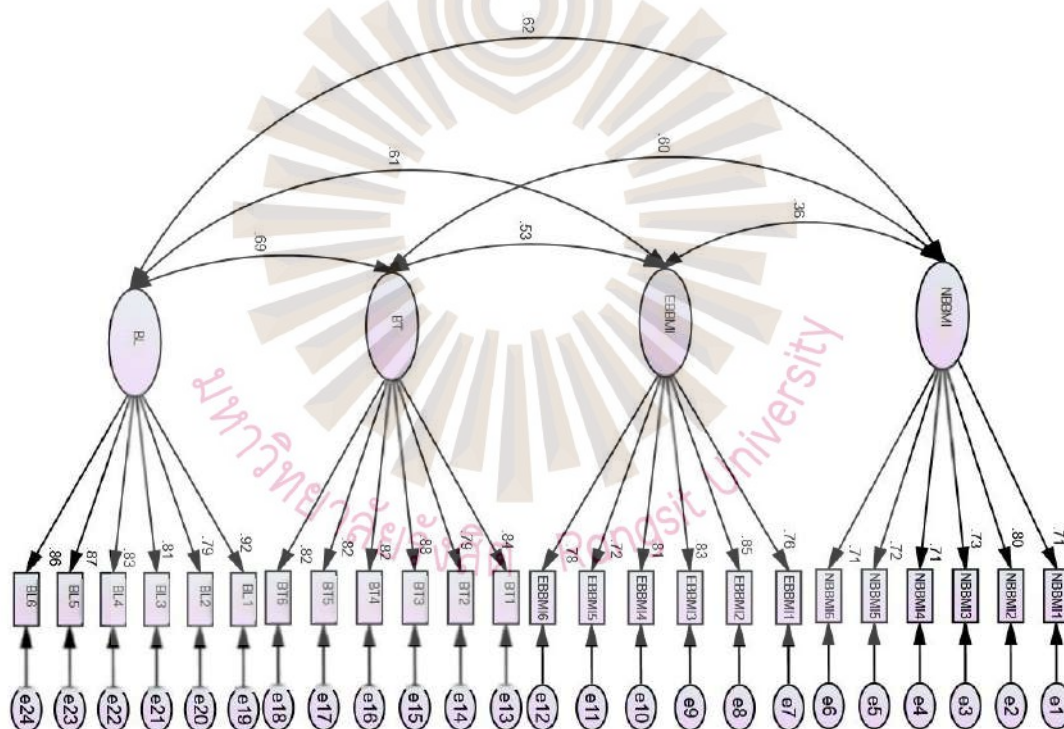


Figure 3.1 Confirmatory factor analysis

3.7.6 Hypotheses

The hypotheses for this study are shown in Table 3.14.

Table 3.14 Hypotheses

NO	hypothesis	Inspection method
Hypothesis 1	H1: Novel business models have a positive impact on brand trust	SEM
Hypothesis 2	H2: Efficient business models have a positive impact on brand trust	SEM
Hypothesis 3	H3: Novel business models have a positive impact on brand loyalty	SEM
Hypothesis 4	H4: Efficiency oriented business models have a positive impact on brand loyalty	SEM
Hypothesis 5	H5: Brand trust has a positive impact on brand loyalty	SEM
Hypothesis 6	H6: Brand trust has a mediating effect on brand loyalty in innovative business models	SEM
Hypothesis 7	H7: Brand trust has a mediating effect on brand loyalty in an efficient business model	SEM



Chapter 4

Research Results

4.1 Data collection and analysis tools and processing

4.1.1 Questionnaire distribution and collection

The final formal questionnaire was determined and distributed on a large scale. A total of 235 formal questionnaires were distributed and collected, with a 100% response rate. The collected formal survey data was summarized and organized. Firstly, 10 data from tourists who had not visited Guizhou hot spring hotels were excluded, resulting in a sample size of 225 valid questionnaire data, with an effective rate of 95.7%.

4.1.2 Statistical analysis tools and methods

After data preprocessing, SPSS 26.0 and AMOS 24.0 statistical analysis software tools were used to conduct statistical analysis on the officially collected questionnaire data. Frequency analysis was used to analyze the current situation of basic information of tourist groups; The reliability and validity of the results of the scale are tested using the Cronbach coefficient method for internal consistency, while the validity is tested using the AMOS constructed confirmatory factor analysis (CFA) method to test the structural validity of the scale data. Exploratory factor analysis is used for common method bias testing; The cognitive evaluation of each scale variable is analyzed using descriptive statistics ($M \pm SD$), the Harman one-way test was used to test the common method bias and the normality distribution of the data is determined by skewness and kurtosis values. For continuous data that satisfies normality, independent sample t-test or one-way ANOVA in parameter testing are used to compare the differences in demographic variables. The hypothesis relationship test between variables in the model is first conducted through Pearson correlation analysis, and then a structural equation model is further constructed to study the mutual influence between

independent variables and mediating variables on the dependent variable. The mediating effect is then tested through structural equation and Bootstrap methods.

4.2 Distribution of Basic Information

The basic information distribution of the formal survey is shown in Table 4.1, with the male group having the highest gender (122 people, accounting for 54.2%); The age groups of 36 to 45 years old (61 people, accounting for 27.1%), 19 to 35 years old (57 people, accounting for 25.3%), and 46 to 60 years old (57 people, accounting for 25.3%) are the most common, while the age group of 18 and below is the least common, accounting for 20 people, only 8.9%; Among the educational qualifications, a bachelor's degree is the most common (80 people, accounting for 35.6%), and a junior high school or lower degree is the least common (16 people, accounting for 7.1%); Among the monthly income levels, the highest income level is between 10001-15000 yuan (81 people, accounting for 36.0%), while the lowest income level is between 5000 yuan and below (15 people, accounting for 5.7%); The number of ordinary employees in the profession is the highest (78 people, accounting for 34.7%), while the number of farmers in the profession is the lowest (15 people, accounting for 6.7%); Among the marital status, the most are married (147 people, accounting for 65.3%), and the least are unmarried (78 people, accounting for 34.7%); Among the number of visits to hot springs in a year, the highest is three times per year (75 people, accounting for 33.3%), and the lowest is one or less visits per year (22 people, accounting for 9.8%); Among the hotels that have been experienced, the number of guests at each hotel is relatively balanced. Among them, 52 people have experienced Guizhou Four Seasons Hot Springs (23.1%), followed by Jianhe Hot Springs (51 people, 22.7%), Poly Hot Springs Resort (47 people, 20.9%), and Xifeng Hot Springs (44 people, 19.6%), while 31 people have experienced Shiqian Hot Springs (13.8%).

Table 4.1 Distribution of Basic Information

Variable	Frequency	Percent
gender		
Male	122	54.2
Female	103	45.8
age		
18 and below	20	8.9
19-35 years	57	25.3
36-45 years	61	27.1
46-60 years	57	25.3
Over 60	30	13.3
educational background		
Junior high school and below	16	7.1
High school	41	18.2
Technical secondary school and junior college	51	22.7
Bachelor's degree	80	35.6
Graduate degree and above	37	16.4
monthly income level		
5000 yuan and below	15	6.7
5001-10000 yuan	49	21.8
10001-15000 yuan	81	36
15001-20000 yuan	63	28
Over 20000yuan	17	7.6
occupation		
Farmer	15	6.7
Student	58	25.8
Ordinary employee	78	34.7
Government agency or civil servant	55	24.4
Corporate executive	19	8.4
marital status		
Married	147	65.3
Single	78	34.7
many times do you visit hot springs each year		
Once	22	9.8
Twice	51	22.7
Three times	75	33.3
Four times	52	23.1
More than four times	25	11.1
hot spring have you experienced		
Shi Qian Hot Spring	31	13.8
Xi Feng Hot Spring	44	19.6

Table 4.1 Distribution of Basic Information(cont.)

Variable	Frequency	Percent
Poly Hot Spring Resort	47	20.9
Jian He Hot Spring	51	22.7
Four Seasons Guizhou Hot Spring	52	23.1

4.3 Reliability and validity testing

4.3.1 Reliability analysis

This article uses the Cronbach coefficient method to test the reliability, as shown in Table 4.2. A Cronbach coefficient value above 0.8 indicates good reliability of the scale. The results showed that the reliability coefficients of Novelty Based Business Model Innovation were 0.884, Efficiency Based Business Model Innovation was 0.918, Brand Trust was 0.898, and Brand Loyalty was 0.909. The coefficients of each scale were all greater than 0.8, indicating good reliability of the questionnaire in this study.

Table 4.2 Reliability Analysis

Construct	Cronbach's Alpha	Item
NBBMI	0.884	6
EBBMII	0.918	6
BT	0.898	6
BL	0.909	6

4.3.2 Validity testing

Using AMOS software to construct confirmatory factor analysis (CFA) to verify its structural validity, constructing a confirmatory factor model requires first passing the model fit test. After passing the model fit test, aggregation validity and discriminant validity are tested. Aggregation validity refers to the ability of different items to aggregate together in the determination of similar features. The aggregated validity of the scale is mainly analyzed through factor loading coefficients and the mean variance extraction (AVE) of variables, while convergent validity (AVE) is used to explain how much variation of latent variables comes from measurement errors. The larger the AVE value, the smaller the relative measurement error. When the AVE of the

latent variable model is greater than 0.5 and the standardized factor loading coefficient is greater than 0.5, it indicates that the variable has good convergent validity; The combined reliability value (CR) tests the structural reliability of data, reflecting whether all observed items in each latent variable consistently explain the latent variable. When the CR value is greater than 0.7, it indicates good combination reliability; Discriminant validity refers to the statistical proof that indicators that should not have a strong correlation with the preset construction in scale measurement are indeed preset to be consistent and not strongly correlated, indicating good discriminant validity. The judgment method is to compare the square root of AVE with the correlation coefficients between various latent variables. If the square root of AVE is greater than the correlation coefficient values between variables, it indicates good discriminant validity between variables.

Table 4.3 Model Adaptability Standards

Index		symbol	Adaptation standards
Model fitting indicators	Absolute fit index	RMSEA	<0.08
		GFI	>0.8
		SRMR	<0.05
	Minimalist Fit Index	CMIN/DF (NC)	1<NC<5
		NFI	
	Value added fitness index	RFI	
		IFI	>0.8
		TLI	
		CFI	
Aggregation validity	Convergence validity	Ave	>0.5
	Combination validity	Cr	>0.7

Source:Wu,2010; Hu,1999.

From Table 4.4 of the formal research confirmatory factor analysis model adaptation results, it can be seen that the chi square degree of freedom ratio is $1.865 < 5$, and the RMSEA value is $0.062 < 0.08$. These two main indicators have good adaptation, with IFI (0.937), TLI (0.928), and CFI (0.936) in the simplified adaptation, indicating

that the model in this study has good adaptability.

Table 4.4 Adaptability of confirmatory factor analysis model

Index	Actual measured value	Interpretation
CMIN/DF	1.865	Excellent fit
SRMR	0.047	Acceptable fit
GFI	0.858	Acceptable fit
NFI	0.873	Acceptable fit
RFI	0.857	Acceptable fit
IFI	0.937	Good fit
TLI	0.928	Good fit
CFI	0.936	Good fit

Source: Wu , 2010.

The combined reliability tables 4.5 show good convergence validity. From the results, it can be seen that Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty AVE values are 0.567, 0.653, 0.596, and 0.626, respectively. Fornell and Larcker(1981) believe that The convergence validity of each variable is greater than 0.7 and the combined reliability is greater than 0.5, and the factor loading coefficients of the items are all greater than 0.5, indicating that this study has good convergence validity and combined reliability.

Table 4.5 Convergence validity and combined reliability

	Path relationship	Estimate	AVE	CR
NBBM	<--- NBBMI1	0.718	0.567	0.887
	<--- NBBMI2	0.797		
	<--- NBBMI3	0.749		
	<--- NBBMI4	0.737		
	<--- NBBMI5	0.739		
	<--- NBBMI6	0.744		
EBBMI	<--- EBBMI1	0.779	0.653	0.916
	<--- EBBMI2	0.812		
	<--- EBBMI3	0.796		
	<--- EBBMI4	0.804		
	<--- EBBMI5	0.818		

Table 4.5 Convergence validity and combined reliability (cont.)

	Path relationship		Estimate	AVE	CR
EBBMI	<---	EBBMI6	0.837	0.653	0.916
BT	<---	BT1	0.758	0.596	0.898
	<---	BT2	0.750		
	<---	BT3	0.745		
	<---	BT4	0.781		
	<---	BT5	0.780		
	<---	BT6	0.814		
BL	<---	BL1	0.823	0.626	0.909
	<---	BL2	0.814		
	<---	BL3	0.814		
	<---	BL4	0.802		
	<---	BL5	0.740		
	<---	BL6	0.749		

Source:Fornell & Larcker, 1981.

The discriminant validity results are shown in Table 4.6. It can be seen from the results that the correlation between each variable is less than the square root of AVE, indicating that this model has good discriminant validity.

Table 4.6 discriminant validity

Variable	NBBMI	EBBMI	BT	BL
NBBMI	0.753			
EBBMI	0.322***	0.808		
BT	0.437***	0.350***	0.772	
BL	0.524***	0.395***	0.570***	0.791
AVE	0.567	0.653	0.596	0.626

Note: Diagonal angle represents the square root of AVE, * * * P<0.001.

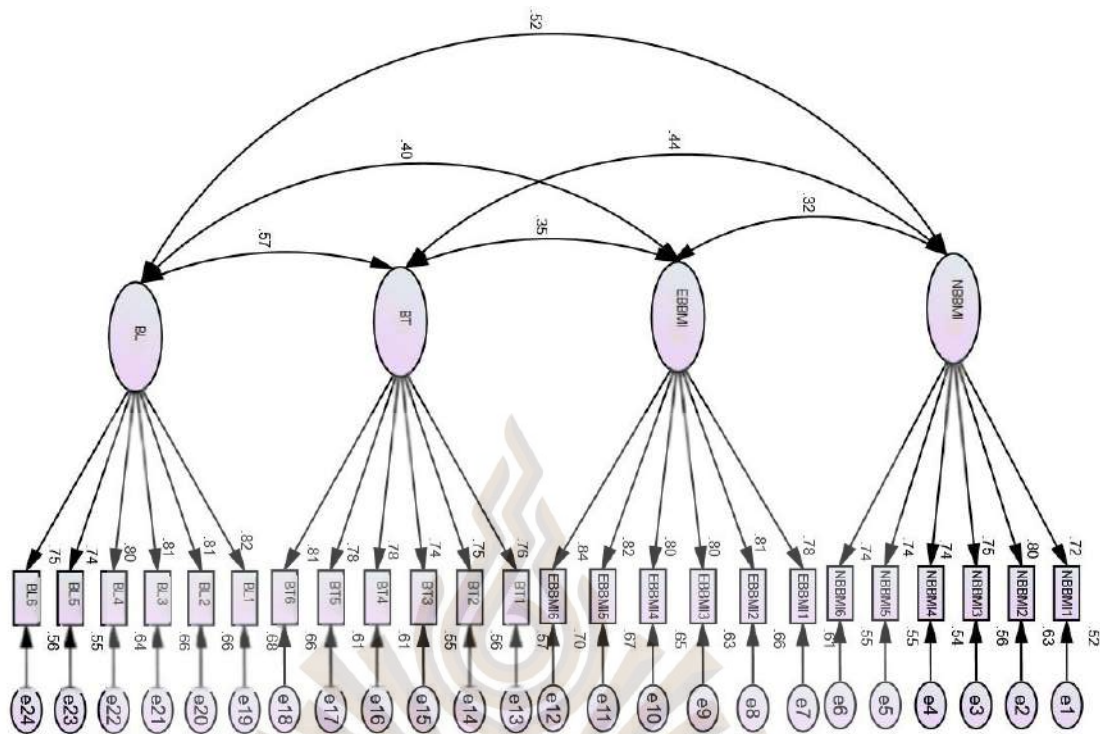


Figure 4.1 Confirmatory Factor Analysis Model

4.4 Common method bias testing

Common method bias refers to the artificial covariation between predictor and criterion variables caused by the same data source or rater, measurement environment, project context, and project characteristics. This study used Harman's single factor test to reduce the impact of homologous variance, where the unrotated first factor explained variance < 40%, indicating that there is no serious problem of common method bias in the data.

Table 4.7 shows that the principal component method extracted a total of four common factors with initial eigenvalues greater than 1, accounting for 67.961% of the cumulative explained variance. The percentage of unrotated variance of the first factor was 36.740%, which was below the standard range of 40%. Therefore, there was no significant common method bias in the data of this study.

Table 4.7 Common Deviation Test

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.818	36.740	36.740	8.818	36.740	36.740
2	3.130	13.043	49.783	3.130	13.043	49.783
3	2.425	10.104	59.887	2.425	10.104	59.887
4	1.938	8.074	67.961	1.938	8.074	67.961

4.5 Score of variables and items

Tourists conducted a cognitive survey on Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty, all of which were measured using the Likert scale on a 1-5 scale. The mean scores of each variable were calculated for evaluation. The higher the score, the higher the cognition, and vice versa. The distribution of variables is mainly tested using absolute values of Skewness and Kurtosis. Kline (Structural equation modeling RB Kline New York: Guildford, 1998 researchgate.) suggests that if the absolute value of the skewness coefficient of a variable is less than 3 and the absolute value of the kurtosis coefficient is less than 8, it indicates that the distribution of the sample in the variable is normal.

The novel business model is measured by six items, with an average value of 3.82 and a standard deviation of 1.16; The average Efficiency Based Business Model Innovation measured by 6 items is 3.70, with a standard deviation of 1.05; The average Brand Trust value measured by 6 items is 3.69, with a standard deviation of approximately 1.05; The average brand loyalty measured by 6 items is 3.80, with a standard deviation of 1.01. The scores of each variable are relatively high and tend to be more consistent.

The normality of data is a prerequisite for many subsequent analyses. The skewness of Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation, Brand Trust, and brand loyalty is less than 3 between -1.294 and 1.052, and the kurtosis is less than 8 between -0.154 and 0.672, indicating that the

mean values of each variable in this study are normal.

Table 4.8 Variable Scores and Normality Test

Variable	Question items	Question item Mean	Question item S.D.	Variable Mean	Variable S.D.	Variable Skewness	Variable Kurtosis
NBBMI	NBBMI1	3.84	1.16	3.82	0.95	-1.277	0.59
	NBBMI2	3.78	1.2				
	NBBMI3	3.75	1.2				
	NBBMI4	3.8	1.18				
	NBBMI5	3.89	1.21				
	NBBMI6	3.84	1.2				
EBBMI	EBBMI1	3.71	1.19	3.7	1.05	-1.052	-0.154
	EBBMI2	3.67	1.24				
	EBBMI3	3.76	1.19				
	EBBMI4	3.64	1.27				
	EBBMI5	3.7	1.3				
	EBBMI6	3.69	1.31				
BT	BT1	3.62	1.26	3.69	1.05	-1.041	-0.074
	BT2	3.75	1.32				
	BT3	3.75	1.31				
	BT4	3.69	1.29				
	BT5	3.68	1.27				
	BT6	3.68	1.30				
BL	BL1	3.74	1.15	3.8	1.01	-1.294	0.672
	BL2	3.78	1.25				
	BL3	3.81	1.22				
	BL4	3.84	1.21				
	BL5	3.82	1.21				
	BL6	3.81	3.81				

4.6 Differences in basic information of core variables

The independent sample t-test is used to test the differences between single categorical variables and binary categorical variables when the data satisfies normality

for continuous random variables. Univariate analysis is used to test the differences between categorical variables of three categories and above.

4.6.1 Differences in Basic Information of Novelty Based Business Model Innovation

The differences in NBBBMI at different levels of gender are shown in Table 4.9, with $t=-3.487$ and $p<0.01$, indicating significant differences at different levels of gender. The mean result shows that the average score of Novelty Based Business Model Innovation in females (Mean 4.05 and S.D. 0.80) is higher than that in males (Mean 3.62 and S.D. 1.02).

Table 4.9 Differences in Novelty Based Business Model Innovation at Different Gender Levels

Gender	N	Mean	S.D.	t	p
Male	122	3.62	1.02	-3.487**	0.001
Female	103	4.05	0.80		

** $p<0.01$.

The differences in Novelty Based Business Model Innovation at different age levels are shown in Table 4.10, with $F=4.399$ and $p<0.01$, indicating significant differences at different age levels.

Table 4.10 Differences in Novelty Based Business Model Innovation at Different Age Levels

Age	N	Mean±S.D.	F	p
18 and below	20	3.82±0.80	4.399**	0.002
19-35 years	57	3.44±1.11		
36-45 years	61	3.87±0.85		
46-60 years	57	3.89±0.93		
Over 60	30	4.27±0.68		

** $p<0.01$

From the multiple comparison results in Table 4.11, it can be seen that the mean (Mean 4.27 and S.D. 0.68) in the age group of 60 and above is greater than that in the age group of 19-35 (Mean 3.44 and S.D. 1.11), with a mean difference of 0.83 and

$p < 0.001$.

Table 4.11 Multiple comparisons of Novelty Based Business Model Innovation scores at different age levels

(I)	(J)	Mean Difference (I-J)	p
18 and below	19-35 years	0.38	0.684
	36-45 years	-0.06	>0.999
	46-60 years	-0.08	>0.999
	Over 60	-0.46	0.357
19-35 years	18 and below	-0.38	0.684
	36-45 years	-0.44	0.177
	46-60 years	-0.46	0.177
	Over 60	-0.83*	<0.001
36-45 years	18 and below	0.06	>0.999
	19-35 years	0.44	0.177
	46-60 years	-0.02	>0.999
	Over 60	-0.40	0.174
46-60 years	18 and below	0.08	>0.999
	19-35 years	0.46	0.177
	36-45 years	0.02	>0.999
	Over 60	-0.38	0.296
Over 60	18 and below	0.46	0.357
	19-35 years	0.83*	<0.001
	36-45 years	0.40	0.174
	46-60 years	0.38	0.296

* The mean difference is significant at the 0.05 level.

The differences in education levels of Novelty Based Business Model Innovation are shown in Table 4.12, with $F=4.961$ and $p < 0.01$, indicating significant differences at different levels of education.

Table 4.12 Differences in Novelty Based Business Model Innovation at Different Educational Levels

Educational background	N	Mean	S.D.	F	p
Junior high school and below	16	3.01	1.23	4.961***	<0.001
High school	41	3.80	0.91		
Technical secondary school and junior college	51	3.65	1.00		

Table 4.12 Differences in Novelty Based Business Model Innovation at Different Educational Levels(cont.)

Educational background	N	Mean	S. D.	F	p
Bachelor's degree	80	3.96	0.82	4.961***	<0.001
Graduate degree and above	37	4.11	0.84		

***p<0.001.

From the multiple comparison results Table 4.13, it can be seen that the mean of Novelty Based Business Model Innovation for master's degree and above (Mean 4.11 and S.D. 0.84) is higher than that for junior high school and below (Men 3.01 and S.D. 1.23), with a mean difference of 1.10 and p<0.001.

Table 4.13 Multiple comparisons of Novelty Based Business Model Innovation scores at different educational levels

(I)	(J)	Mean Difference (I-J)	p
Junior high school and below	High school	-0.79	0.254
	Technical secondary school and junior college	-0.64	0.535
	Bachelor's degree	-0.95	0.085
	Graduate degree and above	-1.10*	0.036
High school	Junior high school and below	0.79	0.254
	Technical secondary school and junior college	0.16	0.997
	Bachelor's degree	-0.15	0.991
	Graduate degree and above	-0.31	0.733
Technical secondary school and junior college	Junior high school and below	0.64	0.535
	High school	-0.16	0.997
	Bachelor's degree	-0.31	0.510
	Graduate degree and above	-0.47	0.184
Bachelor's degree	Junior high school and below	0.95	0.085
	High school	0.15	0.991
	Technical secondary school and junior college	0.31	0.510
	Graduate degree and above	-0.16	0.986
Graduate degree and above	Junior high school and below	1.10*	0.036
	High school	0.31	0.733
	Technical secondary school and junior college	0.47	0.184
	Bachelor's degree	0.16	0.986

* The mean difference is significant at the 0.05 level.

The differences in income levels of Novelty Based Business Model Innovation are shown in Table 4.14, with $F=0.193$ and $p>0.05$, indicating that there is no significant difference in education levels.

