

THE IMPACT OF HIGH-SPEED RAIL ON URBAN RESIDENTS'
TRAVEL DECISION: A CASE STUDY OF NANNING CITY



MASTER OF ARTS IN TOURISM MANAGEMENT
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A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
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ACADEMIC ADMINISTRATION AND DEVELOPMENT MAEJO UNIVERSITY
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THIS THESIS HAS BEEN APPROVED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
IN TOURISM MANAGEMENT (INTERNATIONAL PROGRAM)

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ชื่อเรื่อง	การวิจัยผลกระทบของรถไฟความเร็วสูงต่อการตัดสินใจเดินทางของคน ท้องถิ่น กรณีศึกษา เมืองหนานหนิง
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บทคัดย่อ

เมื่อวันที่ 28 ธันวาคม พ.ศ. 2556 ด้วยการเปิดทางรถไฟความเร็วสูง เช่น เซี่ย เหมิน-เซิน
เจิ้น ซีอาน-เป่าจี ฉงเซียง-ลี่ชว่น ชายฝั่งทะเลกว่างซี เครือข่ายรถไฟความเร็วสูง "สี่แนวตั้งและสี่
แนวนอน" ได้ค่อยๆ ก่อตัวขึ้น แสดงว่าประเทศจีนได้เข้าสู่ "ยุครถไฟความเร็วสูง" สถานีรถไฟหนานหน
นิงตะวันออกเริ่มใช้งานอย่างเป็นทางการเมื่อวันที่ 26 ธันวาคม 2014 ตั้งแต่นั้นมา รถไฟความเร็วสูง
กว่างซีก็พัฒนาอย่างต่อเนื่อง และได้ลดระยะทางระหว่างเมือง งานวิจัยนี้เลือกเมืองหนานหนิงเป็นจุด
กรณีศึกษา และใช้วิธีแบบสอบถามสำรวจกลไกภายในของรถไฟความเร็วสูงเพื่อการตัดสินใจเดินทาง
ของนักท่องเที่ยวจากมุมมองของนักท่องเที่ยว และสำรวจคุณลักษณะของรถไฟความเร็วสูงเป็นที่รับรู้
ของนักท่องเที่ยวได้อย่างมีประสิทธิภาพ

งานวิจัยนี้ใช้วิธีการวิเคราะห์ปัจจัยเชิงสำรวจ เพื่อแยกมิติทั้งสิ้นสี่ของมูลค่าการรับรู้ของ
นักท่องเที่ยวรถไฟความเร็วสูง ได้แก่ มูลค่าเวลา มูลค่าพื้นที่ มูลค่าประสบการณ์ และมูลค่าต้นทุน
วิธีการวิเคราะห์ความแปรปรวนยืนยันว่า นักท่องเที่ยวที่มีลักษณะทางประชากรต่างกัน มีค่าการ
รับรู้ของรถไฟความเร็วสูงแตกต่างกัน รายได้ส่งผลกระทบอย่างมีนัยสำคัญทั้งสิ้นสี่มิติของการรับรู้คุณค่า
ของรถไฟความเร็วสูงและการตัดสินใจในการเดินทาง แต่เพศ อายุ การศึกษา และอาชีพไม่ได้ส่งผล
กระทบอย่างมีนัยสำคัญต่อมูลค่าการรับรู้ของผู้ตอบแบบสอบถามเกี่ยวกับรถไฟความเร็วสูงและการ
ตัดสินใจในการเดินทาง วิธีการวิเคราะห์เชิงสหสัมพันธ์ได้ตรวจสอบว่า มูลค่าเวลา มูลค่าพื้นที่ มูลค่า
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สัมภาษณ์ ใช้วิธีการพรรณนาวิเคราะห์พฤติกรรมการเดินทางของนักท่องเที่ยวรถไฟความเร็วสูง ผล
การศึกษาพบว่า นักท่องเที่ยวส่วนใหญ่เลือกเดินทางกับเพื่อนและญาติเป็น 2-5 วัน ค่าโดยสารรถไฟ
ความเร็วสูงที่คนส่วนใหญ่ยอมรับได้อยู่ในช่วง 201 -400 หยวน ที่พักส่วนใหญ่จะเลือกโรงแรมราคา
ประหยัด การรับประทานอาหารที่จะนิยมเลือกของกินเล่นประจำท้องถิ่น สำหรับการช้อปปิ้ง
นักท่องเที่ยวส่วนใหญ่จะเลือกแหล่งช้อปปิ้งตามสถานที่ท่องเที่ยว วัตถุประสงค์หลักของการ