Table 4.14 Differences in Novelty Based Business Model Innovation at Different Income Levels

Monthly income level	N	Mean	S.D.	F	p
5000 yuan and below	15	3.73	1.02	0.193	0.942
5001-10000 yuan	49	3.89	0.90		
10001-15000 yuan	81	3.79	0.97		
15001-20000 yuan	63	3.84	0.94		
Over 20000yuan	17	3.71	1.07		

The differences in Novelty Based Business Model Innovation at different occupational levels are shown in Table 4.15, with $F=1.478$ and $p>0.05$, indicating that there is no significant difference at different occupational levels.

Table 4.15 Differences in Novelty Based Business Model Innovation at Different Occupational Levels

Occupation	N	Mean	S.D.	F	p
Farmer	15	4.18	0.60	1.478	0.21
Student	58	3.95	0.89		
Ordinary employee	78	3.81	0.98		
Government agency or civil servant	55	3.64	1.02		
Corporate executive	19	3.66	0.94		

The differences in NBBBBMI at different levels of marital status are shown in Table 4.16, with $t=2.295$ and $p<0.05$, indicating significant differences at different levels of marital status. The mean result shows that married Novelty Based Business Model Innovations have a higher mean score (Mean 3.92 and S.D. 0.90) than unmarried individuals (Mean 3.62 and S.D. 1.02).

Table 4.16 Differences in Novelty Based Business Model Innovation at Different Levels of Marital Status

Marital status	N	M±SD	S.D	t	p
Married	147	3.92	0.90	2.295*	0.023
Single	78	3.62	1.02		

*p<0.05.

The differences in the number of visits to hot springs at different levels each year for Novelty Based Business Model Innovation are shown in Table 4.17, with F=4.227 and p<0.05, indicating that there is no significant difference at different occupational levels.

Table 4.17 Differences in Annual Onsen Visits at Different Levels for Novelty Based Business

Many times do you visit hot springs per year	N	Mean	S.D.	F	p
Once	22	3.14	1.06	4.227**	0.003
Twice	51	3.81	0.86		
Three times	75	3.86	0.95		
Four times	52	3.85	0.96		
More than four times	25	4.23	0.72		

**P<0.01

From the multiple comparison results in Table 4.18, it can be seen that the mean of Novelty Based Business Model Innovation that has been visited 4 times or more (Men 4.23 and S.D. 0.72) is greater than that of one time (Mean 3.14 and S.D. 1.06), with a mean difference of 1.08, p<0.01.

Table 4.18 Multiple comparisons of Novelty Based Business Model Innovation scores for annual visits to hot springs

(I)	(J)	Mean Difference (I-J)	p
Once	Twice	-0.66	0.135
	Three times	-0.72	0.072
	Four times	-0.70	0.108
	More than four times	-1.08*	0.003
Twice	Once	0.66	0.135
	Three times	-0.06	>0.999

Table 4.18 Multiple comparisons of Novelty Based Business Model Innovation scores for annual visits to hot springs(cont.)

(I)	(J)	Mean Difference (I-J)	p
Twice	Four times	-0.04	>0.999
	More than four times	-0.42	0.255
Three times	Once	0.72	0.072
	Twice	0.06	>0.999
	Four times	0.02	>0.999
	More than four times	-0.36	0.399
Four times	Once	0.70	0.108
	Twice	0.04	>0.999
	Three times	-0.02	>0.999
	More than four times	-0.38	0.443
More than four times	Once	1.08*	0.003
	Twice	0.42	0.255
	Three times	0.36	0.399
	Four times	0.38	0.443

* The mean difference is significant at the 0.05 level.

The differences in the experience of Novelty Based Business Model Innovation at different levels of hot spring hotels are shown in Table 4.19, with $F=7.783$ and $p<0.001$, indicating that there is no significant difference at different occupational levels.

Table 4.19 Differences in Experience of Novelty Based Business Model Innovation at Different Levels of Hot Spring Hotels

Hot spring have you experienced	N	Mean	S.D.	F	p
Shi Qian Hot Spring	31	3.09	0.96	7.783***	<0.001
Xi Feng Hot Spring	44	3.64	1.10		
Poly Hot Spring Resort	47	4.06	0.70		
Jian He Hot Spring	51	3.90	1.01		
Four Seasons Guizhou Hot Spring	52	4.10	0.68		

*** $p<0.001$.

From the multiple comparison results in Table 4.20, it can be seen that the mean of Novelty Based Business Model Innovation after experiencing the Shiqian Hotel (Mean 3.09 and S.D. 0.96) is lower than that of Poly Hot Spring Resort (Mean 4.06 and

S.D. 0.70), Jianhe Hot Spring (Mean 3.90 and S.D. 1.01), and Four Seasons Hot Spring (Mean 4.10 and S.D. 0.68), with mean differences of 0.97, 0.81, and 1.01, respectively, and $p < 0.05$.

Table 4.20 Multiple comparisons of NBBBMI scores for hot spring hotels with different experiences

(I)	(J)	Mean Difference (I-J)	p
Shi Qian Hot Spring	Xi Feng Hot Spring	-0.55*	0.018
	Poly Hot Spring Resort	-0.69*	0.003
	Jian He Hot Spring	-0.75*	0.001
	Four Seasons Guizhou Hot Spring	-0.78*	0.001
Xi Feng Hot Spring	Shi Qian Hot Spring	0.55*	0.018
	Poly Hot Spring Resort	-0.14	0.497
	Jian He Hot Spring	-0.20	0.321
	Four Seasons Guizhou Hot Spring	-0.22	0.266
Poly Hot Spring Resort	Shi Qian Hot Spring	0.69*	0.003
	Xi Feng Hot Spring	0.14	0.497
	Jian He Hot Spring	-0.06	0.759
	Four Seasons Guizhou Hot Spring	-0.08	0.670
Jian He Hot Spring	Shi Qian Hot Spring	0.75*	0.001
	Xi Feng Hot Spring	0.20	0.321
	Poly Hot Spring Resort	0.06	0.759
	Four Seasons Guizhou Hot Spring	-0.02	0.904
Four Seasons Guizhou Hot Spring	Shi Qian Hot Spring	0.78*	0.001
	Xi Feng Hot Spring	0.22	0.266
	Poly Hot Spring Resort	0.08	0.670
	Jian He Hot Spring	0.02	0.904

* The mean difference is significant at the 0.05 level.

4.6.2 Differences in Basic Information of Efficiency Based Business Model Innovation

The differences in EBBBMI at different levels of gender are shown in Table 4.21, with $t = -3.401$ and $p < 0.01$, indicating significant differences at different levels of gender. The mean result shows that the average Efficiency Based Business Model

Innovation score for females (Mean 3.94 and S.D. 0.89) is higher than that for males (3.48 and S.D. 1.14).

Table 4.21 Differences in Efficiency Based Business Model Innovation at Different Gender Levels

Gender	N	M±SD	S.D.	t	p
Male	122	3.48	1.14	-3.401**	0.001
Female	103	3.94	0.89		

**p<0.01.

The differences in Efficiency Based Business Model Innovation at different age levels are shown in Table 4.22, with F=4.308 and p<0.01, indicating significant differences at different age levels.

Table 4.22 Differences in Efficiency Based Business Model Innovation at Different Age Levels

Age	N	Mean	S.D.	F	p
18 and below	20	3.48	1.25	4.308**	0.002
19-35 years	57	3.46	1.05		
36-45 years	61	3.48	1.13		
46-60 years	57	3.98	0.91		
Over 60	30	4.17	0.76		

**P<0.01

From the multiple comparison results in Table 4.23, it can be seen that the mean (Men 4.17 and S.D. 0.76) of the age group over 60 years old is greater than that of 19-35 years old (Mean 3.46 and S.D. 1.05) and 36-45 years old (Mean 3.48 and S.D. 1.13), with a mean difference of 0.70 and 0.68, respectively, p<0.05.

Table 4.23 Multiple comparisons of Efficiency Based Business Model Innovation scores for different ages

(I)	(J)	Mean Difference (I-J)	p
18 and below	19-35 years	0.01	>0.999

Table 4.23 Multiple comparisons of Efficiency Based Business Model Innovation scores for different ages(cont.)

(I)	(J)	Mean Difference (I-J)	p
18 and below	36-45 years	-0.01	>0.999
	46-60 years	-0.51	0.680
	Over 60	-0.69	0.301
19-35 years	18 and below	-0.01	>0.999
	36-45 years	-0.02	>0.999
	46-60 years	-0.52	0.057
	Over 60	-0.70*	0.006
36-45 years	18 and below	0.01	>0.999
	19-35 years	0.02	>0.999
	46-60 years	-0.50	0.088
	Over 60	-0.68*	0.010
46-60 years	18 and below	0.51	0.680
	19-35 years	0.52	0.057
	36-45 years	0.50	0.088
	Over 60	-0.18	0.979
Over 60	18 and below	0.69	0.301
	19-35 years	0.70*	0.006
	36-45 years	0.68*	0.010
	46-60 years	0.18	0.979

*The mean difference is significant at the 0.05 level.

The differences in Efficiency Based Business Model Innovation at different educational levels are shown in Table 4.24, with $F=2.648$ and $p<0.05$, indicating significant differences at different educational levels.

Table 4.24 Differences in Efficiency Based Business Model Innovation at Different Education Levels

Educational background	N	Mean	S.D.	F	p
Junior high school and below	16	3.25	1.05	2.648*	0.034
High school	41	3.35	1.18		
Technical secondary school and junior college	51	3.72	0.99		
Bachelor's degree	80	3.88	1.02		
Graduate degree and above	37	3.84	0.99		

From the multiple comparison results Table 4.25, it can be seen that the mean of Novelty Based Business Model Innovation for master's degree and above (Mean 3.84 and S.D. 0.99) is higher than that for high school education (Mean 3.35 and S.D.1.18), with a mean difference of 0.48, $p < 0.05$; The average Efficiency Based Business Model Innovation of a bachelor's degree (Mean 3.88 and S.D. 1.02) is higher than that of a junior high school education (Mean 3.25 and S.D. 1.05) and a high school education (3.35 ± 1.18).

Table 4.25 Multiple comparisons of Efficiency Based Business Model Innovation scores for different educational backgrounds

(I)	(J)	Mean Difference (I-J)	p
Junior high school and below	High school	-0.10	0.735
	Technical secondary school and junior college	-0.47	0.117
	Bachelor's degree	-0.63*	0.028
	Graduate degree and above	-0.59	0.060
High school	Junior high school and below	0.10	0.735
	Technical secondary school and junior college	-0.37	0.095
	Bachelor's degree	-0.53*	0.009
	Graduate degree and above	-0.48*	0.041
Technical secondary school and junior college	Junior high school and below	0.47	0.117
	High school	0.37	0.095
	Bachelor's degree	-0.16	0.391
	Graduate degree and above	-0.12	0.597
Bachelor's degree	Junior high school and below	0.63*	0.028
	High school	0.53*	0.009
	Technical secondary school and junior college	0.16	0.391
	Graduate degree and above	0.04	0.842
Graduate degree and above	Junior high school and below	0.59	0.060
	High school	0.48*	0.041
	Technical secondary school and junior college	0.12	0.597
	Bachelor's degree	-0.04	0.842

* The mean difference is significant at the 0.05 level.

The differences in Efficiency Based Business Model Innovation at different income levels are shown in Table 4.26, with $F=0.579$ and $p>0.05$, indicating that there is no significant difference at different income levels.

Table 4.26 Differences in Efficiency Based Business Model Innovation at Different Income Levels

monthly income level	N	Mean	S.D.	F	p
5000 yuan and below	15	3.73	1.05	0.579	0.678
5001-10000 yuan	49	3.72	1.09		
10001-15000 yuan	81	3.79	0.98		
15001-20000 yuan	63	3.62	1.11		
Over 20000yuan	17	3.40	1.15		

The differences in Efficiency Based Business Model Innovation at different occupational levels are shown in Table 4.27, with $F=1.289$ and $p>0.05$, indicating that there is no significant difference at different occupational levels.

Table 4.27 Differences in Efficiency Based Business Model Innovation at Different Occupational Levels

Occupation	N	Mean	S.D.	F	p
Farmer	15	3.97	1.00	1.289	0.275
Student	58	3.77	1.04		
Ordinary employee	78	3.69	1.03		
Government agency or civil servant	55	3.46	1.16		
Corporate executive	19	3.96	0.90		

The differences in EBBBMI at different levels of marital status are shown in Table 4.28, with $t=3.269$ and $p<0.05$, indicating significant differences at different levels of marital status. The mean results showed that married individuals had a higher Efficiency Based Business Model Innovation score (Mean 3.87 and S.D. 0.94) than unmarried individuals (Mean 3.37 and S.D. 1.18).

Table 4.28 Differences in Efficiency Based Business Model Innovation at Different Levels of Marital Status

Marital status	N	Mean	S.D.	t	p
Married	147	3.87	0.94	3.269**	0.001
Single	78	3.37	1.18		

**p<0.01

The differences in the number of visits to hot springs at different levels each year for Efficiency Based Business Model Innovation are shown in Table 4.29, with $F=1.874$ and $p>0.05$, indicating that there is no significant difference in the number of visits to hot springs at different levels each year.

Table 4.29 Differences in Efficiency Based Business Model Innovation at Different Levels of Annual Hot Spring Visits

Many times do you visit hot springs each year	N	Mean	S.D.	F	p
Once	22	3.42	1.24	1.874	0.116
Twice	51	3.82	1.03		
Three times	75	3.58	1.10		
Four times	52	3.66	1.01		
More than four times	25	4.12	0.74		

The differences in efficiency based business model innovation at different levels of experienced hot spring hotels are shown in Table 4.30, with $F=2.426$ and $p<0.05$, indicating significant differences at different levels of experienced hot spring hotels.

Table 4.30 Differences in Efficiency Based Business Model Innovation at Different Levels of Experience in Hot Spring Hotels

Hot spring have you experienced	N	Mean	S.D.	F	p
Shi Qian Hot Spring	31	3.23	1.16	2.426*	0.049
Xi Feng Hot Spring	44	3.62	1.14		
Poly Hot Spring Resort	47	3.69	1.00		
Jian He Hot Spring	51	3.93	0.87		
Four Seasons Guizhou Hot Spring	52	3.81	1.07		

*p<0.05.

From the multiple comparison results in Table 4.31, it can be seen that the average Efficiency Based Business Model Innovation after experiencing the Shiqian Hotel (Men 3.23 and S.D. 1.16) was lower than that of Jianhe Hot Springs (Men 3.93 and S.D. 0.87) and Four Seasons Hot Springs (Mean 3.81 and S.D. 1.07), with a mean difference of 0.70 and 0.58, respectively, $p < 0.05$.

Table 4.31 Multiple Comparison of Efficiency Based Business Model Innovation Scores for Experiencing Different Hotels

(I)	(J)	Mean Difference (I-J)	p
Shi Qian Hot Spring	Xi Feng Hot Spring	-0.39	0.115
	Poly Hot Spring Resort	-0.46	0.059
	Jian He Hot Spring	-0.70*	0.003
	Four Seasons Guizhou Hot Spring	-0.58*	0.014
Xi Feng Hot Spring	Shi Qian Hot Spring	0.39*	0.115
	Poly Hot Spring Resort	-0.07	0.747
	Jian He Hot Spring	-0.31	0.144
	Four Seasons Guizhou Hot Spring	-0.20	0.358
Poly Hot Spring Resort	Shi Qian Hot Spring	0.46	0.059
	Xi Feng Hot Spring	0.07	0.747
	Jian He Hot Spring	-0.24	0.249
	Four Seasons Guizhou Hot Spring	-0.13	0.548
Jian He Hot Spring	Shi Qian Hot Spring	0.70*	0.003
	Xi Feng Hot Spring	0.31	0.144
	Poly Hot Spring Resort	0.24	0.249
	Four Seasons Guizhou Hot Spring	0.12	0.568
Four Seasons Guizhou Hot Spring	Shi Qian Hot Spring	0.58*	0.014
	Xi Feng Hot Spring	0.20	0.358
	Poly Hot Spring Resort	0.13	0.548
	Jian He Hot Spring	-0.12	0.568

4.6.3 Differences in Basic Information of Brand Trust

As shown in Table 4.32 of Brand Trust's differences at different levels of gender,

$t=-3.027$, $p<0.01$, indicating significant differences at different levels of gender. The mean result shows that the mean Brand Trust score for females (Mean 3.92 and S.D. 0.96) is higher than that for males (Mean 3.51 and S.D. 1.09).

Table 4.32 Differences in Brand Trust at Different Gender Levels

Gender	N	Mean	S.D.	t	p
Male	122	3.51	1.09	-3.027**	0.003
Female	103	3.92	0.96		

** $p<0.01$

The differences in Brand Trust at different age levels are shown in Table 4.33, with $F=4.399$ and $p<0.01$, indicating significant differences at different age levels.

Table 4.33 Differences in Brand Trust at Different Age Levels

Age	N	Mean	S.D.	F	p
18 and below	20	3.84	0.87	3.669**	0.006
19-35 years	57	3.31	1.16		
36-45 years	61	3.66	1.12		
46-60 years	57	3.85	0.90		
Over 60	30	4.11	0.84		

** $p<0.01$.

From the multiple comparison results in Table 4.34, it can be seen that the mean (Mean 4.11 and S.D. 0.84) in the age group of 60 and above is greater than that in the age group of 19-35 (Mean 3.31 and S.D. 1.16), with a mean difference of 0.80, $p<0.01$.

Table 4.34 Multiple comparisons of Brand Trust scores for different ages

(I)	(J)	Mean Difference (I-J)	p
18 and below	19-35 years	0.53	0.314
	36-45 years	0.18	0.998
	46-60 years	-0.01	1.000
	Over 60	-0.26	0.969
19-35 years	18 and below	-0.53	0.314
	36-45 years	-0.36	0.622

Table 4.34 Multiple comparisons of Brand Trust scores for different ages(cont.)

(I)	(J)	Mean Difference (I-J)	p
19-35 years	46-60 years	-0.54	0.063
	Over 60	-0.80*	0.004
36-45 years	18 and below	-0.18	0.998
	19-35 years	0.36	0.622
	46-60 years	-0.18	0.981
	Over 60	-0.44	0.327
	18 and below	0.01	1.000
46-60 years	19-35 years	0.54	0.063
	36-45 years	0.18	0.981
	Over 60	-0.26	0.877
	18 and below	0.26	0.969
Over 60	19-35 years	0.80*	0.004
	36-45 years	0.44	0.327
	46-60 years	0.26	0.877
	18 and below	0.26	0.969

*The mean difference is significant at the 0.05 level

The differences in education levels among Brand Trust are shown in Table 4.35, with $F=4.626$ and $p<0.01$, indicating significant differences at different levels of education.

Table 4.35 Differences in Brand Trust at Different Educational Levels

Educational background	N	Mean	S.D.	F	p
Junior high school and below	16	2.86	1.30	4.626**	0.001
High school	41	3.48	1.09		
Technical secondary school and junior college	51	3.62	1.10		
Bachelor's degree	80	3.89	0.95		
Graduate degree and above	37	3.98	0.83		

** $p<0.01$.

From the multiple comparison results in Table 4.36, it can be seen that the mean Brand Trust of master's degree and above (Mean 3.98 and S.D. 0.83) is higher than that of junior high school and below (Mean 2.86 and S.D. 1.30), with a mean difference of 1.11, $p<0.05$.

Table 4.36 Multiple comparisons of Brand Trust scores for different educational backgrounds

(I)	(J)	Mean Difference (I-J)	p
Junior high school and below	High school	-0.61	0.686
	Technical secondary school and junior college	-0.76	0.378
	Bachelor's degree	-1.02	0.075
	Graduate degree and above	-1.11*	0.048
High school	Junior high school and below	0.61	0.686
	Technical secondary school and junior college	-0.15	0.999
	Bachelor's degree	-0.41	0.358
	Graduate degree and above	-0.50	0.215
Technical secondary school and junior college	Junior high school and below	0.76	0.378
	High school	0.15	0.999
	Bachelor's degree	-0.26	0.827
	Graduate degree and above	-0.35	0.603
Bachelor's degree	Junior high school and below	1.02	0.075
	High school	0.41	0.358
	Technical secondary school and junior college	0.26	0.827
	Graduate degree and above	-0.09	>0.999
Graduate degree and above	Junior high school and below	1.11*	0.048
	High school	0.50	0.215
	Technical secondary school and junior college	0.35	0.603
	Bachelor's degree	0.09	>0.999

* The mean difference is significant at the 0.05 level.

The differences in income levels of Brand Trust are shown in Table 4.37, with $F=0.979$ and $p>0.05$, indicating that there is no significant difference in education levels.

Table 4.37 Differences in Brand Trust's Income at Different Levels

Monthly income level	N	Mean	S.D.	F	p
5000 yuan and below	15	3.43	1.00	0.979	0.420
5001-10000 yuan	49	3.81	1.12		
10001-15000 yuan	81	3.65	1.06		

Table 4.37 Differences in Brand Trust's Income at Different Levels(cont.)

Monthly income level	N	Mean	S. D.	F	p
15001-20000 yuan	63	3.81	0.94		
Over 20000yuan	17	3.38	1.22		

The differences in Brand Trust at different occupational levels are shown in Table 4.38, with $F=1.201$ and $p>0.05$, indicating that there is no significant difference at different occupational levels.

Table 4.38 Differences in Brand Trust at Different Occupation

Occupation	N	Mean	S.D.	F	p
Farmer	15	4.17	0.68	1.201	0.311
Student	58	3.53	1.18		
Ordinary employee	78	3.75	1.12		
Government agency or civil servant	55	3.65	0.92		
Corporate executive	19	3.71	0.86		

As shown in Table 4.39, $t=1.745$, $p>0.05$, indicate that there is no significant difference in marital status among different levels of Brand Trust.

Table 4.39 Differences in Brand Trust at Different Levels of Marital Status

Marital status	N	Mean	S.D.	t	p
Married	147	3.78	1.02	1.745	0.082
Single	78	3.53	1.10		

The differences in the number of visits to hot springs by Brand Trust at different levels each year are shown in Table 4.40, with $F=5.214$ and $p<0.001$, indicating significant differences in the number of visits to hot springs at different levels each year.

Table 4.40 Differences in Brand Trust's annual visits to hot springs at different levels

Many times do you visit hot springs each year	N	Mean	S.D.	F	p
Once	22	2.94	0.89	5.214***	<0.001
Twice	51	3.81	0.99		
Three times	75	3.76	1.07		
Four times	52	3.56	1.13		
More than four times	25	4.22	0.64		

***p<0.001.

From the multiple comparison results in Table 4.41, it can be seen that the mean of Brand Trust (Mean 4.22 and S.D. 0.64) that has been visited 4 times or more is greater than that of once (2.94 ± 0.89) and three times (Mean 3.56 and S.D. 1.13), with mean differences of 1.28 and 0.66, respectively, $p < 0.01$.

The mean of Brand Trust visited once (Mean 2.94 and S.D. 0.89) was less than 2 times (3.81 ± 0.99) and 3 times (Mean 3.56 and S.D. 1.13), with a mean difference of 0.87 and 0.82, respectively, $p < 0.05$.

Table 4.41 Multiple Comparison of Brand Trust Scores for Different Hot Springs

Times			
(I)	(J)	Mean Difference (I-J)	p
Once	Twice	-0.87*	0.006
	Three times	-0.82*	0.008
	Four times	-0.62	0.144
	More than four times	-1.28*	<0.001
	Once	0.87*	0.006
Twice	Three times	0.05	<0.001
	Four times	0.25	0.928
	More than four times	-0.41	0.287
	Once	0.82*	0.008
Three times	Twice	-0.05	<0.001
	Four times	0.2	0.979
	More than four times	-0.46	0.106
	Once	0.62	0.144
Four times	Twice	-0.25	0.928
	Three times	-0.2	0.979
	More than four times	-0.66*	0.016
	Once	1.28*	<0.001

Table 4.41 Multiple Comparison of Brand Trust Scores for Different Hot Springs Times (Cont.)

(I)	(J)	Mean Difference (I-J)	p
More than four times	Twice	0.41	0.287
	Three times	0.46	0.106
	Four times	0.66*	0.016

* The mean difference is significant at the 0.05 level.

The differences in the levels of hot spring hotels experienced by Brand Trust are shown in Table 4.42, with $F=3.323$ and $p<0.05$, indicating significant differences in the levels of hot spring hotels experienced.

Table 4.42 Differences in Brand Trust's Experience of Hot Spring Hotels at Different Levels

Hot spring have you experienced	N	Mean	S.D.	F	p
Shi Qian Hot Spring	31	3.12	1.11	3.323 *	0.011
Xi Feng Hot Spring	44	3.63	1.10		
Poly Hot Spring Resort	47	3.80	0.94		
Jian He Hot Spring	51	3.76	1.12		
Four Seasons Guizhou Hot Spring	52	3.93	0.89		

* $p<0.05$.

From the multiple comparison results in Table 4.43, it can be seen that the Brand Trust mean (Mean 3.12 and S.D. 1.11) who experienced Shiqian Hotel was lower than that of Xifeng Hotel (Mean 3.63 and S.D. 1.10), Poly Hot Spring Resort (Men 3.80 and S.D. 0.94), Jianhe Hot Spring (Mean 3.76 and S.D. 1.12), and Four Seasons Hot Spring (Mean 3.93 and S.D. 0.89), with mean differences of 0.51, 0.68, 0.65, and 0.81, respectively, $p<0.05$.

Table 4.43 Multiple Comparisons of Brand Trust Scores for Different hot spring hotels

(I)	(J)	Mean Difference (I-J)	p
Shi Qian Hot Spring	Xi Feng Hot Spring	-0.51*	0.034
	Poly Hot Spring Resort	-0.68*	0.005
	Jian He Hot Spring	-0.65*	0.006
	Four Seasons Guizhou Hot Spring	-0.81*	0.001

Table 4.43 Multiple Comparisons of Brand Trust Scores for Different Hot Spring Hotels(cont.)

(I)	(J)	Mean Difference (I-J)	p
Xi Feng Hot Spring	Shi Qian Hot Spring	0.51*	0.034
	Poly Hot Spring Resort	-0.17	0.445
	Jian He Hot Spring	-0.13	0.533
	Four Seasons Guizhou Hot Spring	-0.30	0.161
Poly Hot Spring Resort	Shi Qian Hot Spring	0.68*	0.005
	Xi Feng Hot Spring	0.17	0.445
	Jian He Hot Spring	0.03	0.874
	Four Seasons Guizhou Hot Spring	-0.13	0.526
Jian He Hot Spring	Shi Qian Hot Spring	0.65*	0.006
	Xi Feng Hot Spring	0.13	0.533
	Poly Hot Spring Resort	-0.03	0.874
	Four Seasons Guizhou Hot Spring	-0.16	0.418
Four Seasons Guizhou Hot Spring	Shi Qian Hot Spring	0.81*	0.001
	Xi Feng Hot Spring	0.30	0.161
	Poly Hot Spring Resort	0.13	0.526
	Jian He Hot Spring	0.16	0.418

* The mean difference is significant at the 0.05 level.

4.6.4 Differences in Basic Information of Brand Loyalty

As shown in Table 4.44 of Brand Loyalty's differences at different levels of gender, $t=-3.573$, $p<0.01$, indicating significant differences at different levels of gender. The mean result shows that the mean Brand Trust score for females (Mean 4.05 and S.D. 0.85) is higher than that for males (Mean 3.59 and S.D. 1.08).

Table 4.44 Differences in Brand

gender	N	Mean	S.D.	t	p
Male	122	3.59	1.08	-3.573***	<0.001
Female	103	4.05	0.85		

*** $p<0.001$. Trust at Different Gender Levels.

The differences in Brand Loyalty at different age levels are shown in Table 4.45, with $F=4.517$ and $p<0.01$, indicating significant differences at different age levels.

Table 4.45 Differences in Brand Loyalty at Different Levels

Age	N	Mean	S.D.	F	p
18 and below	20	3.96	0.83	4.517**	0.002
19-35 years	57	3.48	1.07		
36-45 years	61	3.61	1.09		
46-60 years	57	4.04	0.87		
Over 60	30	4.22	0.78		

**P<0.01.

From the multiple comparison results in Table 4.46, it can be seen that the mean (Mean 4.27 and S.D. 0.68) of the age group over 60 years old is greater than that of 19-35 years old (Mean 3.44 and S.D. 1.11) and 36-45 years old (Mean 3.61 and S.D. 1.09), with a mean difference of 0.74 and 0.61, $p < 0.05$. The average age range between 46 and 60 years old (Mean 4.04 and S.D. 0.87) is greater than that between 19 and 35 years old (Mean 3.44 and S.D. 1.11).

Table 4.46 Multiple comparisons of Brand Loyalty scores for different ages

(I)	(J)	Mean Difference (I-J)	p
18 and below	19-35 years	0.48	0.375
	36-45 years	0.34	0.793
	46-60 years	-0.09	1.000
	Over 60	-0.26	0.954
19-35 years	18 and below	-0.48	0.375
	36-45 years	-0.14	0.999
	46-60 years	-0.56*	0.026
	Over 60	-0.74*	0.004
36-45 years	18 and below	-0.34	0.793
	19-35 years	0.14	0.999
	46-60 years	-0.43	0.182
	Over 60	-0.61*	0.032
46-60 years	18 and below	0.09	1.000
	19-35 years	0.56*	0.026
	36-45 years	0.43	0.182
	Over 60	-0.18	0.983
Over 60	18 and below	0.26	0.954
	19-35 years	0.74*	0.004
	36-45 years	0.61*	0.032
	46-60 years	0.18	0.983

* The mean difference is significant at the 0.05 level.

The differences in Brand Loyalty at different levels of education are shown in Table 4.47, with $F=2.562$ and $p<0.05$, indicating significant differences at different levels of education.

Table 4.47 Differences in Brand Loyalty at Different Education Levels

Educational background	N	Mean	S.D.	F	p
Junior high school and below	16	3.19	1.22	2.562*	0.039
High school	41	3.59	0.99		
Technical secondary school and junior college	51	3.86	1.02		
Bachelor's degree	80	3.92	0.98		
Graduate degree and above	37	3.95	0.86		

From the multiple comparison results in Table 4.48, it can be seen that the mean of Brand Loyalty for junior high school and below education (Mean 3.19 and S.D. 1.22) is lower than that for vocational school or college education (Mean 3.59 and S.D. 0.99), bachelor's degree (Mean 3.86 and S.D. 1.02), and master's and above education (Mean 3.95 and S.D. 0.86), with mean differences of 0.68, 0.73, and 0.77, respectively, $p<0.05$.

Table 4.48 Multiple comparisons of Brand Trust scores for different educational backgrounds

(I)	(J)	Mean Difference (I-J)	p
Junior high school and below	High school	-0.40	0.171
	Technical secondary school and junior college	-0.68*	0.018
	Bachelor's degree	-0.73*	0.007
	Graduate degree and above	-0.77*	0.010
High school	Junior high school and below	0.40	0.171
	Technical secondary school and junior college	-0.27	0.190
	Bachelor's degree	-0.33	0.083
	Graduate degree and above	-0.37	0.105
Technical secondary school and junior college	Junior high school and below	0.68*	0.018
	High school	0.27	0.190
	Bachelor's degree	-0.06	0.744
	Graduate degree and above	-0.09	0.667
Bachelor's degree	Junior high school and below	0.73*	0.007

Table 4.48 Multiple comparisons of Brand Trust scores for different educational backgrounds(cont.)

(I)	(J)	Mean Difference (I-J)	p
Bachelor's degree	High school	0.33	0.083
	Technical secondary school and junior college	0.06	0.744
	Graduate degree and above	-0.03	0.863
Graduate degree and above	Junior high school and below	0.77*	0.010
	High school	0.37	0.105
	Technical secondary school and junior college	0.09	0.667
	Bachelor's degree	0.03	0.863

* The mean difference is significant at the 0.05 level.

The differences in income levels of Brand Loyalty are shown in Table 4.49, with $F=0.115$ and $p>0.05$, indicating that there is no significant difference in academic income at different levels.

Table 4.49 Differences in Brand Loyalty at Different Income Levels

Monthly income level	N	Mean	S.D.	F	p
5000 yuan and below	15	3.63	1.07	0.115	0.977
5001-10000 yuan	49	3.80	0.90		
10001-15000 yuan	81	3.81	1.06		
15001-20000 yuan	63	3.83	1.06		
Over 20000yuan	17	3.82	0.88		

The differences in Brand Loyalty at different occupational levels are shown in Table 4.50, with $F=0.442$ and $p>0.05$, indicating that there is no significant difference at different occupational levels.

Table 4.50 Differences in Brand Loyalty at Different Occupational Levels

Occupation	N	Mean	S.D.	F	p
Farmer	15	4.11	0.78	0.442	0.778
Student	58	3.77	1.03		
Ordinary employee	78	3.75	1.12		
Government agency or civil servant	55	3.83	0.85		
Corporate executive	19	3.79	1.07		

As shown in Table 4.51, $t=2.172$, $p<0.05$, indicating significant differences in marital status among Brand Loyalty at different levels. The mean result shows that the mean score of Brand Loyalty for married individuals (Mean 3.91 and S.D. 0.96) is higher than that for unmarried individuals (Mean 3.60 and S.D. 1.07).

Table 4.51 Differences in Brand Loyalty at Different Levels of Marital Status

Marital status	N	Mean	S.D.	t	p
Married	147	3.91	0.96	2.172*	0.031
Single	78	3.60	1.07		

* $p<0.05$.

The differences in the number of visits to hot springs by Brand Loyalty at different levels each year are shown in Table 4.52, with $F=5.084$ and $p<0.05$, indicating significant differences in the number of visits to hot springs at different levels each year.

Table 4.52 Differences in Brand Loyalty's Annual Visits to Hot Springs at Different Levels

Many times do you visit hot springs each year	N	M±SD	S.D.	F	p
Once	22	3.06	1.26	5.084**	0.001
Twice	51	3.75	1.09		
Three times	75	3.89	0.80		
Four times	52	3.79	1.09		
More than four times	25	4.31	0.51		

** $p<0.01$

From the multiple comparison results in Table 4.53, it can be seen that the mean (Mean 4.31 and S.D. 0.51) of Brand Loyalty who have visited 4 or more times is greater than that of once (Mean 3.14 and S.D. 1.06), twice (Mean 3.75 and S.D. 1.09), and three times (Mean 3.89 and S.D. 0.80), with mean differences of 1.25, 0.56, and 0.42, $p<0.05$.

Table 4.53 Multiple comparisons of Brand Loyalty scores for hot spring frequency in different regions each year

(I)	(J)	Mean Difference (I-J)	p
Once	Twice	-0.69	0.273
	Three times	-0.83	0.068
	Four times	-0.73	0.208
	More than four times	-1.25*	0.002
Twice	Once	0.69	0.273
	Three times	-0.14	0.997
	Four times	-0.04	>0.999
	More than four times	-0.56*	0.035
Three times	Once	0.83	0.068
	Twice	0.14	0.997
	Four times	0.10	>0.999
	More than four times	-0.42*	0.035
Four times	Once	0.73	0.208
	Twice	0.04	>0.999
	Three times	-0.10	>0.999
	More than four times	-0.52	0.061
More than four times	Once	1.25*	0.002
	Twice	0.56*	0.035
	Three times	0.42*	0.035
	Four times	0.52	0.061

* The mean difference is significant at the 0.05 level.

The differences in brand Loyalty's experience of different levels of hot spring hotels are shown in Table 4.54, with $F=3.745$ and $p<0.001$, indicating significant differences in the experience of different hot spring hotels.

Table 4.54 Differences in Brand Loyalty's Experience of Hot Spring Hotels at Different Levels

Hot spring have you experienced	N	Mean	S.D.	F	p
Shi Qian Hot Spring	31	3.20	1.04	3.745**	0.006
Xi Feng Hot Spring	44	3.75	1.04		
Poly Hot Spring Resort	47	3.89	0.84		
Jian He Hot Spring	51	3.95	1.06		
Four Seasons Guizhou Hot Spring	52	3.97	0.94		

** $p<0.01$.

From the multiple comparison results in Table 4.55, it can be seen that the mean of Brand Loyalty who experienced Shiqian Hotel (Mean 3.20 and S.D. 1.03) was lower than that of Xifeng Hot Springs (Mean 3.75 and S.D. 1.04), Poly Hot Springs Resort (Mean 3.89 and S.D. 0.84), Jianhe Hot Springs (Mean 3.95 and S.D. 1.06), and Four Seasons Hot Springs (Mean 3.97 and S.D. 0.94), with mean differences of 0.55, 0.69, 0.75, and 0.78, respectively, $p < 0.05$.

Table 4.55 Multiple comparisons of Brand Loyalty scores for experiencing different hot spring hotels

(I)	(J)	Mean Difference (I-J)	p
Shi Qian Hot Spring	Xi Feng Hot Spring	-0.55*	0.018
	Poly Hot Spring Resort	-0.69*	0.003
	Jian He Hot Spring	-0.75*	0.001
	Four Seasons Guizhou Hot Spring	-0.78*	0.001
Xi Feng Hot Spring	Shi Qian Hot Spring	0.55*	0.018
	Poly Hot Spring Resort	-0.14	0.497
	Jian He Hot Spring	-0.20	0.321
	Four Seasons Guizhou Hot Spring	-0.22	0.266
Poly Hot Spring Resort	Shi Qian Hot Spring	0.69*	0.003
	Xi Feng Hot Spring	0.14	0.497
	Jian He Hot Spring	-0.06	0.759
	Four Seasons Guizhou Hot Spring	-0.08	0.670
Jian He Hot Spring	Shi Qian Hot Spring	0.75*	0.001
	Xi Feng Hot Spring	0.20	0.321
	Poly Hot Spring Resort	0.06	0.759
	Four Seasons Guizhou Hot Spring	-0.02	0.904
Four Seasons Guizhou Hot Spring	Shi Qian Hot Spring	0.78*	0.001
	Xi Feng Hot Spring	0.22	0.266
	Poly Hot Spring Resort	0.08	0.670
	Jian He Hot Spring	0.02	0.904

* The mean difference is significant at the 0.05 level.

4.7 Intervariable correlation

Correlation is used to test the correlation between data. Based on assumptions and models, before constructing a regression model, it is necessary to test the correlation between each variable, that is, the selected independent variable must have a linear correlation with the dependent variable, in order to further analyze the mutual influence relationship. This study used the Pearson correlation coefficient method to conduct correlation analysis on the variables in the model, as shown in Table 4.56. When using the Pearson correlation coefficient method for analysis, the significance of the correlation coefficient between the two variables was less than 0.01 or 0.05, and the coefficient was not 0, indicating a correlation relationship between the variables. The correlation coefficient ranges from -1 to 1, and the closer it is to $|1|$, the stronger the correlation. When the coefficient is 0, there is no linear correlation between variables, and when $-1 \leq r < 0$, there is a negative correlation between variables; When $0 < r \leq 1$, there is a positive correlation between variables.

The results showed a significant positive correlation between Brand Loyalty and NBBMI, Efficiency Based Business Model Innovation, and Brand Trust at a significant 0.01 level, with correlation coefficients of 0.475, 0.364, and 0.513, respectively. There is a significant positive correlation between Brand Trust and Novelty Based Business Model Innovation and Efficiency Based Business Model Innovation at the 0.01 level, with correlation coefficients of 0.384 and 0.318, respectively.

Table 4.56 Correlation relationships between variables

Variable	BL	NBBMI	EBBMI	BT
BL	1			
NBBMI	0.475**	1		
EBBMI	0.364**	0.289**	1	
BT	0.513**	0.384**	0.318**	1

** Correlation is significant at the 0.01 level (2-tailed).

4.8 Hypothesis testing

4.8.1 Novelty - Based Business Model Innovation, Efficiency Based Business Model Innovation, and the Impact Path Relationship between Brand Trust and Brand Loyalty

In order to study the impact of Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation on Brand Trust and Brand Loyalty, as well as the relationship between Brand Trust and Brand Loyalty, a structural equation model was used for the study. The model fitness is shown in Table 4.57. The results show that the CMIN/DF value of the minimalist adaptation index is $1.834 < 5$; The absolute fit is RMSEA value $0.061 < 0.08$, and GFI value $0.862 > 0.8$; The NFI value of the value-added adaptation index is 0.876, RFI value is 0.860, IFI value is 0.939, TLI value is 0.931, and CFI value is 0.939, all of which are greater than 0.8, indicating that the model has good adaptability in this case.

Table 4.57 Adaptability of Path Relationship Models between Novelty Based Business Model Innovation and Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty

Index	Actual measured value	Interpretation
CMIN/DF	1.834	Excellent fit
RMSEA	0.061	Acceptable fit
GFI	0.862	Acceptable fit
NFI	0.876	Acceptable fit
RFI	0.860	Acceptable fit
IFI	0.939	Good fit
TLI	0.931	Good fit
CFI	0.939	Good fit

Source: Wu, 2010.

The path relationship analysis of influencing factors between Novelty Based Business Model Innovation and Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty is shown in Table 4.58. The results show that there is a

significant influencing factor relationship between the independent variables Novelty Based Business Model Innovation and Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty. Novelty Based Business Model Innovation ($\beta = 0.329$, C.R.=4.572, $p < 0.001$, 95%CL= ranges from 0.155 to 0.483) has a significant positive impact on Brand Loyalty at a significance level of 0.001, hypothesis 3 was accepted ; Efficiency Based Business Model Innovation ($\beta = 0.172$, C.R.=2.737, $p < 0.01$, 95%CL= ranges from 0.007 to 0.346) has a significant positive impact on Brand Loyalty at a significant level of 0.01, hypothesis 4 was accepted ; Brand Trust ($\beta = 0.381$, C.R.=5.108, $p < 0.001$, 95%CL= ranges from 0.210 to 0.536) has a significant positive impact on Brand Loyalty at the 0.001, hypothesis 5 was accepted . Moreover, Novelty Based Business Model Innovation ($\beta = 0.373$, C.R.=4.889, $p < 0.001$, 95%CL= ranges from 0.205 to 0.544) has a significant positive impact on Brand Trust at a significance level of 0.001, hypothesis 1 was accepted ; Efficiency Based Business Model Innovation ($\beta = 0.252$, C.R.=3.583, $p < 0.001$, 95%CL= ranges from 0.094 to 0.411) has a significant positive impact on Brand Trust at a 0.001 level, hypothesis 2 was accepted.

Table 4.58 Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty Path Influence Relationships

Path relationship			Beta (β)	S.E.	Bootstarp 95%		C.R.	P
					Lower	Upper		
BT	<---	NBBM I	0.373	0.085	0.205	0.544	4.889***	<0.00 1
BT	<---	EBBMI	0.252	0.071	0.094	0.411	3.583***	<0.00 1
BL	<---	BT	0.381	0.071	0.210	0.536	5.074***	<0.00 1
BL	<---	NBBM I	0.329	0.076	0.155	0.483	4.572***	<0.00 1
BL	<---	EBBMI	0.172	0.060	0.007	0.346	2.737**	0.006

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

This study investigated the path relationship between Novelty Based Business

Model Innovation and Efficiency Based Business Model Innovation on Brand Trust and Brand Loyalty. The model shows that the coefficient of the influence relationship between variables and the factor loading coefficient of each item on latent variables are greater than 0.5, and the relationship between residuals e19 and e22, as well as e20 and e23, has been corrected.

4.8.2 Brand Trust mediation effect test

The principle of mediating effect test, the first step is to test the influence of the independent variable on the dependent variable, and to test the coefficient c ; The second step is to test the influence of independent variables on mediating variables, with a coefficient a being tested; The third step is to test the influence of independent and mediating variables on the dependent variable, and to test the coefficients c' and b . Gradually more rigorous Bootstrap method is used to test the mediators. This article combines the use of structural equation modeling to test the mediating effect of Brand Trust.

According to Hayes' suggestion, the number of iterations for Bootstrap is set to 5000 and the confidence level is set to 95%. If the confidence interval of the 95% the contrary, if the 95% confidence interval for indirect effects includes 0, then the mediating variable does not play a role and there is no mediating effect.

In order to investigate the mediating effect of Brand Trust on Brand Loyalty in Novelty Based Business Model Innovation, a structural equation model was used, and the model's fitness is shown in Table 4.59. The results show that the CMIN/DF value of the minimalist adaptation index is $1.855 < 5$; The absolute fit is RMSEA value $0.058 < 0.08$, SRMR value $0.046 < 0.05$, and GFI value $0.896 > 0.8$; The NFI value of the value-added adaptation index is 0.904, RFI value is 0.887, IFI value is 0.954, TLI value is 0.945, and CFI value is 0.953, all of which are greater than 0.8, indicating that the model has good adaptability in this case.

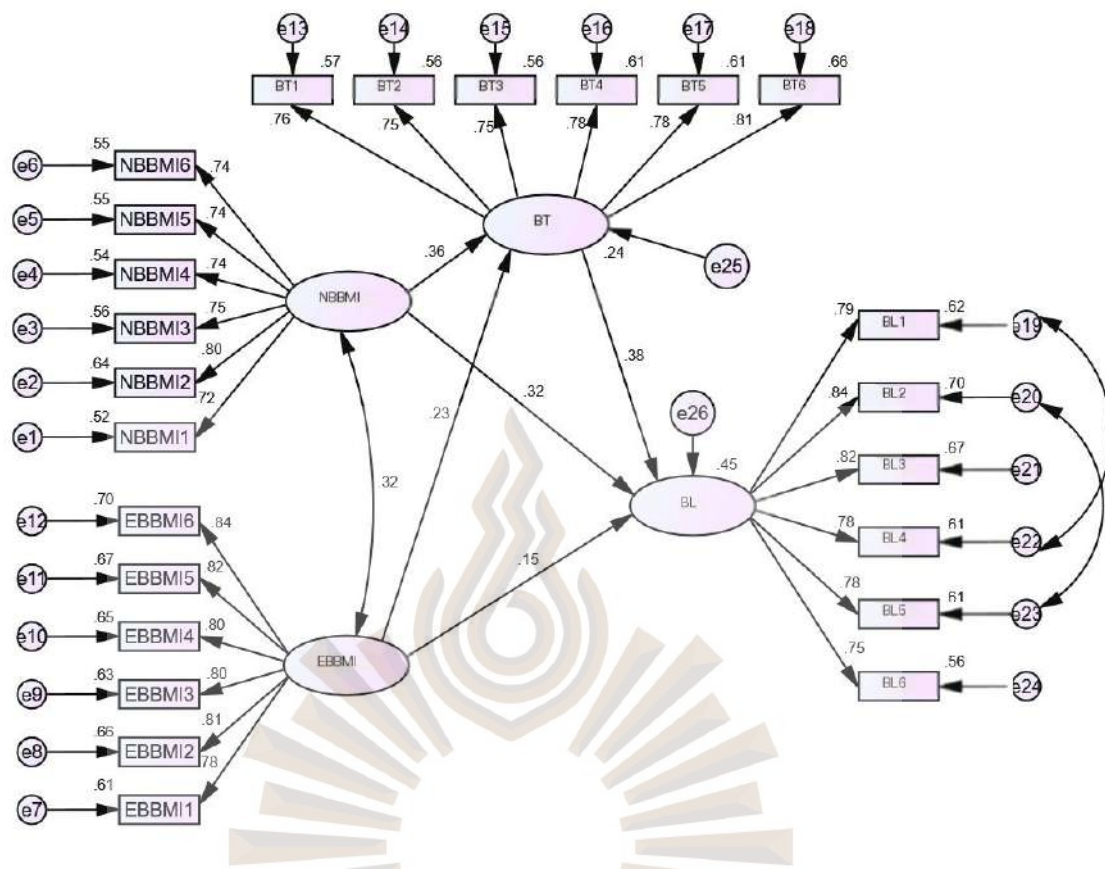


Figure 4.2 Impact relationship model between Novelty Based Business Model Innovation, Efficiency Based Business Model Innovation, Brand Trust, and Brand Loyalty

Source: Researcher

Table 4.59 Adaptability of Brand Trust's Novelty Based Business Model Innovation to Brand Loyalty Mediation Model

Index	Actual measured value	Interpretation
CMIN/DF	1.855	Excellent fit
RMSEA	0.058	Acceptable fit
GFI	0.896	Acceptable fit
NFI	0.904	Good fit
RFI	0.887	Acceptable fit
IFI	0.954	Good fit
TLI	0.945	Good fit
CFI	0.953	Good fit

Source: Wu, 2010.