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คำสำคัญ : รถไฟความเร็วสูง, คุณค่าที่รับรู้, การตัดสินใจเดินทาง



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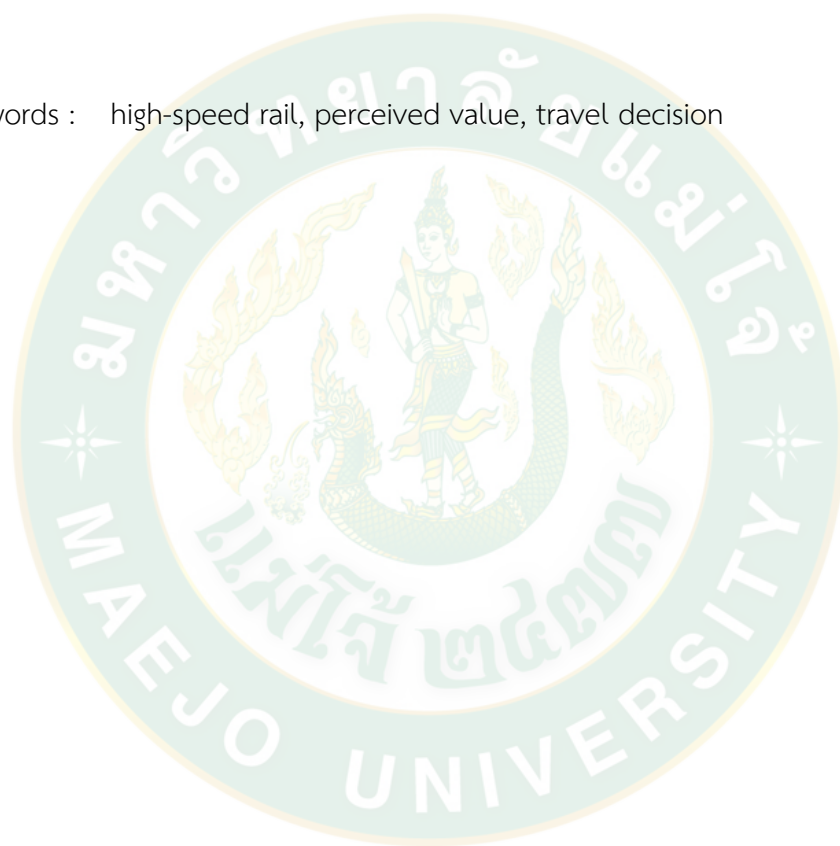
ABSTRACT

On December 28, 2013, with the opening of high-speed rails such as Xiamen-Shenzhen, Xibao, Yuli, and Guangxi coastal areas, the "four vertical and four horizontal" high-speed rail networks have gradually formed, marking my country's full entry into the "high-speed rail era". Nanning East Railway Station was put into use on December 26, 2014. Since then, Guangxi high-speed rail lines have continued to increase, shortening the distance between cities. Based on this, this article selects Nanning City as the case point and uses the questionnaire method to explore the internal mechanism of high-speed rail for tourists' travel decision-making from the perspective of tourists, and explore which attributes of high-speed rail are effectively perceived by tourists.

This paper uses exploratory factor analysis to extract the four dimensions of tourists' perceived value of high-speed rail: time value, space value, experience value, and cost value; through analysis of variance, it is verified that tourists with different demographic characteristics have different perceived value of high-speed rail. Among them, Income significantly affects the four dimensions of high-speed rail perceived value and travel decisions, while gender, age, education, and occupation did not significantly affect the respondents' perceived value of high-speed rail and travel decisions; the relevant analysis method verified the time value, space value, and value of high-speed rail. Experience value and cost value present a positive influence on the travel decision of respondents, and introduce descriptive methods to analyze the

travel behavior of tourists. The study found that tourists mainly prefer to travel in the form of friends and relatives. 2-5 Day; the high-speed rail fare accepted by most people is in the range of 201-400 yuan. Accommodation will be mainly in budget hotels. Meals are more willing to experience local specialty snacks, and most shopping choose tourist attractions and shopping spots; the main purpose of tourism is Holidays and leisure, religious worship, sightseeing tours, and health and wellness; tourist destinations prefer historical sites, cultural tourist sites and theme park tourist sites.