The results of the mediating effect of Brand Trust on Brand Loyalty in Novelty Based Business Model Innovation are shown in Table 4.60. The results show that Brand Trust has a significant mediating effect on Brand Loyalty in Novelty Based Business Model Innovation. Novelty Based Business Model Innovation ($B=0.351$, $C.R.=4.774$, $p<0.001$, $95\%CL$ = ranges from 0.195 to 0.493) has a significant positive impact on Brand Loyalty at a significance level of 0.001; Brand Trust ($B=0.418$, $C.R.=5.628$, $p<0.001$, $95\%CL$ = ranges from 0.265 to 0.559) has a significant positive impact on Brand Loyalty at the 0.001 level. Moreover, Novelty Based Business Model Innovation ($B=0.437$, $C.R.=5.541$, $p<0.001$), $95\%CL$ = ranges from 0.281 to 0.594 has a significant positive impact on Brand Trust at a significance level of 0.001.

Table 4.60 The mediating effect pathway relationship of Brand Trust on Brand Loyalty in Novelty Based Business Model Innovation

Path relationship			Beta (β)	S.E.	Bootstarp 95%		C.R.	P
					Lower	Upper		
BT	<---	NBBM I	0.437	0.090	0.281	0.594	5.541** *	<0.001
BL	<---	BT	0.418	0.071	0.265	0.559	5.628** *	<0.001
BL	<---	NBBM I	0.351	0.080	0.195	0.493	4.774** *	<0.001

*** $p<0.001$.

This research model investigates the mediating effect of Brand Trust on the relationship between Novelty Based Business Model Innovation and Brand Loyalty. The model shows that the coefficient of the influence relationship between variables and the factor loading coefficient of each item on latent variables are greater than 0.5, and the relationship between residuals e19 and e22, as well as e20 and e23, has been corrected.

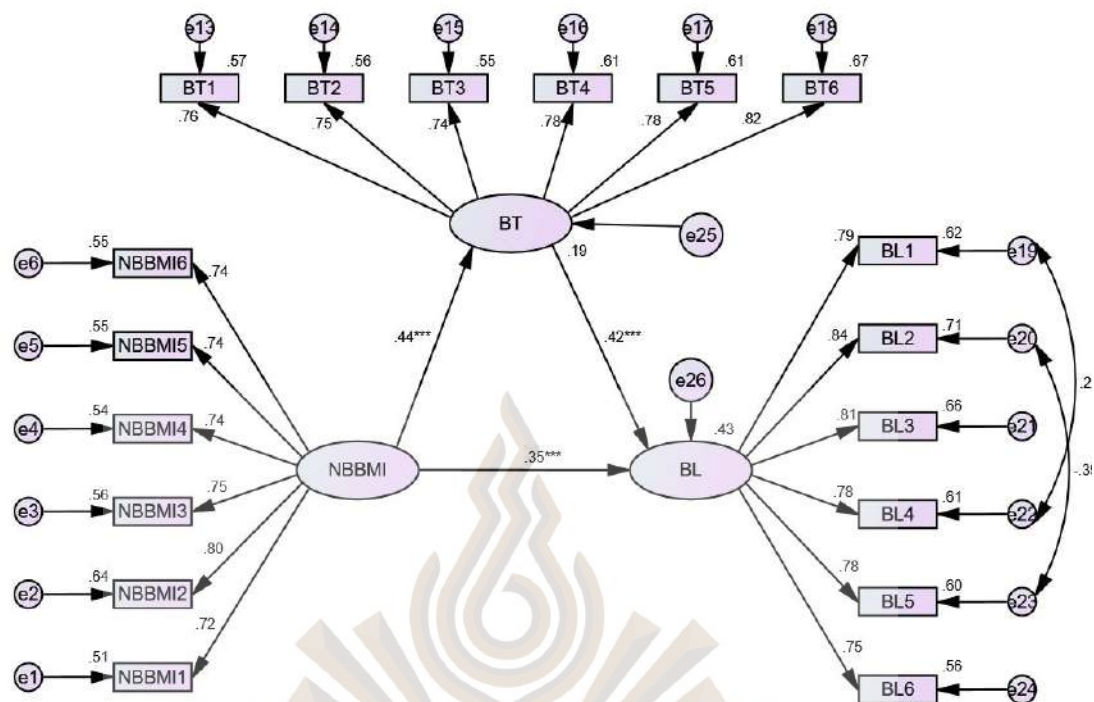


Figure 4.3 The mediating effect of Brand Trust on Brand Loyalty in Novelty Based Business Model Innovation
Source: Researcher

The mediating effect of Brand Trust Bootstrap is shown in Table 4.61. The results show that the estimated total effect is 0.533, and the confidence interval does not include 0. The estimated value of the indirect effect is 0.183, and the confidence interval does not include 0. The proportion of the effect is 34.3% ($0.183/0.533$). The estimated value of the direct effect is 0.351, and the confidence interval does not include 0. The proportion of the effect is 65.9% ($0.351/0.533$). This indicates that Brand Trust has a significant mediating effect on Brand Loyalty in Novelty Based Business Model Innovation, and both indirect and inter effects are significant. It indicates that Brand Trust partially mediates Brand Loyalty in Novelty Based Business Model Innovation, and hypothesis H6 is valid.

Table 4.61 Mediating effects of Brand Trust bootstrap

Parameter	Beta (β)	Bootstrap 95%		P	Effect ratio
		Lower	Upper		
Indirect effects	0.183	0.109	0.275	<0.001***	34.3%
Direct effects	0.351	0.195	0.493	<0.001***	65.9%
Total effec	0.533	0.406	0.651	<0.001***	-

***p<0.001.

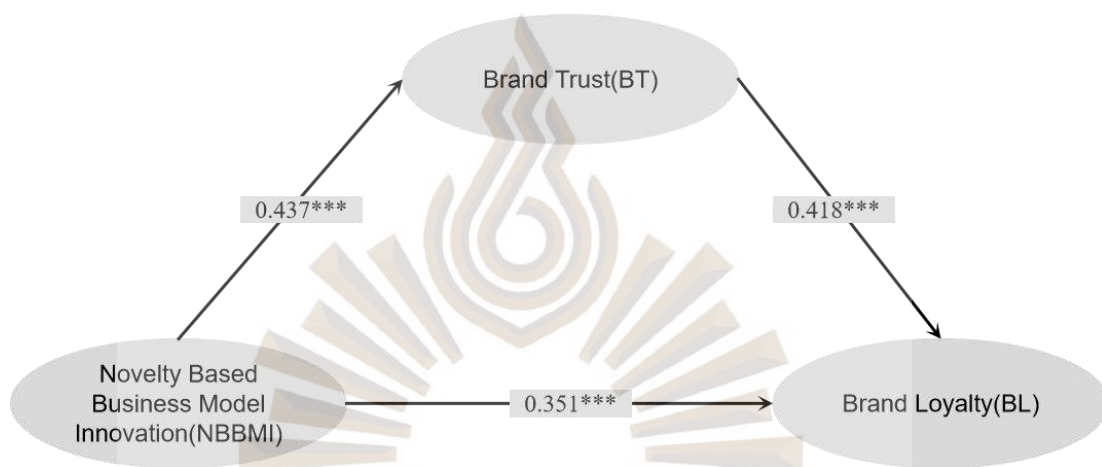


Figure 4.4 Mediation effect

Source: Researcher

In order to investigate the mediating effect of Brand Trust on Brand Loyalty in Efficiency Based Business Model Innovation, a structural equation model was used, and the model's fitness is shown in Table 4.62. The results show that the CMIN/DF value of the minimalist adaptation index is 1.756<5; The absolute fit is RMSEA value 0.058<0.08, SRMR value 0.042<0.05, and GFI value 0.899>0.8; The NFI value of the value-added adaptation index is 0.916, RFI value is 0.901, IFI value is 0.962, TLI value is 0.955, and CFI value is 0.962, all of which are greater than 0.8, indicating that the model has good adaptability in this case.

Table 4.62 Adaptability of Brand Trust's Efficiency Based Business Model Innovation to Brand Loyalty Mediation Model

index	Actual measured value	Interpretation
CMIN/DF	1.756	Excellent fit
RMSEA	0.058	Acceptable fit
GFI	0.899	Acceptable fit
NFI	0.916	Good fit
RFI	0.901	Good fit
IFI	0.962	Good fit
TLI	0.955	Good fit
CFI	0.962	Good fit

Source:Wu, 2010.

The mediating effect of Brand Trust on Efficiency Based Business Model Innovation on Brand Loyalty is shown in Table 4.63. The results show that Brand Trust has a significant mediating effect on Efficiency Based Business Model Innovation on Brand Loyalty. Efficiency Based Business Model Innovation ($B=0.217$, $C.R.=3.233$, $p<0.01$, $95\%CL=$ ranges from 0.070 to 0.377) has a significant positive impact on Brand Loyalty at a significance level of 0.01; Brand Trust ($B=0.495$, $C.R.=6.511$, $p<0.001$, $95\%CL=$ ranges from 0.346 to 0.633) has a significant positive impact on Brand Loyalty at the 0.001 level. Moreover, Efficiency Based Business Model Innovation ($B=0.350$, $C.R.=4.674$, $p<0.001$, $95\%CL=$ ranges from 0.199 to 0.500) has a significant positive impact on Brand Trust at a significance level of 0.001.

Table 4.63 The mediating effect pathway relationship of Brand Trust on Efficiency Based Business Model Innovation and Brand Loyalty

Path relationship			Beta (β)	S.E.	Bootstrap 95%		C.R.	P
					Lower	Upper		
BT	<---	EBBMI	0.350	0.078	0.199	0.500	4.674***	<0.001
BL	<---	BT	0.495	0.073	0.346	0.633	6.511***	<0.001
BL	<---	EBBMI	0.217	0.066	0.070	0.377	3.233**	0.001

** $p<0.01$;*** $p<0.001$.

This research model investigates the mediating effect of Brand Trust on the

pathway relationship of Brand Loyalty in Efficiency Based Business Model Innovation. The model shows that the coefficient of the influence relationship between variables and the factor loading coefficient of each item on latent variables are greater than 0.5, and the relationship between residuals e19 and e22, as well as e20 and e23, has been corrected.

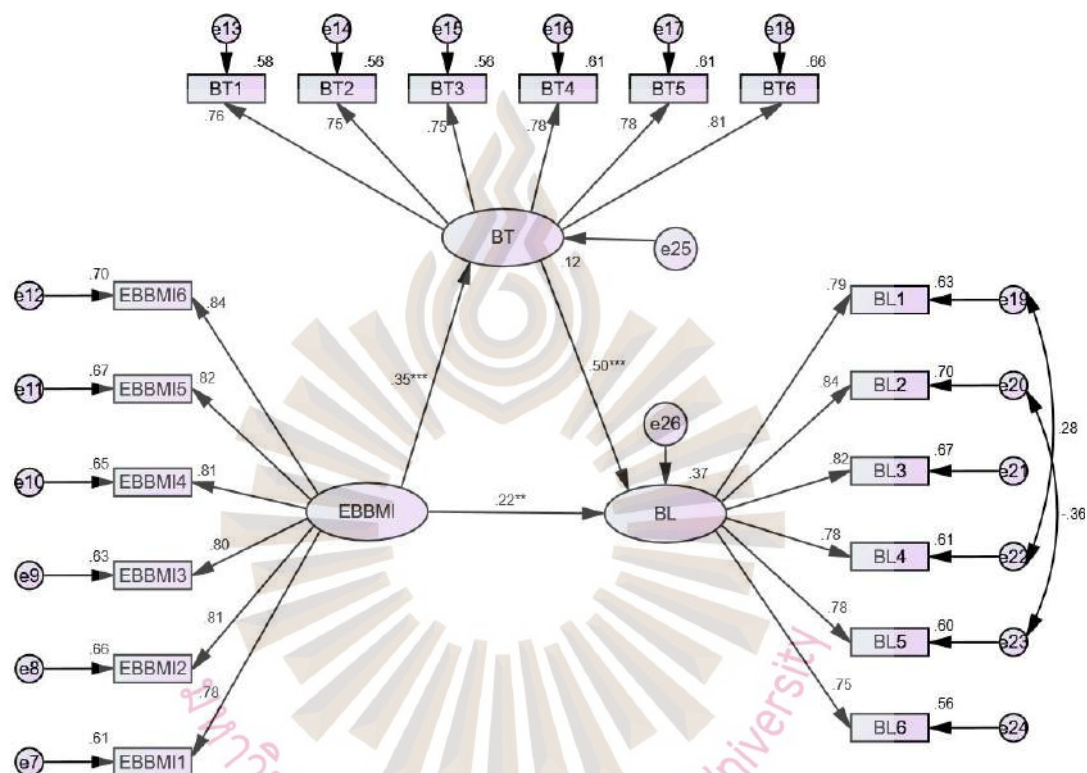


Figure 4.5 The mediating effect of Brand Trust on Brand Loyalty in Efficiency Based Business Model Innovation

Source: Researcher

The mediating effect of Brand Trust Bootstrap is shown in Table 4.64. The results show that the estimated total effect is 0.390, and the confidence interval does not include 0. The estimated value of the indirect effect is 0.173, and the confidence interval does not include 0. The proportion of the effect is 44.4% (0.173/0.390). The estimated value of the direct effect is 0.217, and the confidence interval does not include 0. The proportion of the effect is 55.6% (0.217/0.390). The mediating effect of Brand Trust on Brand Loyalty in Efficiency Based Business Model Innovation is

significant, and both indirect and inter effects are significant. This indicates that Brand Trust partially mediates Brand Loyalty in Efficiency Based Business Model Innovation, indicating the validity of hypothesis H7.

Table 4.64 The mediating effect of Brand Trust Bootstrap

Parameter	Beta (β)	Bootstrap 95%		P	Effect proportion
		Lower	Upper		
Indirect effects	0.173	0.093	0.267	<0.001***	44.4%
Direct effects	0.217	0.070	0.377	0.003 **	55.6%
Total effect	0.390	0.258	0.532	<0.001***	-

p<0.01;*p<0.001.

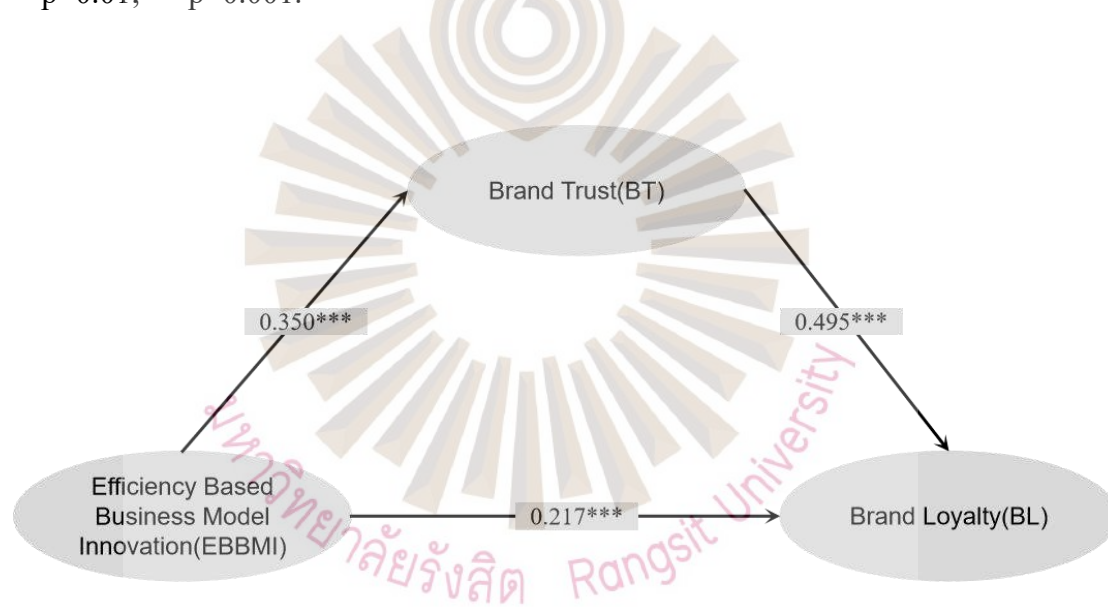


Figure 4.6 Mediation effect

Source:Researcher

Table 4.65 Hypotheses

NO	Hypothesis	Results
Hypothesis 1	H1: Novel business models have a positive impact on brand trust	Accept
Hypothesis 2	H2: Efficient business models have a positive impact on brand trust	Accept
Hypothesis 3	H3: Novel business models have a positive impact on brand loyalty	Accept

Table 4.65 Hypotheses(cont.)

NO	Hypothesis	Results
Hypothesis 4	H4: Efficiency oriented business models have a positive impact on brand loyalty	Accept
Hypothesis 5	H5: Brand trust has a positive impact on brand loyalty	Accept
Hypothesis 6	H6: Brand trust has a mediating effect on brand loyalty in innovative business models	Accept
Hypothesis 7	H7: Brand trust has a mediating effect on brand loyalty in an efficient business model	Accept



Chapter 5

Conclusions and Recommendations

5.1 Summary of Findings

5.1.1 Overview of the Study

The primary aim of this study was to explore the impact of business model innovations—specifically novelty-based and efficiency-based business model innovations—on brand trust and brand loyalty within the Guizhou hot spring tourism industry. Additionally, this study sought to examine the mediating role of brand trust in the relationship between these business model innovations and brand loyalty. The research objectives were as follows:

1) To determine the influence of novelty-based business model innovations on brand trust

Novelty-based innovations, characterized by unique value propositions and innovative approaches, have been shown to positively influence brand trust by enhancing perceived value and satisfaction among customers (Spieth et al., 2019; Krom, 2015).

2) To assess the impact of efficiency-based business model innovations on brand trust

Efficiency-based innovations, which focus on improving operational efficiency and cost-effectiveness, can bolster brand trust by delivering consistent quality and reliability (Spieth et al., 2019; Yi, Khan, & Safeer, 2022).

3) To analyze the effect of novelty-based business model innovations on brand loyalty

Novelty-based innovations can enhance brand loyalty by differentiating the brand in a competitive market, thereby fostering customer attachment and repeat patronage (Kim, Nicolau, & Tang, 2021; Liu, Tsai, Xiao, & Hu, 2020).

4) To evaluate the influence of efficiency-based business model innovations on brand loyalty

Efficiency-based innovations contribute to brand loyalty by providing superior value and satisfaction through optimized processes and services (Lertwannawit & Nak, 2016; Chen & Lee, 2021).

5) To investigate the relationship between brand trust and brand loyalty

Numerous studies have established a direct and positive relationship between brand trust and brand loyalty, indicating that higher levels of trust lead to stronger customer loyalty (Manaf et al., 2021; Huang, 2017).

6) To explore the mediating role of brand trust in the relationship between novelty-based business model innovations and brand loyalty

Brand trust mediates the impact of novelty-based innovations on brand loyalty by enhancing customers' emotional and cognitive evaluations of the brand (Spieth et al., 2019; Lertwannawit & Nak, 2016).

7) To examine the mediating effect of brand trust in the relationship between efficiency-based business model innovations and brand loyalty: Similarly, brand trust mediates the relationship between efficiency-based innovations and brand loyalty by ensuring consistent quality and reliability, which are crucial for maintaining customer loyalty (Yi, Khan, & Safeer, 2022; Chen & Lee, 2021).

5.1.1.1 Summary of the Methodology

The research employed a quantitative approach to gather and analyze data. A structured questionnaire was designed and distributed to tourists who had visited Guizhou hot spring hotels. Out of 235 distributed questionnaires, 225 valid responses were obtained, achieving a response rate of 95.7%. The data collection process ensured that only respondents with relevant experience were included in the sample.

Statistical analysis was conducted using SPSS 26.0 and AMOS 24.0. The analysis methods included frequency analysis, reliability and validity testing, confirmatory factor analysis (CFA), descriptive statistics, and structural equation modeling (SEM). Reliability was assessed using Cronbach's alpha, while validity was tested through CFA. The structural relationships between variables were explored using SEM, and the mediating effects were tested using the Bootstrap method. This approach is supported

by various studies in the tourism industry, emphasizing the reliability and robustness of these methods (Osman and Sentosa, 2013; Suhartanto, Kusdibyo, Chen, Dean & Setiawati, 2020; Haudi et al., 2022).

5.1.1.2 Brief Overview of Key Results from Chapters 3 and 4

1) Chapter 3: Data Collection Process and Respondent Demographics

Chapter 3 detailed the data collection process and provided a comprehensive demographic profile of the respondents. The sample was balanced in terms of gender, age, education level, income, occupation, and marital status. Most respondents had visited hot springs multiple times, with a notable portion experiencing different hot spring hotels in Guizhou. The balanced demographic profile ensured a diverse and representative sample, enhancing the generalizability of the findings (Nunkoo, Ramkissoon, & Gursoy, 2013; Cheah et al., 2018).

2) Chapter 4: Statistical Analysis Results

Reliability and Validity: The reliability of the constructs, measured by Cronbach's alpha, was found to be high (above 0.8), indicating good internal consistency. Validity tests confirmed the constructs' structural validity, ensuring that the measures accurately reflected the intended theoretical constructs (Nunkoo et al., 2013; Dash & Paul, 2021).

Descriptive Statistics: The mean scores of the variables suggested a generally high level of recognition for novelty-based business model innovations, efficiency-based business model innovations, brand trust, and brand loyalty among respondents. This indicates that the respondents were generally favorable towards these innovations and trust the brands involved (Cheah et al., 2018; Afthanorhan, Awang, & Aimran, 2020).

Inferential Statistics: **Novelty-Based Business Model Innovation:** Showed a significant positive impact on both brand trust and brand loyalty. This supports the hypothesis that innovative approaches can enhance customer trust and loyalty (Kim, Nicolau, & Tang, 2021; Suhartanto et al., 2020).

Efficiency-Based Business Model Innovation: Also had a significant positive impact on brand trust and brand loyalty, highlighting the importance of operational efficiency in building trust and loyalty (Yi, Khan, & Safeer, 2022; Chen & Lee, 2021).

Brand Trust: Found to be a significant predictor of brand loyalty. Higher levels of

trust lead to stronger customer loyalty, confirming existing theories in the literature (Manaf et al., 2021; Huang, 2017).

Mediating Role of Brand Trust: Brand trust partially mediated the relationship between both types of business model innovations and brand loyalty. This indicates that while business model innovations directly affect brand loyalty, their impact is also channeled through brand trust (Spieth et al., 2019; Lertwannawit & Nak, 2016).

Differences in Demographics: Significant differences were found in how different demographic groups (e.g., age, gender, education level) perceived and were influenced by business model innovations and brand trust. This suggests that demographic factors play a crucial role in shaping consumer perceptions and behaviors (Suhartanto et al., 2020; Cheah et al., 2018).

The findings underscore the importance of both novelty and efficiency in business model innovations for enhancing brand trust and loyalty. They also highlight the critical role of brand trust as a mediating factor in this relationship. The implications of these findings are further discussed in the following sections, providing a comprehensive understanding of their impact on theory and practice.

5.1.2 Key Findings

5.1.2.1 Highlights of the Main Findings from the Data Analysis

1) Business Model Innovations and Brand Loyalty

Both novelty-based and efficiency-based business model innovations were found to have a significant positive impact on brand loyalty. This suggests that innovative approaches in business models can enhance customer loyalty in the Guizhou hot spring tourism industry. Previous studies have also highlighted that brand innovativeness significantly influences consumer brand loyalty, primarily through perceived quality and satisfaction, indicating that innovative business models can create a competitive edge that fosters loyalty (Pappu & Quester, 2016; Kim, Nicolau, & Tang, 2021).

2) Business Model Innovations and Brand Trust

Similarly, both types of business model innovations significantly influenced brand trust. This indicates that customers perceive novel and efficient business models as trustworthy, which enhances their trust in the brand. Research has shown that

business model innovations, particularly those that improve value offerings and revenue models, positively impact brand trust, which in turn enhances customer loyalty (Spieth et al., 2019; Menidjel, Benhabib, & Bilgihan, 2017).

3) Brand Trust and Brand Loyalty

There is a significant positive relationship between brand trust and brand loyalty. This finding highlights the critical role of trust in fostering customer loyalty. Trust has been identified as a key driver of brand loyalty, often mediating the effects of other variables like brand satisfaction and perceived quality on loyalty. The importance of trust in maintaining customer loyalty is well-documented in the literature, underscoring its foundational role in brand-consumer relationships (Delgado-Ballester & Munuera-Alemán, 2001; Chaudhuri & Holbrook, 2001).

The findings underscore the importance of both novelty and efficiency in business model innovations for enhancing brand trust and loyalty. They also highlight the critical role of brand trust as a mediating factor in this relationship.