Keywords : high-speed rail, perceived value, travel decision



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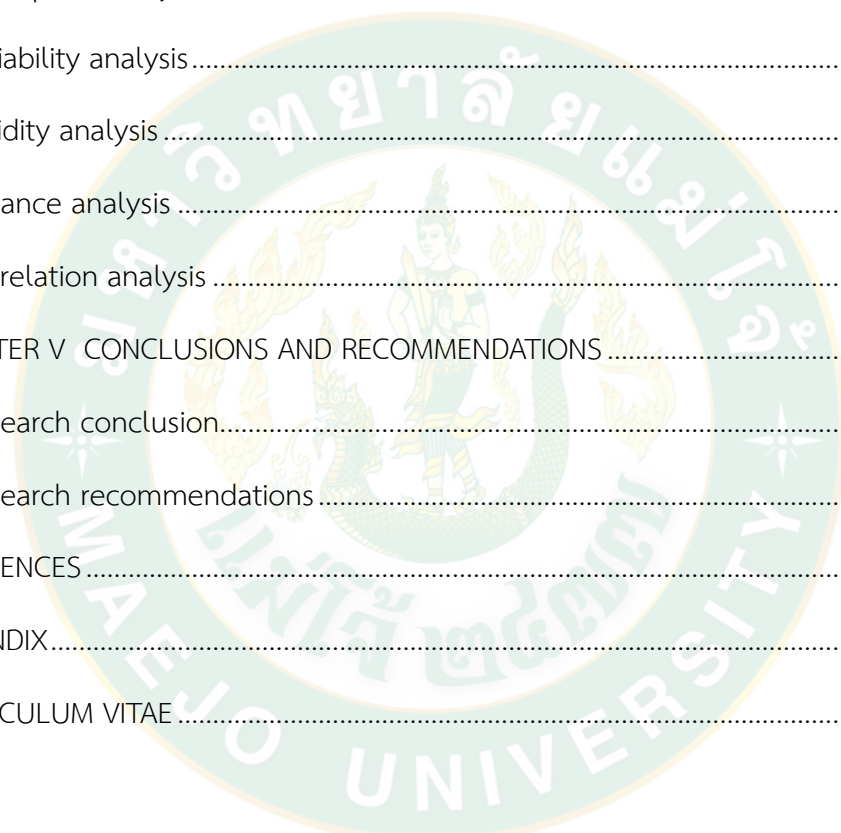
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CHAPTER I

INTRODUCTION

Background of the study

From the 1960s to the end of the 1970s, marked by the completion and use of the Shinkansen railway in 1964 in Japan, the world began to develop commercial high-speed railways (National Railway Administration, 2014). In 2008, China's first real high-speed railway-the Beijing-Tianjin intercity railway was successfully completed and officially opened to traffic. Subsequently, the Wuhan-Guangzhou high-speed railway, the Beijing-Guangzhou high-speed railway, the Zhengxi high-speed railway, the Shanghai-Hangzhou high-speed railway, and the Beijing-Shanghai high-speed railway, Harbin-Dalian high-speed rail, etc. have successively opened and operated, and China's high-speed rail is leading the rapid development of the world's high-speed rail. In 2013, the "high-speed rail diplomacy" proposed by Premier Li Keqiang pushed China's high-speed rail to the international stage. High-speed railway plays a very important role in promoting regional urban economy and urbanization development, and has certain transportation advantages in alleviating the tension of railway passenger transportation and improving transportation efficiency. On this basis, the rapid development of high-speed railways has further promoted the leap-forward development of tourism along the route. The changes in the core tourism market will reintegrate tourism resources along the route, rationally allocate tourism elements, and the tourism industry chain. The rebuilding of tourism industry and the repositioning of tourism companies have had a profound impact. The tourism industry in the "high-speed rail era" is ushering in a period of opportunity for "reshuffle". After more than ten years of development, China's high-speed rail industry has achieved rapid development. As of 2018, China has built a high-density and high-speed rail network in urban agglomerations in the Yangtze River Delta, the Pearl River Delta, and the Bohai Rim. High-speed rail interconnection has been completed among the four major plates in the east, central, west and northeast. As of the end of 2020, the total mileage of high-speed rail operations nationwide has reached 37,900 kilometers, ranking first in the world (The Paper news, 2021, online).

With the vigorous development of China's high-speed rail industry, a brand-new travel method-high-speed rail tourism has quietly emerged. Compared with civil aviation and automobiles, high-speed rail has its own unique advantages: compared

with civil aviation, high-speed rail with a speed of 250-350Km/h has more advantages within a thousand kilometers, because civil aviation has a short sailing time, but In addition to the time to and from the airport and the waiting time, taking a plane does not have an advantage in terms of time; compared with a car, within the travel range of 200Km-500Km, high-speed rail is faster, more comfortable and safer. The series advantages of high-speed rail determine it. An important position in the development of tourism.

The high-speed rail transportation network extending in all directions shortens the distance between cities, so that time distance replaces spatial distance and reduces the perception distance of people between cities. The construction of high-speed rail has greatly affected the travel behavior of tourists. Because the travel time of tourists has been significantly shortened, the time at tourist destinations has increased, and geographic distance has been replaced by time distance. Under the same time budget, tourists will spend more time on in-depth experience tourism. Therefore, individual self-guided tours and leisure vacations have gradually become the norm, and short-term tours, weekend tours, and city tours along the high-speed rail have become important travel types. At the same time, high-speed rail is favored by more and more tourists because of its own convenience, safety, comfort and other advantages. High-speed rail and high-speed trains have become the core experience products of high-speed rail tourism. High-speed rail has a major impact on the choice of tourist destinations and changes in tourist patterns. The market demand for tourist sources is extremely strong, which shows that the development of high-speed rail tourism has a bright future.

On December 28, 2013, the first high-speed rail train from Guilin to Beijing officially departed, marking Guangxi's entry into the era of high-speed rail. Nanning is the capital of the Guangxi Zhuang Autonomous Region and the core city of the Beibu Gulf city cluster. Nanning is located in South China, southwest Guangxi, and the junction of South China, Southwest China, and Southeast Asia. The meeting point of multi-regional cooperation such as the Pearl River Delta cooperation, is also a frontier city for China's opening and cooperation with ASEAN, the permanent venue of the China-ASEAN Expo, and an important gateway city for the organic connection of the country's "One Belt One Road" (Nanning Municipal People's Government, 2018, online). Nanning East Railway Station was put into use on December 26, 2014. Since then, Guangxi high-speed rail lines have continued to increase and the distance between cities has been shortened. Guangxi has built a "123" rapid rail network with Nanning as the center, that is, one hour to Nanning surrounding cities, 2 hours to

other urban areas in Guangxi, 3 hours to neighboring capital cities. A transportation circle with Nanning as the center, 3 to 4 hours to Guangzhou, Shenzhen, and Guiyang, 5 to 7 hours to Changsha, Wuhan, Nanchang, and 9 to 13 hours to Shanghai, Beijing and other key domestic cities has taken shape. (Zhao Shuangquan, 2017) Since the opening of Nanning high-speed rail, high-speed trains have become the preferred means of transportation for passengers. The tourist flow along the route has doubled, and the demand for passengers has continued to be strong. Data shows that from 2016 to 2018, the annual passenger volume of Nanning Railway Administration was 88.16 million, 103 million, and 115 million (Sohu News, 2019, online).

Research Problem

The high-speed rail has changed the behavior of local residents. Guangxi's tourism industry must make a series of adjustments to meet the new needs of high-speed rail tourists. However, at present, the speed of upgrading high-speed rail tourism products is slow, and it cannot meet the new needs of high-speed rail tourists. In this context, this article chooses the city where I live-Nanning City as the case point, focusing on the study of how the opening of high-speed rail affects the behavioral decisions of local residents when traveling. The new demand provides a scientific and reasonable basis for the development of tourism in high-speed rail cities.

Objectives of the Study

The main research content of this paper includes the following two aspects:

1. Perceived value of Nanning local residents to high-speed rail
2. Influencing factors of high-speed rail on travel decisions of local residents in Nanning

Expected the Results

1. This research is conducive to various tourism companies to provide tourism products that meet the market.

Under the guidance of the current favorable policies, how to make full use of the market development opportunities brought by high-speed railways, change the existing product structure, strengthen cooperation with high-speed railways and high-

speed trains, and create corresponding new tourism products is urgent for tourism enterprises. This research will provide corresponding source market research results for travel agencies, hotels, scenic spots and other tourism companies, and provide business management enlightenment with operational value.