5.1.2.2 Validity and Reliability of the Constructs

1) Reliability Analysis

The constructs used in this study demonstrated high reliability, with Cronbach's alpha values for all constructs exceeding 0.8. Specifically, the reliability coefficients were 0.884 for Novelty Based Business Model Innovation, 0.918 for Efficiency Based Business Model Innovation, 0.898 for Brand Trust, and 0.909 for Brand Loyalty. These values indicate that the measurement scales used in the questionnaire are consistent and dependable. High Cronbach's alpha values suggest good internal consistency of the measurement instruments used in the study, aligning with other studies that validate constructs using similar metrics (Cho & Kim, 2015; Hayes & Coutts, 2020).

2) Validity Analysis

Construct Validity: Confirmatory factor analysis (CFA) validated the constructs used in the study. The factor loading coefficients for all items were greater than 0.5, indicating good construct validity. This method ensures that the constructs are accurately measured and that the items used in the questionnaire effectively represent the underlying theoretical constructs (Said, Badru, & Shahid, 2011; Panahi,

Bazrafshani, & Mirzaie, 2023).

Convergent Validity: The Average Variance Extracted (AVE) values for the constructs were all above 0.5, with values of 0.567 for Novelty Based Business Model Innovation, 0.653 for Efficiency Based Business Model Innovation, 0.596 for Brand Trust, and 0.626 for Brand Loyalty. This confirms that the constructs have good convergent validity, meaning that the items that are supposed to measure the same construct are highly correlated (Harlanu et al., 2023; Lin et al., 2008).

Discriminant Validity: The square root of AVE for each construct was greater than the correlation coefficients with other constructs, indicating good discriminant validity. This means that the constructs are distinct and measure different concepts. Discriminant validity ensures that constructs which are theoretically different are also empirically distinct (Birgin & Yilmaz, 2023; Thamrin, Giatman, & Syah, 2023).

3) Conclusion

The high reliability and validity of the constructs used in this study indicate that the measurement instruments are robust and provide consistent, dependable results. This robustness is critical for the accuracy of the study's findings and their applicability in understanding the impact of business model innovations on brand trust and loyalty.

5.1.2.3 Correlation Between Business Model Innovations and Brand Trust and Loyalty

The study found significant positive correlations between business model innovations and brand trust and loyalty. The correlation coefficients were 0.475 between Novelty Based Business Model Innovation and Brand Loyalty, 0.364 between Efficiency Based Business Model Innovation and Brand Loyalty, and 0.513 between Brand Trust and Brand Loyalty. Additionally, there were significant positive correlations between Novelty Based Business Model Innovation and Brand Trust (0.384) and between Efficiency Based Business Model Innovation and Brand Trust (0.318). These findings are consistent with existing literature, which demonstrates that business model innovations, both novelty-based and efficiency-based, enhance customer perceptions of trust and loyalty towards a brand (Pappu & Quester, 2016; Chaudhuri & Holbrook, 2001).

5.1.2.4 Hypothesis Testing

1) What the hypotheses testing revealed

Novelty Based Business Model Innovation positively impacts Brand Loyalty (H1) and Brand Trust (H3): This suggests that unique and innovative business models can significantly boost both trust and loyalty among customers. Studies have shown that innovation in business models enhances the perceived value and satisfaction, thereby strengthening brand loyalty and trust (Spieth et al., 2019; Kim, Nicolau, & Tang, 2021).

Efficiency Based Business Model Innovation positively impacts Brand Loyalty (H2) and Brand Trust (H4): Efficiency improvements in business models also lead to higher levels of trust and loyalty. Efficient business operations increase reliability and customer satisfaction, which in turn build trust and loyalty (Menidjel, Benhabib, & Bilgihan, 2017; Yi, Khan, & Safeer, 2022).

Brand Trust positively impacts Brand Loyalty (H5): Trust is a crucial factor in fostering customer loyalty. When customers trust a brand, they are more likely to remain loyal and engage in repeat purchases. This relationship has been well-documented in various contexts, highlighting the fundamental role of trust in maintaining brand loyalty (Delgado-Ballester & Munuera-Alemán, 2001; Huang, 2017).

2) Conclusion

The findings underscore the critical role of both novelty and efficiency in business model innovations for enhancing brand trust and loyalty. The significant positive correlations and the confirmation of the hypotheses through statistical testing provide strong evidence of these relationships. This supports the strategic focus on innovation and efficiency to build and maintain strong brand trust and loyalty.

5.1.2.5 Mediating Role of Brand Trust

1) Partial Mediation

The study confirmed that brand trust partially mediates the relationship between business model innovations and brand loyalty. This means that while business model innovations directly influence brand loyalty, they also do so indirectly through brand trust. This finding is supported by existing literature, which shows that trust plays a

critical mediating role in the relationship between various brand strategies and consumer loyalty (Chaudhuri & Holbrook, 2001; Pappu & Quester, 2016).

2) Mediating Effect Analysis

Using the Bootstrap method, the study found that:

For Novelty Based Business Model Innovation, the total effect on Brand Loyalty was 0.533, with 34.3% being indirect through Brand Trust, and 65.9% being direct. This indicates that while novelty-based innovations significantly enhance brand loyalty directly, a substantial portion of this effect is mediated through the increased trust these innovations engender (Menidjel, Benhabib, & Bilgihan, 2017; Huang, 2017).

For Efficiency Based Business Model Innovation, the total effect on Brand Loyalty was 0.390, with 44.4% being indirect through Brand Trust, and 55.6% being direct. This demonstrates that efficiency improvements in business models not only directly enhance loyalty but also do so significantly by fostering greater brand trust (Spieth et al., 2019; Puspaningrum, 2020).

3) Conclusion

The findings underline the importance of both types of business model innovations in enhancing brand trust and loyalty and emphasize the mediating role of brand trust in this relationship. These insights provide valuable implications for both theoretical research and practical applications in the hot spring tourism industry. By focusing on both novelty and efficiency in business models, companies can significantly boost both trust and loyalty among their customers.

5.2 Discussion

5.2.1 Interpretation of Results

5.2.1.1 Detailed Interpretation of Key Findings

The research conducted provides significant insights into the relationship between business model innovations and brand trust and loyalty within the context of Guizhou's hot spring tourism industry. The key findings reveal a robust connection between novelty-based and efficiency-based business model innovations and their impact on brand trust and loyalty.

How Novelty and Efficiency-Based Business Model Innovations Influence Brand Trust and Loyalty

1) Novelty-Based Business Model Innovation

Impact on Brand Loyalty: The study found that novelty-based business model innovation significantly enhances brand loyalty. This can be attributed to the fact that customers are drawn to unique and innovative services that offer a fresh and appealing experience. Novelty in business models often introduces new features, services, or experiences that differentiate a brand from its competitors, thereby fostering a stronger attachment and commitment from customers. For instance, introducing unique wellness packages or integrating local cultural elements into the hot spring experience can create a distinctive and memorable experience for visitors, leading to increased loyalty (Kim, Nicolau, & Tang, 2021; Krom, 2015).

Impact on Brand Trust: Novelty-based innovations also positively affect brand trust. Customers tend to trust brands that consistently innovate and stay ahead of market trends, as it signals a commitment to quality and customer satisfaction. Innovative business models demonstrate a brand's adaptability and responsiveness to customer needs, which enhances trust. For example, implementing state-of-the-art facilities and offering personalized services can reassure customers of the brand's dedication to providing top-notch experiences, thereby boosting their trust in the brand (Spieth et al., 2019; Lertwannawit & Nak, 2016).

2) Efficiency-Based Business Model Innovation

Impact on Brand Loyalty: Efficiency-based innovations are equally crucial in promoting brand loyalty. Efficiency improvements, such as streamlined booking processes, faster service delivery, and enhanced operational efficiencies, directly enhance customer satisfaction. When customers perceive that a brand values their time and strives to provide seamless and hassle-free services, they are more likely to remain loyal. For instance, implementing an efficient online booking system that allows quick and easy reservations can significantly improve the customer experience, leading to higher loyalty (Cheunkamon, Jomnonkwao, & Ratanavaraha, 2021; Pappu & Quester, 2016).

Impact on Brand Trust: Efficiency-based innovations also play a vital role in

building brand trust. Customers trust brands that demonstrate reliability and consistency in their service delivery. By enhancing operational efficiency, brands can ensure that they consistently meet customer expectations, thereby strengthening trust. For example, maintaining high standards of cleanliness and safety through efficient operational practices can assure customers of the brand's reliability and commitment to their well-being, thereby enhancing trust (Yi, Khan, & Safeer, 2022; Chen & Lee, 2021).

The findings underline the importance of both types of business model innovations in enhancing brand trust and loyalty and emphasize the mediating role of brand trust in this relationship. These insights provide valuable implications for both theoretical research and practical applications in the hot spring tourism industry.

5.2.1.2 Detailed Interpretation of Key Findings

The research conducted provides significant insights into the relationship between business model innovations and brand trust and loyalty within the context of Guizhou's hot spring tourism industry. The key findings reveal a robust connection between novelty-based and efficiency-based business model innovations and their impact on brand trust and loyalty.

How Novelty and Efficiency-Based Business Model Innovations Influence Brand Trust and Loyalty

1) Gender

Findings: The study revealed significant differences in how male and female customers perceive and are influenced by business model innovations. Females showed higher scores in brand loyalty and trust compared to males.

Implications: This could be due to differences in preferences and expectations, where female customers might value innovative and efficient services more highly. Understanding these gender-based preferences can help businesses tailor their services to better meet the needs of both male and female customers (Vacas de Carvalho, Azar, & Machado, 2020; Sohail, Wahid, & Al Jabri, 2017).

2) Age

Findings: Age differences also played a significant role in shaping customer perceptions. Older age groups, particularly those over 60, showed higher levels of

brand trust and loyalty compared to younger groups.

Implications: This suggests that older customers may place more value on stability, reliability, and quality of service, which are enhanced through effective business model innovations. In contrast, younger customers might be more attracted to novelty and unique experiences. Tailoring marketing and service strategies to cater to different age groups can enhance customer satisfaction across the board (Yeh, Wang, & Yieh, 2016; Srivastava, 2015).

3) Educational Background

Findings: Customers with higher educational backgrounds (bachelor's degree and above) exhibited higher levels of brand trust and loyalty.

Implications: Educated customers may have a greater appreciation for the innovative and efficient aspects of the business model, recognizing the brand's efforts to enhance service quality. This underscores the importance of communicating the benefits of business model innovations clearly and effectively to educated customers who value these aspects (Fahira & Djamaludin, 2023; Tran, Nguyen, & Le, 2021).

4) Income Level

Findings: While income level did not show significant differences in brand loyalty and trust, understanding the spending patterns and expectations of different income groups can still be beneficial.

Implications: Customers with higher incomes might have higher expectations for service quality and innovation, while those with lower incomes might prioritize value for money. Catering to these different expectations through targeted innovations can help in building a diverse and loyal customer base (Arslan & Öz, 2017; Lau & Lee, 1999).

5) Marital Status

Findings: Married individuals showed higher brand loyalty and trust compared to unmarried individuals.

Implications: This might be due to the fact that married customers often seek reliable and trustworthy brands for their family needs. They may value stability and consistency more than novelty, emphasizing the need for brands to balance innovation with reliability (Gürbüz, 2013; Anand et al., 2016).

6) Frequency of Visits

Findings: Customers who frequently visit hot springs showed higher brand trust and loyalty.

Implications: Regular visitors are more likely to notice and appreciate continuous improvements and innovations in service delivery. This highlights the importance of maintaining high standards of service and continuously innovating to keep regular customers engaged and satisfied (Ellonen, Tarkiainen, & Kuivalainen, 2010; Atulkar, 2020).

5.2.1.3 Conclusion

The detailed interpretation of the findings highlights the critical role that both novelty and efficiency-based business model innovations play in shaping brand trust and loyalty. Additionally, demographic variables significantly influence these relationships, underscoring the need for tailored strategies to cater to diverse customer segments. By understanding and leveraging these insights, businesses in the hot spring tourism industry can enhance customer satisfaction, trust, and loyalty, ultimately leading to sustained growth and success.

5.2.2 Comparison with Existing Literature

How the Findings Align with or Differ from Existing Research

The findings of this study offer both confirmations and new insights when compared to existing literature on business model innovation, brand trust, and brand loyalty.

1) Alignment with Existing Research

Business Model Innovation and Brand Loyalty: Consistent with the works of Chesbrough and Rosenbloom (2002) and Amit and Zott (2012), this study confirms that business model innovation significantly enhances brand loyalty. The positive impact of both novelty-based and efficiency-based innovations aligns with previous findings that innovation is crucial for maintaining competitive advantage and customer retention (Johnson, Christensen, & Kagermann, 2008). The introduction of unique services and improvements in operational efficiency were shown to contribute positively to customer loyalty, as customers are more likely to stay loyal to brands that

continually meet and exceed their expectations.

Brand Trust as a Mediator: The study's findings on the mediating role of brand trust align with the propositions by Morgan and Hunt (1994), who emphasized the importance of trust in relationship marketing. Similar to the findings by Delgado-Ballester and Munuera-Alemán (2005), this study demonstrates that brand trust significantly mediates the relationship between business model innovation and brand loyalty. This underscores the critical role of trust in converting innovative business practices into loyal customer relationships.

2) Differences from Existing Research

Demographic Influences: While many studies have examined the general impact of business model innovation on brand outcomes (Zott & Amit, 2010; Teece, 2010), fewer have delved into how demographic variables influence these relationships. This study highlights significant differences based on gender, age, educational background, and marital status, suggesting that demographic factors can shape how customers perceive and respond to business model innovations. For example, the finding that older customers and those with higher educational backgrounds show higher levels of brand trust and loyalty contrasts with some studies that suggest younger, tech-savvy customers are more responsive to innovation (Yoo & Lee, 2011). This suggests that in the context of hot spring tourism, traditional values like reliability and quality might be more valued by older and more educated demographics.

Specific Context of Hot Spring Tourism: The context-specific insights into Guizhou's hot spring tourism industry provide new perspectives that are less explored in existing literature. The high loyalty and trust associated with frequent visitors and specific hot spring experiences suggest that in niche markets like hot spring tourism, repeated positive experiences and targeted innovations can significantly bolster brand loyalty. This is a divergence from more generalized studies that do not account for the unique characteristics of niche markets (Lindgreen, Hingley, & Grant, 2012).

5.2.3 Theoretical Implications of the Study

This study is determined to study the relationship between different business model innovation, brand trust and brand loyalty in Guizhou hot Spring related industries, and can bring some new enlightenment to the improvement of brand loyalty

of different industries to users through this study. Through the feedback of tourism customers in the actual experience process, research. In the Internet era, the business model is constantly changing and innovation on the trust and loyalty of the industry and different brands. To enlighten the business model transformation of the business model under the updated and iterative business model, improve the experience of customers through different forms of innovation, and promote the loyalty of different users to the brand, which has achieved commercial success. Customers and brands are closely related, and how to improve the relationship between customers and brands has become an important direction of exploration at present. Therefore, this paper discusses the knowledge of learning and developing sustainable relationship between customers and brands in the digital era combined with related industries in Guizhou.

Through empirical analysis, it is confirmed that both novel business model and innovative business model have a significant positive impact on brand trust and brand loyalty. Moreover, the novel business model can not only directly affect brand loyalty, but also indirectly affect brand loyalty through brand trust. It shows that novel business model and innovative business model are important influencing factors to enhance customer brand trust and loyalty, and brand trust is also an important influencing factor of brand loyalty. Therefore, it points out different ideas for businesses in different industries to enhance customer loyalty to the brand, which not only need to improve the superficial loyalty, but also need to improve through the innovation of business model.

5.2.3.1 Extending the Business Model Innovation Theory

In previous studies, business model innovation is often regarded as a homogeneous structure, but this study selects novelty innovation and efficiency-based innovation in business model to provide a more nuanced understanding. Usually provides empirical evidence on how different types of innovation (especially novelty-based and efficiency-based innovation) affect brand trust and loyalty. It demonstrates that different innovation strategies can have different effects on customer perception and behavior, enriching the theoretical framework of business model innovation (Martinez-Roman, Tamayo, Gamero, & Romero, 2015; Souto, 2015).

5.2.3.2 Integration of Trust and Loyalty in Innovation Studies

By integrating brand trust and loyalty into the study of business model innovations, this research bridges gaps in the existing literature that often treats these constructs separately. The findings suggest that trust is a crucial mediator that transforms innovative practices into loyal customer bases. This integration offers a more comprehensive theoretical model applicable to various industries beyond hot spring tourism. It underscores the importance of fostering trust through innovation to achieve sustained brand loyalty (Kraus et al., 2022; Delgado-Ballester & Munuera-Alemán, 2001).

5.2.3.3 Demographic Considerations in Business Model Innovation

The significant role of demographic variables in shaping the impact of business model innovations highlights the need for more personalized and segmented approaches in innovation strategies. This theoretical implication suggests that future research should robustly consider demographic factors when examining the effects of innovation on brand outcomes. It points to the potential for developing tailored business models that cater to specific demographic groups, thereby enhancing the relevance and effectiveness of innovation strategies (Vacas de Carvalho, Azar, & Machado, 2020; Cheunkamon, Jomnonkwao, & Ratanavaraha, 2021).

5.2.3.4 Contextualizing Business Model Innovation

The study's focus on the hot spring tourism industry provides contextual insights that contribute to the broader understanding of how business model innovations operate in specific industries. The findings suggest that industry-specific factors, such as the type of service and customer expectations, play a critical role in determining the success of innovation strategies. This implies that theoretical models of business model innovation should account for industry contexts to provide more accurate and applicable insights (Arcese, Valeri, Poconi, & Elmo, 2020; Ambrož & Omerzel, 2017).

The comparison with existing literature reveals that while the study's findings largely align with established theories on business model innovation, brand trust, and loyalty, they also offer new insights, particularly regarding the influence of demographic variables and the specific context of hot spring tourism. The theoretical implications underscore the importance of differentiating between types of innovations, integrating trust and loyalty into innovation studies, considering demographic factors,

and contextualizing business model innovation strategies. These contributions enhance the theoretical understanding and provide practical guidelines for effectively leveraging business model innovations to build strong, loyal customer relationships.

5.2.4 Practical Implications

5.2.4.1 Implications for Managers and Practitioners in the Hot Spring Tourism Industry

The findings of this study offer several practical implications for managers and practitioners in the hot spring tourism industry. Understanding how business model innovations can enhance brand trust and loyalty is crucial for sustaining competitive advantage and fostering long-term customer relationships.

1) Leveraging Novelty-Based Innovations

Introduction of Unique Services: Managers should focus on introducing unique and innovative services that differentiate their offerings from competitors. For example, integrating wellness programs, personalized spa treatments, or unique cultural experiences can create a novelty factor that attracts and retains customers. The study found that novelty-based innovations significantly enhance brand loyalty, indicating that customers value fresh and unique experiences (Souto, 2015; Ambrož & Omerzel, 2017).

Seasonal and Thematic Packages: Developing seasonal or thematic packages can also enhance the novelty aspect of the business model. For instance, offering special winter packages that combine hot spring experiences with winter sports or festive celebrations can attract new customers and encourage repeat visits (Presenza, Petruzzelli, & Natalicchio, 2019).

2) Enhancing Efficiency-Based Innovations

Operational Efficiency: Improving operational efficiency through the adoption of advanced technologies and streamlined processes can significantly impact customer satisfaction and loyalty. Managers should invest in state-of-the-art facilities, efficient booking systems, and seamless service delivery to ensure a hassle-free and enjoyable experience for customers (Martínez-Román et al., 2015; Genç, 2020).

Customer Feedback Systems: Implementing robust customer feedback systems can help managers identify areas for improvement and enhance service efficiency.

Regularly collecting and analyzing customer feedback allows for timely adjustments and ensures that services meet or exceed customer expectations (Del Vecchio et al., 2021).

3) Building and Sustaining Brand Trust

Transparency and Reliability: Building brand trust requires transparency and reliability in all business operations. Managers should ensure that marketing messages are honest and accurately reflect the services provided. Delivering consistent quality and reliable services helps build trust over time (Carlisle et al., 2013; Souto, 2015).

Customer Engagement: Engaging customers by personalized communication and loyalty programs can strengthen trust. Managers should consider implementing loyalty programs that reward repeat customers with exclusive offers, discounts, or VIP experiences. Personalized communication, such as sending birthday greetings or special offers based on previous visits, can also enhance the customer's emotional connection with the brand (Arcese et al., 2020).

4) Targeting Specific Demographic Groups

Customized Marketing Strategies: The study highlights the significant role of demographic variables in shaping customer perceptions and behaviors. Managers should develop customized marketing strategies that cater to specific demographic groups. For example, targeting older customers with wellness and relaxation packages, while offering adventure and experience-based packages to younger customers (Vacas et al., 2020; Cheunkamon et al., 2021).

Educational Workshops and Events: Offering educational workshops or events that appeal to different demographic groups can also enhance customer engagement. For instance, organizing health and wellness workshops for older customers or cultural and adventure events for younger audiences can create additional value and attract diverse customer segments (Kraus et al., 2022; Andrianto, Koseoglu, & King, 2021).

The practical implications outlined provide actionable insights for managers and practitioners in the hot spring tourism industry. By leveraging both novelty and efficiency-based innovations, building and sustaining brand trust, and targeting specific demographic groups, businesses can enhance customer satisfaction, trust, and loyalty. These strategies are essential for maintaining a competitive edge and fostering

long-term success in the dynamic tourism market.

5.2.4.2 Recommendations for Enhancing Brand Trust and Loyalty through Business Model Innovations

Based on the study's findings, several recommendations can be made to enhance brand trust and loyalty through effective business model innovations:

1) Focus on Continuous Innovation

Regular Updates and Improvements: To maintain customer interest and loyalty, it is essential to regularly update and improve services. Introducing new features, amenities, and experiences on a regular basis can keep the brand fresh and appealing. Continuous innovation can significantly enhance customer loyalty by offering new value propositions (Kantorová, Mlázovsky, & Svoboda, 2023; Yang & Tan, 2017).

Innovation Hubs: Establishing innovation hubs within the organization can foster a culture of continuous improvement and creativity. These hubs can be dedicated to exploring new ideas, testing innovative concepts, and implementing successful innovations across the business (Lemy, Goh, & Ferry, 2019).

2) Enhance Customer Experience through Personalization

Personalized Services: Offering personalized services based on customer preferences and past behaviors can significantly enhance the customer experience. Using customer data to tailor services and provide customized recommendations can increase customer satisfaction and loyalty (Tran et al., 2023; Nguyen & Tran, 2018).

Advanced Analytics: Leveraging advanced analytics and customer relationship management (CRM) systems can help in understanding customer preferences and behaviors. This data-driven approach can inform personalized marketing campaigns and service enhancements (Xuan, Truong, & Quang, 2023).

3) Strengthen Brand Communication and Positioning

Clear and Consistent Messaging: Clear and consistent brand messaging that communicates the unique value proposition and benefits of the services can enhance brand trust. Ensuring that all communication channels, including website, social media, and advertising, consistently reflect the brand's core values and promises is crucial (Spieth et al., 2019).

Brand Storytelling: Using storytelling techniques to convey the brand's history,

mission, and values can create a deeper emotional connection with customers. Sharing stories of satisfied customers, successful events, or community involvement can strengthen brand trust and loyalty (Harrigan et al., 2017).

4) Invest in Employee Training and Development

Employee Empowerment: Empowering employees through training and development programs ensures that they are equipped to deliver exceptional customer service. Employees who understand the brand values and are committed to providing high-quality service can significantly enhance customer trust and loyalty (Yang & Tan, 2017).

Customer-Centric Culture: Fostering a customer-centric culture within the organization where employees are encouraged to go above and beyond for customers can create memorable experiences and strengthen brand loyalty (Lemy, Goh, & Ferry, 2019).

5) Monitor and Adapt to Market Trends

Stay Ahead of Trends: Keeping abreast of market trends and customer preferences allows for timely adaptations and innovations. Regular market research and customer surveys can provide valuable insights into emerging trends and changing customer needs (Bolila & Kyrychenko, 2021).

Agility and Flexibility: Developing an agile and flexible business model that can quickly adapt to new trends and customer feedback ensures that the brand remains relevant and competitive (Carace, 2020).

By implementing these practical recommendations, managers and practitioners in the hot spring tourism industry can effectively enhance brand trust and loyalty through strategic business model innovations. These efforts will not only attract new customers but also foster long-term relationships with existing customers, ensuring sustained growth and success in the competitive tourism market.

5.3 Limitations of the Study

5.3.1 Discussion of the Study's Limitations

Despite the valuable insights and significant findings obtained from this research,

there are several limitations that should be acknowledged. These limitations may impact the generalizability and interpretation of the results and should be considered when applying the findings to broader contexts or future research.