2. This research is helpful for tourists to improve travel options and enhance travel experience.

The transportation reform triggered by the high-speed rail will gradually solve the transportation problems in my country's tourism development. Accordingly, tourists' travel decisions will undergo substantial changes. This article takes the local residents of Nanning as the research object and studies the travel characteristics and decision-making behaviors of the samples, which will help to provide consumers with high-speed rail travel decision-making plans and enhance the tourists' experience of the entire travel process.

Scope of the Study

About the scope of this study, we will focus on the residents of Nanning who participates in high-speed rail tourism. The research site is Nanning because it is the capital of Guangxi and many high-speed rail lines have been opened. This study chose Nanning East Railway Station to collect the data onto this study.

Limitation of the Study

Due to the limitation of my knowledge level, academic ability and data acquisition, this research has certain shortcomings, which needs to be further improved in the future. In addition, the study started in June 2020 and will continue until June 2021. One year is used for preliminary research, questionnaire design, how to issue questionnaires, and data analysis. Time is limited and the depth of research is not enough. More extensive and complete research is needed in the future.

Operation Definition of the Terms

High Speed Rail

High-speed rail is short for high-speed railway. Different countries and different time periods have different definitions of the concept of high-speed rail. In 1962, the International Union of Railways (UIC) considered that high-speed rail is a railway with

a speed of 200Km/h for old lines and a speed of 250Km/h to 300Km/h for new lines. In 1985, high-speed railways were redefined in the Geneva Agreement. It is believed that the speed of newly-built passenger and freight high-speed rail must exceed 250 Km/h, and the speed of newly-built passenger-dedicated high-speed rail must exceed 350Km/h. In 2014, the National Railway Administration defined the concept of high-speed rail: that is, newly-built EMU trains with operating speeds greater than 250 Km/h (including reservations), and passenger dedicated lines with initial operating speeds of not less than 200Kmh (Design Code for High-speed Railway, 2014). Based on this, the high-speed rail studied in this article is based on the definition of the National Railway Administration, that is, "EMUS (D trains)" with a new line speed greater than 250Km/h (including reservations) and an old line with a speed of 200Km/h after transformation., "High-speed EMU (<G train, C train)" train system.

High-speed rail tourism

High-speed rail tourism is a brand-new tourism mode that has emerged with the development of high-speed rail, and is a brand-new tourism format that is different from self-driving travel and air travel. At present, there are not many studies on the definition of high-speed rail tourism. Wang Xiaoyan (2015) believes that high-speed rail tourism is essentially a tourism activity, that is, actual tourists and potential tourists use high-speed rail as a travel method at present or sometime in the future, and during the travel process. Various tourist activities in the On the premise of fully drawing on the research results of others, the concept of high-speed rail tourism in this article is defined as follows: High-speed rail tourism refers to the process by which tourists use high-speed rail as the main means of travel to achieve a specific purpose to reach the destination, and the travel at the destination A comprehensive series of tourism activities including the six elements of food, housing, transportation, travel, shopping and entertainment. Therefore, it can be considered that the difference in transportation is the essential feature that distinguishes high-speed rail travel from other travel modes such as self-driving travel and air travel.

Tourism decision

Tourism decision-making refers to tourists' decision-making on tourism behavior, that is, people's decision to travel out. The basic principle of tourism decision-making is the principle of maximum benefit. The principle of maximum benefit is mainly reflected in the following two aspects. One is the smallest travel time ratio. Travel time ratio refers to the ratio of the time spent traveling between

the source and destination and the time spent playing at the destination in a complete travel process. In short, this principle is slow travel. In order to pursue the travel time ratio, people often choose the fastest mode of transportation after selecting a tourist destination; when a tourist destination is not selected, they often choose the closest tourist destination. The second is the greatest amount of information acquisition or the highest satisfaction. (Guo Yajun, 2012)



CHAPTER II

LITERATURE REVIEW AND RELATED STUDY

Theory

Customer Perceived Value

Customer perceived value is the subjective evaluation of the utility of the product or service after the customer perceives the benefit of the product or service, and subtracts the cost of obtaining the product or service. Reflect the customer's specific cognition of the value of the product or service, which is different from the objective value of the product or service in the general sense. The customer's perceived value is considered to be the result of the subjective perception of the customer's assigned value. (Lu Xiongwen, 2013)

Zethermore's theory of customer perceived value refers to Zaithaml (Zaithaml) first put forward the theory of customer perceived value from the perspective of customers in 1988. She defines customer perceived value as the overall evaluation of the utility of the product or service after weighing the perceived benefits of the customer with the cost of acquiring the product or service.