5.3.1.1 Sample Size and Generalizability

1) Limited Sample Size

Sample Representativeness: The study's sample size, although adequate for the purposes of this research, may not be sufficiently large to represent the entire population of tourists visiting hot spring hotels in Guizhou or other regions. A sample size of 225 respondents, while providing a solid foundation for statistical analysis, may limit the generalizability of the findings to a wider population. Small sample sizes can threaten the validity and reliability of research findings, particularly in diverse fields such as tourism (Vasileiou et al., 2018; Delice, 2010).

Diverse Tourist Profiles: Hot spring tourism attracts a diverse range of tourists with varying preferences, behaviors, and backgrounds. The sample may not fully capture this diversity, potentially leading to an incomplete understanding of the broader tourist population. This can be a limitation as it may not reflect the variety of perspectives and experiences present among all visitors (Guest, Namey, & McKenna, 2017).

2) Regional Focus

Geographical Limitation: The study focuses specifically on hot spring hotels in Guizhou, which may have unique characteristics not found in other regions. Consequently, the findings may not be directly applicable to hot spring tourism in other geographic areas, which might have different cultural, economic, or environmental factors influencing tourist behavior. Regional specificity can limit the applicability of results to other contexts, as local conditions and tourist demographics can vary widely (Stoddard & Clopton, 2012; Griffith, 2013).

3) Conclusion

While the study provides valuable insights into the relationship between business model innovations and brand trust and loyalty, these limitations highlight the need for cautious interpretation and application of the findings. Future research should consider larger and more diverse samples, as well as broader geographic contexts, to enhance

the generalizability and robustness of the results.

5.3.1.2 Potential Biases in Data Collection

1) Self-Reported Data

Response Bias: The study relies on self-reported data collected through questionnaires. Respondents may provide socially desirable answers or may not accurately recall their experiences and perceptions, leading to response bias. This can affect the accuracy and reliability of the data collected. Response bias is a common issue in self-reported data, as participants might overstate or understate their true opinions and behaviors to align with perceived social norms (Stone & Shiffman, 2002; Braver & Bay, 1992).

Non-Response Bias: Although the response rate was high, with a 100% response rate from distributed questionnaires, there is still a possibility of non-response bias. Tourists who chose not to participate may have different characteristics or opinions compared to those who responded, potentially skewing the results. Non-response bias occurs when the views of non-respondents differ from those of respondents, which can distort the study's findings (Emerson, 2021).

2) Sampling Method

Convenience Sampling: The study employed convenience sampling to distribute and collect questionnaires. This non-probability sampling method may introduce selection bias, as the sample may not be entirely representative of the target population. The findings might be more reflective of the specific group of tourists accessible at the time of data collection rather than the broader tourist population. Convenience sampling can limit the generalizability of the study due to its inherent biases in sample selection (Marshall, 1996; Emerson, 2021).

5.3.1.3 Limitations of the Chosen Analytical Methods

1) Reliance on Quantitative Analysis

Lack of Qualitative Insights: The study predominantly utilizes quantitative methods, including statistical analysis through SPSS and AMOS software. While these methods provide robust and objective data analysis, they may overlook qualitative aspects such as personal experiences, motivations, and deeper insights into tourist behavior. Incorporating qualitative methods, such as interviews or focus groups, could

enrich the understanding of the phenomena studied. Quantitative analysis alone might miss nuanced information that qualitative methods can uncover (Robinson, 2014; Stone & Shiffman, 2002).

2) Complexity of Structural Equation Modeling (SEM)

Model Specification and Assumptions: The use of structural equation modeling (SEM) involves specifying complex relationships between variables and making certain assumptions about the data. Mis-specification of the model or violations of these assumptions can affect the validity of the results. Additionally, SEM requires a large sample size to ensure reliable and stable estimates, which may be a constraint given the sample size of this study. The complexity and assumption sensitivity of SEM can lead to potential issues in model accuracy and interpretability (Lash et al., 2014).

Potential Overfitting: There is a risk of overfitting the model to the sample data, which may reduce the model's generalizability to other populations. Overfitting occurs when the model is too complex and fits the random noise in the sample data rather than capturing the true underlying relationships. Overfitting can undermine the predictive power and generalizability of the model (Lash et al., 2014).

3) Conclusion

While the study provides valuable insights into the relationship between business model innovations and brand trust and loyalty, these limitations highlight the need for cautious interpretation and application of the findings. Future research should consider larger and more diverse samples, as well as broader geographic contexts, to enhance the generalizability and robustness of the results.

5.3.2 Future Research Directions

Given the limitations of the current study, future research should aim to address these issues to enhance the robustness and applicability of the findings. Some recommendations for future studies include:

1) Expanding Sample Size and Diversity

Conducting Studies with Larger and More Diverse Samples: Future research should involve larger and more diverse samples that include tourists from various regions and backgrounds to improve the generalizability of the findings. Employing random sampling techniques can also help mitigate selection bias. Expanding the

sample size will ensure a more comprehensive representation of the tourist population and increase the reliability of the results (Sandelowski, 1995; Williams, 1985).

2) Incorporating Qualitative Methods

Complementing Quantitative Analysis with Qualitative Methods: Incorporating qualitative methods, such as interviews, focus groups, or ethnographic studies, can provide deeper insights into tourist behaviors, preferences, and experiences. This mixed-methods approach can offer a more comprehensive understanding of the factors influencing brand trust and loyalty. Qualitative methods can capture the nuanced and subjective aspects of tourist experiences that quantitative methods might overlook (Malterud, Siersma, & Guassora, 2016; Robinson, 2014).

3) Exploring Longitudinal Studies

Conducting Longitudinal Studies: Longitudinal studies that track changes in tourist behavior and perceptions over time can provide valuable insights into the dynamics of brand trust and loyalty. This approach can help identify trends, causal relationships, and long-term effects of business model innovations. Longitudinal research can reveal how tourist attitudes evolve and how sustained innovations impact brand loyalty over time (Aschauer & Egger, 2023; Khoshkhoo & Nadalipour, 2016).

4) Comparative Studies Across Regions

Conducting Comparative Studies: Comparative studies that examine hot spring tourism in different geographic regions can help identify unique factors and generalizable patterns. This can enhance the applicability of the findings to a broader context and provide a more holistic understanding of the industry. Understanding regional differences can guide tailored strategies for different markets (Dolnicar, Grün, & Leisch, 2014; Teeroovengadum & Nunkoo, 2018).

By addressing these limitations and pursuing these future research directions, the understanding of the impact of business model innovations on brand trust and loyalty in the hot spring tourism industry can be further refined and strengthened. Implementing these recommendations will not only improve the robustness of future studies but also provide richer, more actionable insights for industry practitioners.

5.4 Recommendations for Future Research

5.4.1 Suggestions for Future Research Directions

5.4.1.1 Further Exploration of Business Model Innovations in Different Contexts

Sector-Specific Studies: Future research should explore how business model innovations influence brand trust and loyalty in different sectors of the tourism industry, such as eco-tourism, adventure tourism, and cultural tourism. Understanding sector-specific dynamics can provide valuable insights into tailored business strategies. Research in diverse tourism sectors can uncover unique factors that drive innovation effectiveness (Hjalager, 2010; Martínez-Román et al., 2015).

Comparative Analysis: Conduct comparative studies between the hot spring tourism sector and other tourism sectors, such as beach resorts or mountain retreats. This can help identify unique factors influencing business model effectiveness and offer a broader perspective on best practices. Comparative studies can highlight sector-specific challenges and strategies (Souto, 2015; Arcese et al., 2020).

Cross-Cultural Studies: Examine how cultural differences impact the effectiveness of novelty-based and efficiency-based business model innovations. Cross-cultural studies can reveal how cultural values and norms shape consumer perceptions and behaviors, leading to more culturally nuanced business strategies (Hjalager, 2010; Pikkemaat, Peters, & Bichler, 2019).

5.4.1.2 Longitudinal Studies to Assess Changes Over Time

Tracking Evolution of Business Models: Conduct longitudinal studies that track the evolution of business model innovations and their impact on brand trust and loyalty over extended periods. This can provide insights into the sustainability and long-term effectiveness of different business model strategies. Longitudinal research helps capture dynamic changes in consumer behavior and market conditions (Aschauer & Egger, 2023).

Assessing Market Trends: Longitudinal research can help in understanding how market trends, economic conditions, and consumer preferences change over time. This dynamic perspective can inform adaptive strategies that remain relevant in evolving

market conditions. Continuous monitoring of trends allows for proactive adjustments to business models (Dolnicar, Grün, & Leisch, 2014).

Behavioral Changes in Tourists: Study how tourists' attitudes, preferences, and behaviors evolve with repeated exposure to business model innovations. Long-term studies can capture shifts in consumer loyalty and trust, providing a more comprehensive understanding of brand dynamics (Khoshkhoo & Nadalipour, 2016).

5.4.1.3 Expanding the Study to Include More Diverse Samples

Larger Sample Sizes: Future studies should aim to include larger sample sizes to enhance the generalizability of the findings. Larger datasets can provide more robust statistical power and more reliable insights. Expanding sample size helps in capturing a more accurate picture of the target population (Vasileiou et al., 2018).

Demographic Diversity: Ensure that the sample includes a diverse range of demographics, including age, gender, income levels, education, and cultural backgrounds. This diversity can uncover varied consumer responses to business model innovations and enhance the applicability of the findings across different population segments. Diverse samples ensure that findings are more representative and inclusive (Guest, Namey, & McKenna, 2017).

Geographic Diversity: Expand the geographic scope of the study to include hot spring destinations from different regions and countries. This can help identify regional variations and provide a global perspective on business model innovation effectiveness. Geographic diversity enhances the external validity of the study by covering multiple market contexts (Stoddard & Clopton, 2012).

By addressing these limitations and pursuing these future research directions, the understanding of the impact of business model innovations on brand trust and loyalty in the hot spring tourism industry can be further refined and strengthened. Implementing these recommendations will not only improve the robustness of future studies but also provide richer, more actionable insights for industry practitioners.

5.4.2 Specific Areas for Further Investigation

5.4.2.1 Impact of Technological Advancements

Digital Business Models: Investigate how digital business model innovations, such as online booking platforms, virtual tours, and mobile apps, influence brand trust

and loyalty in the tourism industry. Assess the role of technology in enhancing customer experiences and driving brand loyalty. Technological innovations have significantly transformed tourism by enhancing accessibility, convenience, and customer engagement (Li et al., 2022; Vangiel, 2021).

Data Analytics and Personalization: Explore how data analytics and personalized marketing strategies impact consumer trust and loyalty. Examine the effectiveness of tailored experiences and targeted communication in building strong brand relationships. Personalized services driven by data analytics can significantly enhance customer satisfaction and loyalty (Panyadee et al., 2023; Robina-Ramírez et al., 2023).

5.4.2.2 Sustainability and Corporate Social Responsibility (CSR)

Sustainable Business Practices: Study the impact of sustainability-focused business model innovations on brand trust and loyalty. Assess how eco-friendly practices, green certifications, and CSR initiatives influence consumer perceptions and loyalty in the hot spring tourism sector. Sustainable practices are increasingly valued by consumers and can enhance brand loyalty (Kazancoglu et al., 2021; Ojha, 2022).

Social Impact: Examine the role of social responsibility initiatives in shaping brand loyalty. Investigate how community engagement, ethical practices, and contributions to local development affect consumer trust and brand perception. CSR initiatives can build stronger emotional connections with consumers and improve brand loyalty (Gelbman, 2020).

5.4.2.3 Consumer Psychology and Behavior

Psychological Drivers of Loyalty: Investigate the psychological factors that drive brand loyalty in the context of business model innovations. Explore concepts such as emotional attachment, perceived value, and cognitive dissonance in relation to brand trust and loyalty. Understanding psychological drivers can inform more effective marketing strategies (Hjalager, 2010; Hsu et al., 2017).

Behavioral Economics: Apply principles of behavioral economics to understand consumer decision-making processes. Study how cognitive biases, heuristics, and social influences impact responses to business model innovations. Behavioral insights can help in designing interventions that nudge consumers towards desired behaviors (Kim & Wang, 2019).

5.4.2.4 Innovation Management

Innovation Processes and Capabilities: Examine the internal processes and capabilities that enable successful business model innovations. Study how organizational culture, leadership, and innovation management practices contribute to the development and implementation of effective business models. Effective innovation management is crucial for sustaining competitive advantage (Almrshed et al., 2023;Esen et al., 2023).

Collaborative Innovation: Explore the role of collaboration and partnerships in driving business model innovations. Assess how joint ventures, alliances, and co-creation initiatives influence brand trust and loyalty in the tourism industry. Collaborative innovation can enhance resource sharing and create synergies that benefit all stakeholders (Gregurec et al., 2021).

By pursuing these future research directions, scholars and practitioners can gain a deeper and more nuanced understanding of the complexities involved in business model innovations and their impact on brand trust and loyalty. Expanding the scope, employing diverse methodologies, and exploring new dimensions will contribute to a richer body of knowledge and provide actionable insights for enhancing business strategies in the hot spring tourism sector and beyond.

5.5 Conclusion

5.5.1 Final Thoughts on the Study's Contribution to the Field

This study makes a significant contribution to the understanding of how business model innovations impact brand trust and loyalty within the hot spring tourism sector. By meticulously analyzing the roles of novelty-based and efficiency-based business model innovations, this research bridges a crucial gap in the literature, offering both theoretical and practical insights that are vital for academics and industry practitioners alike. The study highlights the importance of innovation in maintaining competitive advantage and fostering strong, trust-based relationships with customers.

From a theoretical standpoint, the findings extend the existing body of knowledge

on business model innovation and brand management. By integrating constructs such as novelty-based and efficiency-based business model innovations with brand trust and loyalty, this study provides a comprehensive framework that captures the dynamic interplay between these variables. The validation of the mediating role of brand trust enriches the theoretical discourse, offering a nuanced understanding of how innovations can indirectly influence brand loyalty through trust (Spieth et al., 2019; Xu, Jung, & Han, 2022).

5.5.2 Theoretical Implications

5.5.2.1 Extending Business Model Innovation Theory

This study contributes to the literature by distinguishing between novelty-based and efficiency-based innovations and their distinct impacts on brand trust and loyalty. It emphasizes that different types of innovations have varied effects on consumer perceptions and behaviors, thus enriching the theoretical framework of business model innovation (Yi, Khan, & Safeer, 2022).

5.5.2.2 Integration of Trust and Loyalty

The integration of brand trust and loyalty into the analysis of business model innovations highlights the mediating role of trust in converting innovative practices into loyal customer bases. This integrated approach provides a more holistic understanding of the mechanisms through which business model innovations influence brand loyalty (Dehdashti, Kenari, & Bakhshizadeh, 2012).

5.5.3 Practical Implications

5.5.3.1 Enhancing Customer Engagement

The findings underscore the importance of continuous innovation in enhancing customer engagement and loyalty. Practical recommendations for industry practitioners include focusing on personalized and efficient service delivery, leveraging digital technologies, and fostering a culture of continuous improvement (Manaf et al., 2021; Huo et al., 2021).

5.5.3.2 Sustainability and CSR

Incorporating sustainable practices and CSR initiatives can significantly enhance brand trust and loyalty. These practices not only meet the growing consumer demand for eco-friendly and socially responsible tourism but also build a positive brand image

and foster long-term customer loyalty (Kazancoglu et al., 2021; Gelbman, 2020).

5.5.4 Conclusion

The study provides valuable insights into the role of business model innovations in shaping brand trust and loyalty in the hot spring tourism industry. By highlighting the theoretical and practical implications of novelty-based and efficiency-based innovations, the research offers actionable strategies for enhancing competitive advantage and building strong customer relationships. Future research should continue to explore these dynamics in diverse contexts and with larger, more diverse samples to further validate and expand upon these findings.

5.5.5 Summary of the Overall Impact of the Research Findings on Theory and Practice

5.5.5.1 Theoretical Contributions

Integration of Constructs: This study successfully integrates multiple constructs—novelty-based business model innovation, efficiency-based business model innovation, brand trust, and brand loyalty—into a cohesive framework. This integration not only validates the individual importance of each construct but also highlights their interdependencies.

Validation of Mediation Effects: By empirically validating the mediating role of brand trust, the study provides robust evidence of the pathways through which business model innovations influence brand loyalty. This adds a new dimension to the theoretical understanding of brand management, emphasizing the critical role of trust in the innovation-loyalty linkage.

Novel Insights on Demographic Influences: The study's detailed analysis of demographic variables offers novel insights into how different consumer segments perceive and respond to business model innovations. This contributes to the literature by demonstrating the importance of considering demographic factors in theoretical models of brand trust and loyalty.

5.5.5.2 Practical Contributions

Strategic Framework for Managers: The findings provide a strategic framework for managers in the hot spring tourism industry to enhance brand trust and loyalty through targeted business model innovations. By understanding the distinct impacts of

novelty-based and efficiency-based innovations, managers can tailor their strategies to meet specific business objectives and customer needs.

Guidance for Implementation: Practical recommendations derived from the study offer clear guidance on implementing business model innovations. This includes insights into optimizing service delivery, leveraging technological advancements, and fostering a culture of innovation within organizations.

Policy Implications: The research findings have implications for policymakers and industry regulators who aim to promote sustainable and competitive tourism sectors. By highlighting the role of business model innovations in driving industry growth, the study supports the development of policies that encourage innovation and enhance market dynamics.

5.5.5.3 Impact on Industry Practices

Enhancing Customer Experience: By focusing on business model innovations, the study underscores the importance of continuously evolving service offerings to enhance customer experiences. This is particularly relevant in the competitive landscape of the hot spring tourism industry, where differentiation through innovation is key.

Building Long-Term Relationships: The validated role of brand trust as a mediator emphasizes the need for businesses to invest in trust-building measures. This includes transparent communication, consistent quality, and customer-centric policies that foster long-term loyalty.

Adapting to Market Trends: The research equips industry practitioners with the knowledge to adapt to market trends and consumer preferences. By understanding how different innovations resonate with various demographic groups, businesses can align their strategies with emerging market dynamics and customer expectations.

In conclusion, this study provides a comprehensive analysis of the interplay between business model innovations, brand trust, and brand loyalty in the hot spring tourism sector. The research not only advances theoretical understanding but also offers practical strategies for enhancing customer relationships and sustaining competitive advantage. By highlighting the critical role of innovation and trust, the study sets a foundation for future research and industry practices aimed at fostering

robust, loyal customer bases. The contributions of this study are expected to have lasting impacts, guiding both scholarly inquiry and practical applications in the realm of business model innovation and brand management.



References

- Aaker, D. A. (1991). *Managing brand equity. Capitalizing on the Value of a Brand Name*. New York: The Free Press.
- Abraham, S., Mir, B. A., Suhara, H., Mohamed, F., & Sato, M. (2019). Structural equation modeling and confirmatory factor analysis of social media use and education. *International Journal of Educational Technology in Higher Education*, 16, 1-25.
- Afthanorhan, A., Awang, Z., & Aimran, N. (2020). An extensive comparison of CB-SEM and PLS-SEM for reliability and validity. *International Journal of Data and Network Science*, 4 (2020), 357–364.
- Algesheimer, R., Dholakia, U. M., & Herrmann, A. (2005). The social influence of brand community: Evidence from European car clubs. *Journal of Marketing*, 69(3), 19-34.
- Almeida Santana, A. (2019). Cooperation and Competition Among Regions: The Umbrella Brand as a Tool for Tourism Competitiveness. *Geopolitics and Strategic Management in the Global Economy*, Chapter 16, (pages 315-336).
- Almrshed, S. K. H., Zuzana Tuckova, H. M. J., & Hassan, A. S. (2023). The Effect of Innovation Management on Sustainable Competitive Advantage in Contemporary Organizations. *Journal of Law and Sustainable Development*, 11(11), e1980-e1980.
- Ambrož, R., & Omerzel, D. G. (2017). Business Model Innovation in Tourism: How to Survive in Highly Competitive Environments. *Journal of Tourism Management*, 10, 175-183.
- Amit, R., & Zott, C. (2012). Creating Value Through Business Model Innovation. *MIT Sloan Management Review*, 53(3), 41-49.
- Anand, V., Renganathan, R., Balachandran, S., Suganth, L. T. J., Sravanthi, C., & Kumarappan, R. (2016). Brand Loyalty A Study with Special Reference to Coca Cola in Rural Areas. *Indian Journal of Science and Technology*, 9(27).

References(Cont.)

- Anastassova, L. (2011). Tourist loyalty and destination brand image perception: the case of Sunny beach resort, Bulgaria. *European Journal of Tourism Research*, 4(2),191-204.
- Andaleeb, S.S., & Conway, C. (2006). Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Services Marketing*, 20(1), 3-11.
- Anderson, J. C., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Andrianto, T., Koseoglu, M., & King, B. (2021). A business model innovation process for tourism: findings from a literature review. *Tourism Recreation Research*, 47, 583-590.
- Arcese, G., Valeri, M., Poponi, S., & Elmo, G. (2020). Innovative drivers for family business models in tourism. *Journal of Family Business Management*, 11(4), 402-422. Doi:10.1108/JFBM-05-2020-0043.
- Aschauer, W., & Egger, R. (2023). Transformations in tourism following COVID-19? A longitudinal study on the perceptions of tourists. *Journal of Tourism Futures*.
- Atulkar, S. (2020). Brand trust and brand loyalty in mall shoppers. *Marketing Intelligence & Planning*, 38(5), 559-572.
- Babyak, M., & Green, S. (2010). Confirmatory factor analysis: An introduction for psychosomatic medicine researchers. *Psychosomatic Medicine*, 72, 587-597.
- Baden-Fuller, C., & Haefliger, S. (2013). Business Models and Technological Innovation. *Long Range Planning*, 46(6), 419-426.
- Balboni, B., Bortoluzzi, G., Pugliese, R., & Tracogna, A. (2019). Business model evolution, contextual ambidexterity and the growth performance of high-tech start-ups. *Journal of Business Research*, 99, 115-124.

References(Cont.)

- Ball, D., Coelho, P. S., & Machás, A. (2004). The role of communication and trust in explaining customer loyalty: An extension to the ECSI model. *European Journal of Marketing*, 38(9/10), 1272-1293.
- Bemler, G., & Yuan, K.-H. (1999). On the misuse of manifest variables in the detection of measurement error in structural equation models. *Sociological Methodology*, 29, 193-240. Doi:10.1111/0081-1750.00059
- Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588-606.
- Besemer, S. P., & O'quin, K. (1999). Confirming the three-factor creative product analysis matrix model in an American sample. *Creativity Research Journal*, 12(4), 287-296. Doi:10.1207/S15326934CRJ1204_6.
- Birgin, O., & Yilmaz, M. (2023). Development and validation of a scale to assess the frequency of using classroom assessment tools and methods for mathematics teachers. *IJERI: International Journal of Educational Research and Innovation*, 20, 1-20.
- Bollen, K. A. (1986). Sample size and Bentler and Bonett's nonnormed fit index. *Psychometrika*, 51(3), 375-377.
- Brannon, D. L., & Wiklund, J. (2016). An Analysis of Business Models: Firm Characteristics, Innovation and Performance. *Academy of Entrepreneurship Journal*, 22, 1-20.
- Braver, S., & Bay, R. (1992). Assessing and compensating for self-selection bias (non-representativeness) of the family research sample. *Journal of Marriage and Family*, 54, 925.
- Brosseau-Liard, P. E., Savalei, V., & Li, L. (2012). An Investigation of the Sample Performance of Two Nonnormality Corrections for RMSEA. *Multivariate Behavioral Research*, 47(6), 904-930.

References(Cont.)

- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. *Sage Focus Editions*, 154, 136-136.
- Byrne, B. M. (2013a). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Psychology press.
- Byrne, B. M. (2013b). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.
- Campón, A.M., Alves, H., Hernández, J.M. (2013). Loyalty Measurement in Tourism: A Theoretical Reflection. In Á. Matias, P. Nijkamp, M. Sarmento (eds) *Quantitative Methods in Tourism Economics*. Physica, Heidelberg. Doi:10.1007/978-3-7908-2879-5_2.
- Carace, M. B. (2020). Brand Loyalty – The New Recommended Direction for Ride-Sharing Companies: The Case of Vietnam. *Journal of Advanced Management Science*, 8, 89-97.
- Carlisle, S., Kunc, M., Jones, E., & Tiffin, S. (2013). Supporting innovation for tourism development through multi-stakeholder approaches: Experiences from Africa. *Tourism Management*, 35, 59-69.
- Carmines, E. G., & McIver, J. P. (1981). *Analyzing models with unobserved variables: Analysis of covariance structures*. Social Measurement: Current Issues, Beverly Hills, CA: Sage Publications.
- Castro, C. B., Armario, E. M., & Ruiz, D. M. (2007). The influence of market heterogeneity on the relationship between a destination's image and tourists' future behaviour. *Tourism Management*, 28, 175-187.
- Chaudhuri, A., & Holbrook, M. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing*, 65, 81-93.
- Cheah, J. H., Sarstedt, M., & Ringle, C.M. (2013). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. *International journal of contemporary hospitality management*, 30(11), 3192-3210.