Zaithamal believes that when companies design, create and provide value for customers, they should start from customer orientation, and take customer perception of value as the decisive factor. Customer value is determined by customers, not by supply companies. Customer value is actually Customer Perceived Value (CPV). Zaithermore (1988) summarized the four benefits of perceived value in an exploratory study based on customer surveys: (1) Value is a low price. Some customers equate value with a low price, indicating that the currency to be paid is the most important in their perception of value. (2) Value is what customers want from the product. Different from paying attention to the money paid, some customers will regard the benefits from the service or product as the most important value factor. This is actually the same as the definition of utility in economics, which is a subjective measure of the degree of satisfaction obtained from consumer products. (3) Value is the quality that customers pay to buy back. Some customers regard the concept of value as a trade-off between "money paid" and "quality" obtained. (4) Value is all that customers can get with all their contributions. Some customers consider not only the factors (time, money, effort) they have paid, and the benefits they receive when describing value.

Zythermore summarizes the expression of these four values by customers into a comprehensive definition: customer perceived value is the effect of the product or service after weighing the perceived benefits of the customer and the cost of acquiring the product or service. overall evaluation. This concept contains two meanings: (1) Value is personalized and varies from person to person. Different customers perceive the same product or service as different values; (2) Value represents a kind of utility (The trade-off between benefit) and cost (cost), customers will make a purchase decision based on the value they feel, rather than just relying on a single factor.

Zeithaml believes that perceived value is the overall evaluation made by customers on the utility of a product based on the comparison of gains and losses, that is, perceived driving is a trade-off made by customers between perceived benefits and perceived sacrifices. Among them, the profit refers to the collection of various values that the customer obtains from the purchased product, and the loss refers to the collection of the customer's payment. Tourist perception is the psychological process by which tourists obtain information about tourist objects and tourist environmental conditions through perception. Tourist perception constitutes the behavior environment of tourists. Perception object attributes are the various attributes displayed by the perception object, including aspects such as image, price, quality, sense of crisis and safety. The tourism academia mainly focuses on three aspects: the research of tourist perception model and internal mechanism, the research of tourist perception based on the attributes of perception objects and the application of tourism perception. The research scope of the tourist's perceived value in this article is defined as the tourist's perceived value of the high-speed rail transportation in the four aspects of time, space, price, experience, and so on.

From the perspective of research, Zeitha perceives value as a multi-dimensional concept, one is divided from the perspective of "profit" and "loss"; the other is from the overall perspective of emotional value, functional value, and social value; from the perspective of research measurement model, The one-dimensional scale used in early research has gradually been replaced by the two-dimensional and multi-dimensional attitude scale represented by the PERVALR scale and the DEVAL scale. With the gradual deepening of research, profit factors such as service quality and quality of experience, as well as factors such as perceived risk, are gradually included in the research category. Figure 1 shows the perceivable value theory model proposed by Zeithaml.