References(Cont.)

- Chen, C.-F., & Myagmarsuren, O. (2010). Exploring Relationships between Mongolian Destination Brand Equity, Satisfaction and Destination Loyalty. *Tourism Economics*, 16(4), 981-994.
- Chen, X. & Lee, G. (2021). How does brand legitimacy shapes brand authenticity and tourism destination loyalty: focus on cultural heritage tourism. *Global Business & Finance Review (GBFR)*, 26(1), 53-67.
- Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43(2-3), 354-363.
- Cheunkamon, E., Jomnonkwao, S., & Ratanavaraha, V. (2021). Impacts of tourist loyalty on service providers: Examining the role of the service quality of tourism supply chains, tourism logistics, commitment, satisfaction, and trust. *Journal of Quality Assurance in Hospitality & Tourism*, 23, 1397-1429.
- Cho, E., & Kim, S. (2015). Cronbach's Coefficient Alpha. *Organizational Research Methods*, 18, 207-230.
- Christensen, C. M. (1997). *The innovator's dilemma: when new technologies cause great firms to fail*. Harvard Business Review Press.
- Church, A. H. (2001). Is There A Method to Our Madness? The Impact of Data Collection Methodology on Organizational Survey Results. *Personnel Psychology*, 54, 937-969. Doi:10.1111/J.1744-6570.2001.TB00238.X.
- Clauss, T. (2017). Measuring Business Model Innovation: Conceptualization, Scale Development, and Proof of Performance. *R&D Management*, 47(3), 385-403.
- Cooper, D. R., & Schindler, P. S. (2011). *Business Research Methods* (11th ed.). New York:McGraw-Hill.
- Cucculelli, M., & Bettinelli, C. (2015). Business Model Innovation and Firm Performance: An Empirical Investigation. *European Management Review*, 12(3), 227-245.
- Cudeck, R., & Henly, S. J. (1991). Model selection in covariance structures analysis and the "problem" of sample size: A clarification. *Psychological Bulletin*, 109(3), 512-519. Doi:10.1037/0033-2909.109.3.512.

References(Cont.)

- Cutler, S. Q., Doherty, S., & Carmichael, B. (2018). The experience sampling method: examining its use and potential in tourist experience research. *Current Issues in Tourism*, 21, 1052-1074. Doi:10.1080/13683500.2015.1131670.
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, 173, 121092.
- Dehdashti, Z., Kenari, M., & Bakhshizadeh, A. (2012). The impact of social identity of brand on brand loyalty development. *Management Science Letters*, 2(2012) , 1425–1434.
- Delgado-Ballester, E., & Munuera-Alemán, J. (2001). Brand trust in the context of consumer loyalty. *European Journal of Marketing*, 35, 1238-1258.
- Delice, A. (2010). The Sampling Issues in Quantitative Research. *Kuram Ve Uygulamada Egitim Bilimleri*, 10, 2001-2018.
- Demil, B., & Lecocq, X. (2010). Business Model Evolution: In Search of Dynamic Consistency. *Long Range Planning*, 43(2-3), 227-246. Doi:10.1016/J.LRP.2010.02.004.
- Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113.
- Dolnicar, S., Grün, B., & Leisch, F. (2014). Required Sample Sizes for Data-Driven Market Segmentation Analyses in Tourism. *Journal of Travel Research*, 53, 296-306.
- Ekinci, Y., Sirakaya-Turk, E., & Preciado, S. (2013). Symbolic consumption of tourism destination brands. *Journal of Business Research*, 66(6), 711-718. Doi:10.1016/J.JBUSRES.2011.09.008.
- Ellonen, H.-K., Tarkiainen, A., & Kuivalainen, O. (2010). The effect of website usage and virtual community participation on brand relationships. *International Journal of Internet Marketing and Advertising*, 6(1), 85-105.

References(Cont.)

- Elsäßer, M., & Wirtz, B. (2017). Rational and emotional factors of customer satisfaction and brand loyalty in a business-to-business setting. *Journal of Business & Industrial Marketing*, 32(1), 138-152.
- Emerson, R. W. (2021). Convenience sampling revisited: Embracing its limitations through thoughtful study design. *Journal of Visual Impairment & Blindness*, 115, 76-77.
- Esen, S., Saygl, M., & Ate, A. (2023). Effects of innovation capabilities on organisational sustainability: evidence from an emerging economy. *Marketing and Management of Innovations*. Doi:10.21272/mmi.2023.2-07.
- Fahira, A., & Djamaludin, M. D. (2023). The influence of brand trust and satisfaction towards consumer loyalty of a local cosmetic products brand X among generation Z. *Journal of Consumer Sciences*, 8(1), 27-44.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7(3), 286-299. Doi:10.1037/1040-3590.7.3.286.
- French, B. W., & Finch, W. H. (2006). Confirmatory factor analytic procedures for the determination of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 13(3), 378-402. Doi:10.1207/s15328007sem1303_3.
- Frow, P., Nenonen, S., Payne, A., & Storbacka, K. (2015). Managing Co-creation Design: A Strategic Approach to Innovation. *British Journal of Management*, 26(3), 463-483.
- Gartner, W., & Konečnik Ruzzier, M. (2011). Tourism Destination Brand Equity Dimensions. *Journal of Travel Research*, 50(5), 471-481.
- Gelbman, A. (2020). Smart tourism cities and sustainability. *Geography Research Forum*, 40(1), 137-148.
- Genç, R. (2020). The Impact of Business Model Innovation on Sustainable Tourism. *Journal of Tourism and Hospitality*, 11(1), 1-9.

References(Cont.)

- Geng, L., Cui, X., Nazir, R., & An, N. B. (2022). How do CSR and perceived ethics enhance corporate reputation and product innovativeness? *Economic Research-Ekonomska Istraživanja*, 35, 5131-5149.
- Gómez-García, M., Matosas-López, L., & Ruiz-Palmero, J. (2020). Social Networks Use Patterns among University Youth: The Validity and Reliability of an Updated Measurement Instrument. *Sustainability*, 12(9), 3503.
- Goretzko, D., Heumann, C., & Bühner, M. (2020). Investigating Parallel Analysis in the Context of Missing Data: A Simulation Study Comparing Six Missing Data Methods. *Educational and Psychological Measurement*, 80(4), 756-774.
- Gregurec, I., Tomičić-Pupek, K., & Kutnjak, A. (2021). Disruption caused business transformations in tourism-related industries. *2021 IEEE Technology & Engineering Management Conference Europe (TEMSCON-EUR)*.
- Griffith, D. (2013). Establishing Qualitative Geographic Sample Size in the Presence of Spatial Autocorrelation. *Annals of the Association of American Geographers*, 103(5), 1107-1122.
- Grissemann, U. S., & Stokburger-Sauer, N. E. (2012). Customer co-creation of travel services: the role of company support and customer satisfaction with the co-creation performance. *Tourism Management*, 33, 1483-1492.
- Gronum, S., Steen, J., & Verreynne, M. (2016). Business model design and innovation: Unlocking the performance benefits of innovation. *Australian Journal of Management*, 41(4), 585-605.
- Guest, G., Namey, E., & McKenna, K. (2017). How Many Focus Groups Are Enough? Building an Evidence Base for Nonprobability Sample Sizes. *Field Methods*, 29(1), 22-38.
- Guizhou Provincial Tourism Bureau. (2018). *Guizhou Provincial Tourism Industry Plan*. Guiyang: Guizhou Provincial Government Publications.
- Guo, B., Pang, X., & Li, W. (2018). The role of top management team diversity in shaping the performance of business model innovation: a threshold effect. *Technology Analysis & Strategic Management*, 30(2), 241-253.

References(Cont.)

- Hair, J. F., Ringle, C. M. & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, 19, 139-151.
- Han, S.-L., & Sung, H.-S. (2008). Industrial brand value and relationship performance in business markets — A general structural equation model. *Industrial Marketing Management*, 37, 807-818.
- Harlanu, M., Suryanto, A., & Ramadhan, S. (2023). Construct validity of the instrument of digital skill literacy. *Jurnal Cakrawala Pendidikan*, 42(3), 781-790.
- Harrigan, P., Evers, U., Miles, M. P., & Daly, T. M. (2017). Customer engagement with tourism social media brands. *Tourism Management*, 59, 597-609.
- Hasan, R., Shams, R., & Rahman, M. (2021). Consumer trust and perceived risk for voice-controlled artificial intelligence: The case of Siri. *Journal of Business Research*, 131, 591-597.
- Hashim, S. F. b., Tajuddin, R. b. M., & Zainol, A. S. (2020). The innovative roles of community engagement as a moderator in consumer perspective model for malaysia-origin fashion brands' business sustainability. *International Journal of Industrial Management*, 6, 58-69.
- Haudi, H., Handayani, W., & Musnaini, M. (2020). The effect of social media marketing on brand trust, brand equity and brand loyalty. *International Journal of Data and Network Science*, 6(3), 961-972.
- Hayes, A., & Coutts, J. (2020). Use Omega Rather than Cronbach's Alpha for Estimating Reliability. But... *Communication Methods and Measures*, 14, 1-24.
- Heckathorn, D. (1997). Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems*, 44, 174-199.
- Herzog, W., Boomsma, A., & Reinecke, S. (2007). The model-size effect on traditional and modified tests of covariance structures. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(3), 361-390.

References(Cont.)

- Hidayanti, I., & Nuryakin, N. F. (2018). A study on brand commitment and brand trust towards brand loyalty of branded laptop in Indonesia. *Journal of Business and Retail Management Research*, 12(3), 146-153.
- Hilman, H., & Hanaysha, J. (2015). The Impact of Advertising on Relationship Quality: Empirical Evidence from Malaysia. *Research Journal of Applied Sciences, Engineering and Technology*, 10, 253-261.
- Hjalager, A. (2010). A review of innovation research in tourism. *Tourism Management*, 31, 1-12.
- Ho, Y., Kwon, O. Y., Park, S., Yoon, T., & Kim, Y.-E. (2017). Reliability and validity test of the Korean version of Noe's evaluation. *Korean Journal of Medical Education*, 29, 15-26.
- Hock, M., Clauss, T., & Schulz, E. (2016). The Impact of Organizational Culture on a Firm's Capability to Innovate the Business Model. *Innovation & Organizational Behavior eJournal*, 46(3), 433-450.
- Hoofs, H., van de Schoot, R., Jansen, N., & Kant, I. (2017). Evaluating model fit in Bayesian confirmatory factor analysis with large samples: Simulation study introducing the BRMSEA. *Educational and Psychological Measurement*, 78, 537-568.
- Hsu, A. Y., King, B., & Wang, D. (2017). Entrepreneurship in the contemporary tourism ecosystem: The case of incoming tour operators in Taiwan. *Information and Communication Technologies in Tourism 2017: Proceedings of the International Conference*. Rome:Springer International Publishing.
- Hu, B., & Chen, W. (2016). Business model ambidexterity and technological innovation performance: evidence from China. *Technology Analysis & Strategic Management*, 28, 583-600.
- Hu, B., Huang, W., Yan, S., Liu, G., & Zhang, T. (2020). Business Model Design and Customer Loyalty: The Mediating Role of Customer Citizenship Behavior. *Sustainability*, 12(17), 7047.

References(Cont.)

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Huang, C.-C. (2017). The impacts of brand experiences on brand loyalty: mediators of brand love and trust. *Management Decision*, 55(6), 915-934.
- Huang, L. (2004). Model evaluation: The use of the chi-square test. *Modeling and Data Analysis*, 2(1), 1-12.
- Huang, R., & Sarigöllü, E. (2014). How brand awareness relates to market outcome, brand equity, and the marketing mix. In *Fashion Branding and Consumer Behaviors: Scientific Models* (pp. 113-132). New York : Springer.
- Huo, C., Hameed, J., & Sadiq, M. W. (2021). Tourism, environment and hotel management: an innovative perspective to address modern trends in contemporary tourism management. *Business Process Management Journal*, 27(7), 2161-2180.
- Hwang, Y., & Fesenmaier, D. (2004). Coverage Error Embedded in Self-Selected Internet-Based Samples: A Case Study of Northern Indiana. *Journal of Travel Research*, 42, 297-304.
- Im, S., Bhat, S., & Lee, Y. (2015). Consumer perceptions of product creativity, coolness, value and attitude. *Journal of Business Research*, 68(1), 166-172.
- Imai, K. (1998). Survey Sampling. *Current Sociology*, 46, 75-87.
- Johansson, N., & Mollstedt, U. (2006). Revisiting Amit and Zott's model of value creation sources: The SymBelt Customer Center case. *J. Theor. Appl. Electron. Commer. Res.*, 1(3), 16-27.
- Jöreskog, K. G., & Sörbom, D. (1982). Recent developments in structural equation modeling. *Journal of Marketing Research*, 19(4), 404-416.
- Kabadayi, E. T., & Alan, A. K. (2012). Brand trust and brand affect: Their strategic importance on brand loyalty. *Journal of Global Strategic Management*, 11(6), 81-88.

References(Cont.)

- Kantorová, K., Mlázovský, M., & Svoboda, O. (2023). *Customer Loyalty in Spa Tourism: A Case Study*. ICTR 2023 6th International Conference on Tourism Research. Academic Conferences and publishing limited.
- Kasemsap, K.. (2014). *The Role of Brand Loyalty on CRM Performance: An Innovative Framework for Smart Manufacturing*. IGI Global.
- Kazancoglu, Y., Sezer, M. D., Ozkan-Ozen, Y. D., Mangla, S., & Kumar, A. M. (2021). Industry 4.0 impacts on responsible environmental and societal management in the family business. *Technological Forecasting and Social Change*, 173, 121108.
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, 44(3), 486-507.
- Khan, I., Hollebeek, L., Fatma, M., Islam, J., & Rahman, Z. (2019). Brand engagement and experience in online services. *Journal of Services Marketing*, 34(2), 163-175.
- Khoshkhoo, M. I., & Nadalipour, Z. (2016). Tourism SMEs and Organizational Learning in a Competitive Environment. *The Learning Organization*, 23, 184-200.
- Kim, E., Nicolau, J., & Tang, L. (2021). The Impact of Restaurant Innovativeness on Consumer Loyalty: The Mediating Role of Perceived Quality. *Journal of Hospitality & Tourism Research*, 45, 1464-1488.
- Kim, S., & Wang, D. (2019). Preface to journal of travel & tourism marketing special issue on future of tourism marketing. *Journal of Travel & Tourism Marketing*, 36, 769-769.
- Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American Journal of Health-System Pharmacy*, 65(23), 2276-2284.

References(Cont.)

- Kindström, D., & Kowalkowski, C. (2014). Service Innovation in Product-centric Firms: A Multidimensional Business Model Perspective. *Journal of Business & Industrial Marketing*, 29(2), 96-111.
- Kittur, P., Chatterjee, S., & Upadhyay, A. (2023). Antecedents and consequences of reliance in the context of B2B brand image. *Journal of Business & Industrial Marketing*, 38(1), 102-117.
- Konečnik, M., & Gartner, W. (2007). Customer-based brand equity for a destination. *Annals of Tourism Research*, 34(2), 400-421.
- Kotler, P., Keller, K. L., & Brady, M. (2016). *Marketing Management 3rd edn PDF eBook*. Pearson Higher Ed.
- Kraus, S., Kallmuenzer, A., Kanbach, D., Krysta, P. M., & Steinhoff, M. M. (2022). An integrative framework for business model innovation in the tourism industry. *The Service Industries Journal*, 43, 1-23.
- Krom, I. (2015). Global online entrepreneurship and the impact of innovation on brands. *EMAJ: Emerging Markets Journal*, 5(2), 90-101.
- Kumar, V., & Kaushik, A. (2017). Achieving destination advocacy and destination loyalty through destination brand identification. *Journal of Travel & Tourism Marketing*, 34(9), 1247-1260.
- Lai, K., & Green, S. B. (2016). The Problem with Having Two Watches: Assessment of Fit When RMSEA and CFI Disagree. *Multivariate Behavioral Research*, 51(2-3), 220-239.
- Laroche, M., Habibi, M. R., & Richard, M. O. (2013). To be or not to be in social media: How brand loyalty is affected by social media? *International Journal of Information Management*, 33(1), 76-82.
- Laroche, M., Habibi, M. R., Richard, M.-O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior*, 28(5), 1755-1767.

References(Cont.)

- Lash, T., Fox, M., MacLehose, R., Maldonado, G., McCandless, L., & Greenland, S. (2014). Good practices for quantitative bias analysis. *International Journal of Epidemiology*, 43, 1969-1985.
- Latifi, M., Nikou, S., & Bouwman, H. (2021). Business model innovation and firm performance: Exploring causal mechanisms in SMEs. *Technovation*, 107, 102274.
- Lau, G., & Lee, S. H. (1999). Consumers' trust in a brand and the link to brand loyalty. *Journal of Market-Focused Management*, 4(4), 341-370.
- Tiep, L. T., Ngo, H. Q., & Aureliano-Silva, L. (2023). Contribution of corporate social responsibility on SMEs' performance in an emerging market–the mediating roles of brand trust and brand loyalty. *International Journal of Emerging Markets*, 18(8), 1868-1891.
- Lemy, D., Goh, E., & Ferry, J. (2019). Moving out of the silo: How service quality innovations can develop customer loyalty in Indonesia's hotels. *Journal of Vacation Marketing*, 25, 462-479.
- Lertwannawit, A., & Nak, G. (2015). How brand trust mediates the effects of service quality on loyalty: An illustration from medical tourism context. *Looking Forward, Looking Back: Drawing on the Past to Shape the Future of Marketing: Proceedings of the 2013 World Marketing Congress*. Springer International Publishing.
- Li, C., & He, P. (2022). The Dimensional Structure of Tourism Festival and Special Event Innovation and Their Impacts on Tourists' Behavioral Intentions. *Discrete dynamics in nature and society*, 2022(1), 1154295.
- Li, M.-W., Teng, H.-Y., & Chen, C.-Y. (2020). Unlocking the customer engagement-brand loyalty relationship in tourism social media: The roles of brand attachment and customer trust. *Journal of Hospitality and Tourism Management*, 44, 184-192.

References(Cont.)

- Li, Z., Wang, D., Abbas, J., Hassan, S., & Mubeen, R. (2022). Tourists' Health Risk Threats Amid COVID-19 Era: Role of Technology Innovation, Transformation, and Recovery Implications for Sustainable Tourism. *Frontiers in Psychology, 12*, 769175.
- Lim, J. S., & Jiang, H. (2020). Outcomes of dialogic communication of corporate social responsibility (CSR): Strengthening brand loyalty through online brand community engagement, brand trust and CSR authenticity. *Marketing Opportunities and Challenges in a Changing Global Marketplace: Proceedings of the 2019 Academy of Marketing Science (AMS) Annual Conference*. Springer International Publishing.
- Lin, C.-C., Anderson, R. M., Chang, C.-S., Hagerty, B., & Loveland-Cherry, C. (2008). Development and testing of the Diabetes Self-management Instrument: a confirmatory analysis. *Research in Nursing & Health, 31*, 370-380.
- Liu, K.-N., Tsai, T.-I., Xiao, Q., & Hu, C. (2021). The impact of experience on brand loyalty: Mediating effect of images of Taiwan hotels. *Journal of China Tourism Research, 17*(3), 395-414.
- Luk, S. T. K., & Yip, L. (2008). The moderator effect of monetary sales promotion on the relationship between brand trust and purchase behaviour. *Journal of Brand Management, 15*, 452-464.
- Ma, Y., Yin, Q., Pan, Y., Cui, W., Xin, B., & Rao, Z. (2018). Green Product Innovation and Firm Performance: Assessing the Moderating Effect of Novelty-Centered and Efficiency-Centered Business Model Design. *Sustainability, 10*(6), 1843.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130.
- Malterud, K., Siersma, V., & Guassora, A. D. (2016). Sample Size in Qualitative Interview Studies. *Qualitative Health Research, 26*, 1753-1760.

References(Cont.)

- Manaf, P. A., Aninda, C. D., & Trisbiantara, N.S. (2021). The role of social media marketing activities on brand trust and brand loyalty: Evidence from e-commerce tourism's Instagram. *The International Journal of Business & Management*, 9(8), 1-10.
- Maneesriwongul, W., & Dixon, J. K. (2004). Instrument translation process: a methods review. *Journal of Advanced Nursing*, 48(2), 175-186.
- Manh, G., & Bala, D. (1994). Assessing the effect of sample size in structural equation modeling. *Journal of Statistical Computation and Simulation*, 49(4), 205-218.
- Marshall, M. (1996). Sampling for qualitative research. *Family Practice*, 13, 522-525.
- Martínez-Pérez, Á., Elche, D., Garcia-Villaverde, P. M., & Parra-Requena, G. (2018). Cultural Tourism Clusters: Social Capital, Relations with Institutions, and Radical Innovation. *Journal of Travel Research*, 58(5), 793-807.
- Martínez-Román, J. A., Tamayo, J. A., Gamero, J., & Romero, J. E. (2015). Innovativeness and business performances in tourism SMEs. *Annals of Tourism Research*, 54, 118-135.
- McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, 7(1), 64-82.
- Meade, A. W., Johnson, E. C., & Braddy, P. W. (2008). Power and sensitivity of alternative fit indices in tests of measurement invariance. *The Journal of Applied Psychology*, 93(3), 568-592.
- Mekhum, W., & Sriupayo, S. (2020). Determining the brand loyalty of health tourism of Ranong Province, Thailand. *Research in World Economy*, 11(6), 1-11.
- Menidjel, C., Benhabib, A., & Bilgihan, A. (2017). Examining the moderating role of personality traits in the relationship between brand trust and brand loyalty. *Journal of Product & Brand Management*, 26(6), 631-649.
- Milojević, S., Todorović, V., & Lutovac, M. (2016). Brand as a challenge to corporate governance in the globalization process. *Marketing Science*, 47, 57-65.
- Mohaian, S. (2017). Validity in research design. *Psychological Research*, 10(2), 112-116.

References(Cont.)

- Morais, D., Dorsch, M., & Backman, S. J. (2004). Can Tourism Providers Buy their Customers' Loyalty? Examining the Influence of Customer-Provider Investments on Loyalty. *Journal of Travel Research*, 42, 235-243.
- Morris, M. H., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: toward a unified perspective. *Journal of Business Research*, 58(6), 726-735.
- Moser, C. A. (2022). Quota Sampling. The SAGE Encyclopedia of Research Design. *Sociological Research Online*, 19(1), 115-123.
- Murray, J., Elms, J., & Teller, C. (2017). Examining the role of store design on consumers' cross-sectional perceptions of retail brand loyalty. *Journal of Retailing and Consumer Services*, 38, 147-156.
- Muthén, B., & Asparouhov, T. (2012). Bayesian structural equation modeling: A more flexible representation of substantive theory. *Psychological Methods*, 17(3), 313-335.
- Nguyen, N. T., & Tran, T. (2018). Strategies in Building Brand Loyalty Based on Consumers' Experience, Trust and Satisfaction: A Study in Vietnamese Using Smartphone Context. *Journal of Informatics and Mathematical Sciences*, 10, 583-598.
- Nunkoo, R., Ramkissoon, H., & Gursoy, D. (2013). Use of Structural Equation Modeling in Tourism Research. *Journal of Travel Research*, 52, 759-771.
- Ojha, A. K. (2022). Strategies for Sustainable Tourism Business Development: A Comprehensive Analysis. *Journal of Social Responsibility, Tourism and Hospitality*, 3, 56-82.
- Osman, Z., Sentosa, I. (2013). A study of mediating effect of trust on customer satisfaction and customer loyalty relationship in Malaysian rural tourism. *European Journal of Tourism Research*, 6(2), 192-206.

References(Cont.)

- Panahi, S., Bazrafshani, A., & Mirzaie, A. (2023). Development and validation of a modified LibQUAL scale in health sciences libraries: application of Structural Equation Modeling. *Journal of the Medical Library Association: JMLA*, 111, 792-801.
- Pannucci, C. J., & Wilkins, E. G. (2010). Identifying and avoiding bias in research. *Plastic and Reconstructive Surgery*, 126(2), 619-625.
- Panyadee, C., Krajangchom, S., Sangkakorn, K., & Intawong, K. (2023). Smart Wellness Technology for Tourism Destination Based-on Evolving Tourist Expectation Model [J]. *TEM Journal*, 12(2), 1218-1226.
- Pappu, R., & Quester, P. (2016). How does brand innovativeness affect brand loyalty. *European Journal of Marketing*, 50(1/2), 2-28.
- Pati, R., Nandakumar, M., Ghobadian, A., Ireland, R., & O'Regan, N. (2018). Business model design–performance relationship under external and internal contingencies: Evidence from SMEs in an emerging economy. *Long Range Planning*, 51 (5), 750-769.
- Pikkemaat, B., Peters, M., & Bichler, B. (2019). Innovation research in tourism: Research streams and actions for the future. *Journal of Hospitality and Tourism Management*, 41, 184-196.
- Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors with a new introduction* (pp.ix-xxviii; 1-48). New York: The Free Press USA.
- Presenza, A., Petruzzelli, A., & Natalicchio, A. (2019). Business Model Innovation for Sustainability. *Sustainability*, 11(1), 212.
- Puspaningrum, A. (2020). Social Media Marketing and Brand Loyalty: The Role of Brand Trust. *Journal of Asian Finance, Economics and Business*, 7, 951-958.
- Quelch, J. A., & Jocz, K. E. (2009). How to Market in a Downturn. *Harvard Business Review*, 87(4), 52-62.

References(Cont.)

- Regmi, P., Waithaka, E., Paudyal, A., Simkhada, P., & van Teijlingen, E. (2016). Guide to the design and application of online questionnaire surveys. *Nepal Journal of Epidemiology*, 6, 640-644.
- Reichheld, F. F. , Teal, T. & Thomas, A. (2001). The loyalty effect: the hidden force behind growth, profits, and lasting value. *Harvard Business School Press Books*.
- Rezaei, S., Jayashree, S., & Fouladivanda, F. (2016). Telecommunications Subscriber's Satisfaction and Loyalty: The Impact of Contractual Switching Cost, Price Fairness, and Brand Image. In *Encyclopedia of E-Commerce Development, Implementation, and Management*, IGI Global.
- Rhodes, S. D., Bowie, D. A., & Hergenrather, K. C. (2003). Collecting behavioural data using the world wide web: considerations for researchers. *Journal of Epidemiology and Community Health*, 57, 68-73.
- Ripdon, P. (1995). Statistical challenges in assessing and fostering the reproducibility of scientific results. *Journal of the American Statistical Association*, 90(430), 673-682.
- Robina-Ramirez, R., Ortiz-de-Urbina-Criado, M., & Ravina-Ripoll, R. (2023) How can tourism managers' happiness be generated through personal and innovative tourism services? *European Journal of Innovation Management*, 26(7), 751-774.
- Robinson, O. (2014). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, 11, 25-41.
- Romão, J., & Neuts, B. (2017). Territorial capital, smart tourism specialization and sustainable regional development: experiences from Europe. *Habitat International*, 68, 64-74.
- Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1-36.

References(Cont.)

- Saebi, T., & Foss, N. J. (2015). Business Models for Open Innovation: Matching Heterogeneous Open Innovation Strategies with Business Model Dimensions. *European Management Journal*, 33(3), 201-213.
- Sahoo, M. (2019). Structural equation modeling: threshold criteria for assessing model fit. *Methodological Issues in Management Research: Advances, Challenges, and the Way Ahead*. England: Emerald Publishing Limited.
- Said, H., Badru, B. B., & Shahid, M. (2011). Confirmatory factor analysis (CFA) for testing validity and reliability instrument in the study of education. *Australian journal of basic and applied sciences*, 5, 1098-1103.
- Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18(2), 179-183.
- Scozzi, B., Garavelli, A. C., & Crowston, K. (2005). Methods for modeling and supporting innovation processes in SMEs. *European Journal of Innovation Management*, 8(1), 120-137. Doi:10.1108/14601060510578619.
- Selm, M. V., & Jankowski, N. (2006). Conducting Online Surveys. *Quality and Quantity*, 40, 435-456.
- Šerić, M., Mikulić, J., & Gil-Saura, I. (2018). Exploring relationships between customer-based brand equity and its drivers and consequences in the hotel context. An impact-asymmetry assessment. *Current Issues in Tourism*, 21(15), 1621-1643.
- Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the model size effect on SEM fit indices. *Educational and Psychological Measurement*, 79(2), 310-334.
- Singh, R., & Banerjee, N. (2018). A Study on Exploring the Factors Influencing Celebrity Endorsement Credibility. *Global Business Review*, 19, 494-509.
- Slevens, J. (1996). Standardized residuals and goodness-of-fit tests for multivariate data. *Papers in Regional Science*, 75(1), 55-77.
Doi:10.1111/j.1435-5597.1996.tb00634.x.

References(Cont.)

- Sohail, M. S., Wahid, K. M., & Al Jabri, I. M. (2017). Relationship between marketing program and brand loyalty: Is there an influence of gender? *J. for Global Business Advancement*, 10(2), 109.
- Souto, J. E. (2015). Business model innovation and business concept innovation as the context of incremental innovation and radical innovation. *Tourism Management*, 51, 142-155.
- Spieth, P., Roeth, T., & Meissner, S. (2019). Reinventing a business model in industrial networks: Implications for customers' brand perceptions. *Industrial marketing management*, 83, 275-287.
- Srivastava, R. (2015). How differing demographic factors impact consumers' loyalty towards national or international fast food chains. *British Food Journal*, 117(4), 1354-1376.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate behavioral research*, 25(2), 173-180.
- Stevens, J. (2002). Applied multivariate statistics for the social sciences. *Journal of Educational Statistics*, 47(2), 593-619.
- Stoddard, J. E., & Clopton, S. W. (2012). A Comparison of State and Local Welcome Center Visitors: Issues Regarding Sampling Frame Generalizability. *Atlantic Marketing Journal*, 1(1), 4.
- Stone, A., & Shiffman, S. (2002). Capturing momentary, self-report data: A proposal for reporting guidelines. *Annals of Behavioral Medicine*, 24, 236-243.
- Sugawara, H. M., & McCallum, R. C. (1993). Tolerance limits for assessing model fit in covariance structure analysis. *Journal of Educational Statistics*, 18(2), 131-140.
- Suhartanto, D., Kusdibyo, L., Chen, B., Dean, D., & Setiawati, L. (2020). Predicting consumer behaviour in tourism industry: Comparing Structural Equation Modelling (SEM) and multiple regression. *IOP Conference Series: Materials Science and Engineering*, 830(3), 32-81.

References(Cont.)

- Sullivan, G. M. (2011). A primer on the validity of assessment instruments. *Journal of Graduate Medical Education*, 3(2), 119-120. Doi:10.4300/JGME-D-11-00075.1.
- Szromek, A. R. (2022). Value Propositions in Heritage Tourism Site Business Models in the Context of Open Innovation Knowledge Transfer. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3), 161.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55.
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 43(2-3), 172-194.
- Teeroovengadum, V., & Nunkoo, R. (2018). *Sampling design in tourism and hospitality research*. Edward Elgar Publishing.
- Thamrin, T., Giatman, G., & Syah, N. (2023). Reliability and Validity of RIASEC Holland's on Predicting Success Career for Vocational Students. *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran*, 9(3), 740-749.
- Toma, A.. (2017). Translation and validation of study instruments for cross-cultural research. *Gastroenterology*, 152(1), 206-208.
- Tongco, M. D. (2007). Purposive Sampling as a Tool for Informant Selection. *Ethnobotany Research and Applications*, 5, 147-158.
- Topp, N., & Pawloski, B. (2002). Online Data Collection. *Journal of Science Education and Technology*, 11, 173-178.
- Tran, P. T., Nguyen, P., & Le, A. (2021). Linking self-congruity, perceived quality and satisfaction to brand loyalty in a tourism destination: the moderating role of visit frequency. *Tourism Review*, 77(1), 287-301.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38(1), 1-10.
- Tucker, L. R., & MacCallum, R. C. (1997). Exploratory Factor Analysis. *Journal of Educational Psychology*, 58(6), 624-634.

References(Cont.)

- Uy, M. A., Foo, M., & Aguinis, H. (2010). Using Experience Sampling Methodology to Advance Entrepreneurship Theory and Research. *Organizational Research Methods*, 13(1), 31-54.
- Vacas de Carvalho, L., Azar, S. L., & Machado, J. C. (2020). Bridging the gap between brand gender and brand loyalty on social media: exploring the mediating effects. *Journal of Marketing Management*, 36(9), 1125-1152.
- Vangjel, X. (2021). New Business Models Generated by Technological Innovation. *The Annals of the University of Oradea, Economic Sciences*, 30(2), 26-34 .
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1-17.
- Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. *BMC Medical Research Methodology*, 18, 148.
- Vecchio, P. D. , Malandugno, C. , Passiante, G. , & Sakka, G. . (2021). Circular economy business model for smart tourism: the case of ecobnb. *EuroMed Journal of Business*, ahead-of-print(ahead-of-print).Doi:10.1108/EMJB-09-2020-0098.
- Veloutsou, C. (2015). Brand evaluation, satisfaction and trust as predictors of brand loyalty: the mediator-moderator effect of brand relationships. *Journal of Consumer Marketing*, 32(6), 405-421.
- Watkins, M. W. (2018). The reliability and validity of the questionnaire were assessed prior to hypothesis testing. *Journal of Clinical Psychology*, 64(9), 1234-1245.
- Williams, J. (1985). Sample Size for Research in Tourism. *Visions of Leisure and Business*, 4, 19-27.
- Wisnawa, I. M. (2021). Dimensi Brand Loyalty Bali sebagai Destinasi Wisata bagi Wisatawan Nusantara pada Masa Pandemi Covid-19. *Journal of Bali Studies*, 11(1), 1-20.

References(Cont.)

- Wright, S. (2017). Factor Analytic Evidence for the Construct Validity of Scores: A Historical Overview and Some Guidelines. *Educational and Psychological Measurement*, 56(2), 197-208. Doi:10.1177/0013164496056002001.
- Xia, Y., & Yang, Y. (2018). RMSEA, CFI, and TLI in structural equation modeling with ordered categorical data: The story they tell depends on the estimation methods. *Behavior Research Methods*, 51, 409-428.
- Xia, Y., & Yang, Y. (2018). The Influence of Number of Categories and Threshold Values on Fit Indices in Structural Equation Modeling with Ordered Categorical Data. *Multivariate Behavioral Research*, 53, 731-755.
- Xu, W., Jung, H., & Han, J. (2022). The influences of experiential marketing factors on brand trust, brand attachment, and behavioral intention: Focused on integrated resort tourists. *Sustainability*, 14(20), 13000.
- Xuan, Q. T., Truong, H., & Quang, T. V. (2023). Omnichannel retailing with brand engagement, trust and loyalty in banking: the moderating role of personal innovativeness. *International Journal of Bank Marketing*, 41(3), 663-694.
- Yang, F. X., & Tan, S. (2017). Event innovation induced corporate branding. *International Journal of Contemporary Hospitality Management*, 29, 862-882.
- Yeboah-Asiamah, E., Nimako, S. G., Quaye, D. M., & Buame, S. (2015). Implicit and explicit loyalty: the role of satisfaction, trust and brand image in mobile telecommunication industry. *International Journal of Business and Emerging Markets*, 8(1), 94-115. Doi:10.1504/IJBEM.2016.073402.
- Yeh, C.-H., Wang, Y.-S., & Yieh, K. (2016). Predicting smartphone brand loyalty: Consumer value and consumer-brand identification perspectives. *Int. J. Inf. Manag.*, 36(3), 245-257.
- Yi, L., Khan, M. S., & Safeer, A. (2022). Firm innovation activities and consumer brand loyalty: A path to business sustainability in Asia. *Frontiers in Psychology*, 13, 942048.

References(Cont.)

- Zaidun, N. A., Muda, M., & Hashim, N. (2020). The Moderating Effect of Brand Trust on The Relationship Between Customer Brand Engagement and Brand Loyalty: A Conceptual Review. *Advances in Business Research International Journal*, 6(1) 2020, 59-69. Doi:10.24191/abrij.v6i1.9942.
- Zhang, L., & Wang, H. (2020). Sustainable Development of Hot Spring Tourism in Guizhou: Challenges and Opportunities. *Journal of Sustainable Tourism in China*, 12(3), 234-250.
- Zhang, Y., Li, J., Liu, C.-H., Shen, Y.-Y., & Li, G. (2020). The effect of novelty on travel intention: the mediating effect of brand equity and travel motivation. *Management Decision*, 59(6), 1271-1290.
- Zott, C., & Amit, R. (2010). The Business Model as a Template for Value Creation. In Theoretical Foundations of Business Model Innovation. *Journal of Management Science*, 55(2), 172-194.
- Zott, C. , Amit, R., & Massa, L. (2011). The business model: recent developments and future research. *Social Science Electronic Publishing*, 37(4), 1019-1042.





Appendix A

Survey Questionnaire

Survey

问 卷 调 查

Hello:

We are doctoral students from Rangsit University. Thank you for participating in our survey. This survey is about the mediating role of brand trust between business model innovation and brand loyalty. The report is divided into five parts: basic information, novelty-oriented business model innovation, performance-oriented business model innovation, brand trust, and brand loyalty. We have selected Shi Qian Hot Spring, Xi Feng Hot Spring, Poly Hot Spring Resort, Jian He Hot Spring, and Four Seasons Guizhou Hot Spring as representatives of the Guizhou hot spring health care industry.

Thank you again for your cooperation!

你好，我们是朗西特大学的博士生。感谢您参与我们的调查。这项调查是关于品牌信任在商业模式创新和品牌忠诚度之间的中介作用。该报告分为五个部分：基本信息、新颖性导向的商业模式创新、绩效导向的商业模型创新、品牌信任和品牌忠诚度。我们选择了石阡温泉、息烽温泉、保利温泉度假村、剑河温泉、四季贵州温泉作为贵州温泉康养产业的代表。

再次感谢您的合作！

Note:

笔记

1. *This questionnaire is divided into three parts, please make sure to answer all questions.*

本问卷分为三个部分，请务必回答所有问题。

2. *This survey will take approximately 5-8 minutes.*

此调查大约需要 5-8 分钟。

3. *Your information and answers will be kept confidential.*

您的信息和答案将保密。

Part One : Basic Information

第一部分：基本信息

Please place a tick "v" for each of the following:

请为以下各项打上“v”：

Have you ever been to the hot spring tourism industry in Guizhou province?

（你去过贵州省的温泉旅游业吗？）

☐ Yes （去过）

☐ No （没有）

1. Your gender? （你的性别）

☐ Male （男性）

☐ Female （女姓）

2. Your age? （你的年龄）

☐ 18 and below （18 岁及以下）

☐ 19-35 years （19-35 岁）

☐ 36-45 years （36-45 岁）

☐ 46-60 years （46-50 岁）

☐ Over 60 （60 岁以上）

3. Your educational background? （你的教育背景？）

☐ Junior high school and below （初中及以下）

☐ High school （高中）

☐ Technical secondary school and junior college （中专、专科）

☐ Bachelor's degree （学士学位）

☐ Graduate degree and above （研究生及以上学历）

☐ Others, please specify_____（其他，请具体说明）

4. Your monthly income level? （你的月收入水平）

☐ 5000 yuan and below （5000 元及以下）

☐ 5001-10000 yuan （5001-10000 元）

☐ 10001-15000 yuan （10001-15000 元）

☐ 15001-20000 yuan （15001-20000 元）

☐ Over 20000yuan （20000 元以上）

5. Your occupation? （你的职业？）

☐ Farmer （农民）

☐ Student （大学生）

☐ Ordinary employee （普通员工）

☐ Government agency or civil servant （政府机构或公务员）

☐ Corporate executive （企业高管）

☐ Others, please specify_____（其他，请具体说明）

6. Your marital status? (你的婚姻状况?)

☐ Married (已婚的)

☐ Single (仅有一个的)

7. How many times do you visit hot springs each year? (你每年去多少次温泉?)

☐ Once (一次)

☐ Twice (两次)

☐ Three times (三次)

☐ Four times (四次)

☐ More than four times (超过四次)

8. Which hot spring have you experienced? (你体验过哪个温泉?)

☐ Shi Qian Hot Spring (石阡温泉)

☐ Xi Feng Hot Spring (息烽温泉)

☐ Poly Hot Spring Resort (保利温泉度假区)

☐ Jian He Hot Spring (剑河温泉)

☐ Four Seasons Guizhou Hot Spring (贵州四季温泉)

Part Two: Novelty-Based Business Model Innovation

第二部分：基于新颖性的商业模式创新

Please circle your answer to each statement using 5 Points Likert Scale:

请使用 5 分 Likert 量表圈出你对每个陈述的回答：

(1)=Strongly Disagree(强烈反对);(2)=Disagree(不同意) (3)=Neutral (中性);(4)=Agree(同意);(5)=Strongly agree(强烈同意)

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
NBBMI1	The hot spring health tourism industry provides customers with new products, services, information. 温泉健康旅游产业为客户提供新产品、新服务、新信息。	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
NBBMI2	The value brought to customers by the hot spring health tourism industry is unique and easily perceived. 温泉健康旅游业给顾客带来的价值是独特的，很容易被感知。	1	2	3	4	5
NBBMI3	The hot spring tourism industry can identify consumers' hidden needs. 温泉旅游业可以识别消费者的隐性需求。	1	2	3	4	5
NBBMI4	The hot spring health tourism industry can develop new marketing channels and methods. 温泉健康旅游产业可以开发新的营销渠道和方法。	1	2	3	4	5
NBBMI5	The hot spring health tourism industry adopts innovative transaction methods. 温泉健康旅游产业采用创新的交易方式。	1	2	3	4	5
NBBMI6	The hot spring health tourism industry gains new ideas and	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
	inventions through existing business operations. 温泉健康旅游业通过现有的商业运营获得了新的想法和发明。					

Part Three: Efficiency-Based Business Model Innovation

第三部分：基于效率的商业模式创新

Please circle your answer to each statement using 5 Points Likert Scale:

请使用 5 分 Likert 量表圈出你对每个陈述的回答：

(1)=Strongly Disagree(强烈反对);(2)=Disagree(不同意) (3)=Neutral (中性) ;(4)=Agree (同意) ;(5)=Strongly agree (强烈同意)

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
EBBMI1	The hot spring health tourism industry focuses on perfecting hot spring facility construction or services. 温泉康养旅游业注重完善温泉设施建设或服务。	1	2	3	4	5
EBBMI2	The hot spring health tourism industry continuously improves main hot spring facility construction or services to meet customer needs. 温泉健康旅游行业不断完善主要温泉	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不 同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同 意
	设施建设或服务， 以满足客户需求。					
EBBMI3	The hot spring health tourism industry tends to follow market innovations or actions. 温泉康养旅游行业 遵循市场创新或行 动。	1	2	3	4	5
EBBMI4	The hot spring health tourism industry focuses on expanding the current market size. 温泉健康旅游产业 重点是扩大目前的 市场规模。	1	2	3	4	5
EBBMI5	The hot spring health tourism industry continuously optimizes existing operational processes, knowledge, and technology. 温泉健康旅游行业 优化现有运营流 程、知识和技术。	1	2	3	4	5
EBBMI6	The hot spring health tourism industry focuses on the existing needs and satisfaction of partners. 温泉健康旅游行业 关注合作伙伴的现 有需求和满意度。	1	2	3	4	5

Part Four: Brand Trust

第四部分：品牌信任

Please circle your answer to each statement using 5 Points Likert Scale:

请使用 5 分 Likert 量表圈出你对每个陈述的回答：

(1)=Strongly Disagree(强 烈 反 对);(2)=Disagree(不 同 意) (3)=Neutral (中 性) ;(4)=Agree (同 意) ;(5)=Strongly agree (强 烈 同 意)

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
BT1	I trust the hot spring health tourism industry I am interested in. 我相信我感兴趣的温泉健康旅游业。	1	2	3	4	5
BT2	I rely on the hot spring health tourism industry I am interested in. 我依靠的是我感兴趣的温泉健康旅游业。	1	2	3	4	5
BT3	The Guizhou hot spring health tourism industry I am interested in provides me with what I expect. 我感兴趣的贵州温泉健康旅游产业为我提供了我所期望的。	1	2	3	4	5
BT4	The hot spring health tourism industry I am interested in never disappoints me. 我感兴趣的温泉健康旅游业从未让我失望。	1	2	3	4	5
BT5	I believe the hot spring health tourism industry I	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
	am interested in will sincerely address my concerns. 我相信我感兴趣的 温泉健康旅游业将 真诚地解决我的担 忧。					
BT6	I believe the hot spring health tourism industry I am interested in treats consumers with sincerity and without deceit. 我相信，我感兴趣 的温泉健康旅游行 业对待消费者是真 诚而不欺骗的。	1	2	3	4	5

Part Five: Brand Loyalty

第五部分：品牌忠诚度

Please circle your answer to each statement using 5 Points Likert Scale:

请使用 5 分 Likert 量表圈出你对每个陈述的回答：

(1)=Strongly Disagree(强烈反对);(2)=Disagree(不同意) (3)=Neutral (中性);(4)=Agree (同意);(5)=Strongly agree (强烈同意)

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
BL1	I plan to continue following and listening to the content of the hot spring tourism industry I am interested in, in the near future. 我计划在不久的将	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
	来继续关注和收听我感兴趣的温泉旅游业的内容。					
BL2	I will actively look for this hot spring health tourism industry I follow, to choose to listen to and discuss in the future. 我会积极寻找我所关注的这个温泉养生旅游行业，选择在未来聆听和探讨。	1	2	3	4	5
BL3	I plan to subscribe and follow other content of the hot spring health tourism industry I am interested in. 我计划订阅并关注我感兴趣的温泉健康旅游行业的其他内容。	1	2	3	4	5
BL4	If the hot spring tourism industry provider I am interested in charges a subscription fee, I would subscribe or register rather than switch to another brand. 如果我感兴趣的温泉旅游行业提供商收取订阅费，我会订阅注册，而不是转向另一个品牌。	1	2	3	4	5

No.	Questions 问题	Strongly disagree 非常不同意	Disagree 不同意	Neutral 中立的	Agree 同意	Strongly agree 强烈同意
BL5	I would recommend others to purchase the products of this hot spring health tourism industry. 我建议其他人购买这个温泉健康旅游行业的产品。	1	2	3	4	5
BL6	This product will be my preferred purchase of the hot spring health tourism industry in the future. 这个产品将是我未来在温泉健康旅游行业的首选。	1	2	3	4	5



Appendix B

Certificate of Approval

DPE. No. RSUERB2024-017



Documentary Proof of Exemption
By
Ethics Review Board of Rangsit University

DPE. No.	DPE. No. RSUERB2024-017
Protocol Title	The Mediating Role Of Brand Trust In Business Model Innovation And Brand Loyalty---A Case Study Of Guizhou Hot Spring Health Tourism Industry In China
Principle Investigator	Xue Xinyu
Co- Investigator	Dr.Nakamol Chansom Dr.Worapoj Sirichareechai
Affiliation	Faculty of Business Administration, Rangsit University
How to review	Exemption Review

This protocol complies with a "Research with Exemption"

Date of Approval:	17 May 2024
Date of Expiration:	17 May 2026

The aforementioned project have been reviewed and approved according to the Standard Operating Procedures by Ethical Committee of Research Institute of Rangsit University based on the Declaration of Helsinki and Good Clinical Practice

Signature.....

(Associate Professor Dr. Panan Kanchanaphum)

Chairman, Ethics Review Board for Human Research



Biography

Name	Xinyu Xue
Date of birth	20 November, 1978
Place of birth	Guiyang, China
Education background	Sichuan University, China Bachelor of Business Administration, 2005 Central South University, China Master of Software Engineering, 2013 Rangsit University Doctor of Business Administration, 2024
Address	S4-1, Yunzhong Villa, Poly Hot Spring New City, Shunhai Middle Road, Wudang District, Guiyang City, Guizhou Province, China
Email Address	xuexinyu@126.com
Place of work	Guizhou Normal University
Work position	Teacher