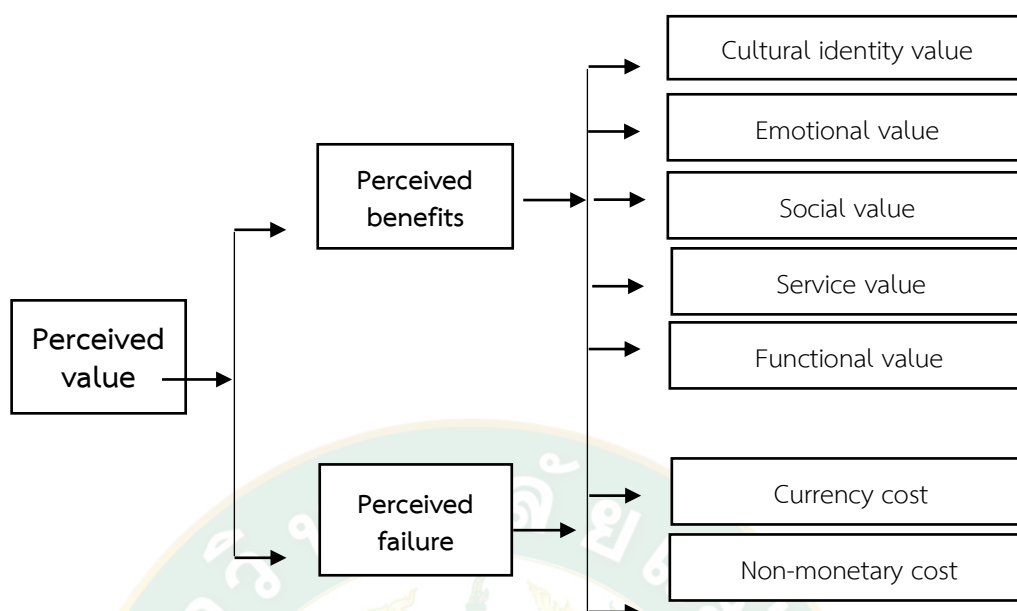


Figure 1 Zeithmal's perceived value model diagram

Tourist behavior theory

Tourist behavior refers to the psychological processes, psychological characteristics and behaviors reflected by tourists in all aspects of tourism activities, which mainly include tourists' motivational behavior, decision-making behavior, spatiotemporal behavior, host-guest interaction behavior, and subsequent evaluation behavior. Tourist behavior is the basis of tourism planning. The analysis of tourist behavior is helpful to the evaluation of tourism resources and market analysis. There is a two-way relationship between tourist behavior and the space-time environment of tourist destinations. The purpose of tourist behavior research is to allocate tourism resources more reasonably and provide scientific basis for tourism planning. At the same time, tourist behavior directly affects the quality of experience and evaluation of tourists themselves. Therefore, this article hopes to better improve the quality of tourist experience through the analysis of the behavior of high-speed rail tourists, while providing a scientific basis for tourism planning and management.

Tourism behavior process analysis Tourism behavior is not just a value exchange behavior, but a process. This process begins before tourists purchase and consume tourism products, and it also includes satisfaction after purchasing and consuming tourism products. The entire tourism behavior process can be divided into five stages:

1. Requirements identification stage. Tourists' travel behavior starts with demand identification. The demand can be caused by the physical and psychological conditions of tourists, and it can also be caused by the stimulation of external things. In this process, the overall image and requirements for tourism products formed in people's minds, as well as the resulting attitudes, are the basis for the formation of tourism motivation and the source of tourism purchase behavior.

2. In the stage of information collection and evaluation, when people have travel needs, they will generally take the initiative to seek relevant travel information. There are usually four sources of information, namely, related group sources, commercial sources, public sources and personal experience sources. Generally speaking, factors such as an individual's economic status, cultural literacy, value orientation, family influence, social class and personality will have an important impact on information collection and evaluation.

3. Tourism motivation and decision-making stage Through the evaluation of alternative products, tourists have initially generated purchase motivation. The purchase motivation of tourists is often interfered by the opinions of others and sudden factors. The degree of influence of others on travel decisions depends on the degree of denial of the travel decisions by others and the influence of others' opinions on tourists. The stronger the denial of a tourism decision by others, and the closer the relationship with the tourist or the more important it is to the tourist, the more likely it is for the tourist to change their decision. Sudden factors may also cause travel buyers to change their purchasing motivations.

4. At the stage of tourism purchase and consumption behavior, after tourists make a positive tourism decision, they enter the actual purchase and consumption process of tourism products. At this stage, tourists generally make relevant purchases and consumption based on the decisions made in advance. behavior. But in fact, tourists often change their original intentions due to new information or the influence of some accidental factors in the travel process, and make decisions again after re-drawing the evaluation criteria, and finally implement the corresponding purchase and consumption behaviors according to the new decisions.

5. Post-event satisfaction stage. Post-event satisfaction is the psychological activity and behavioral performance that tourism enterprises can create worthy of recollection after attracting tourists to participate by designing certain tourism products and services. Tourists generally have three kinds of experiences after completing their purchase and consumption behaviors: satisfaction, dissatisfaction and doubt. Each experience will be accompanied by specific behaviors. These

experiences and behaviors will affect the next purchase behavior of tourists and the purchase decisions of others. If the tourist is satisfied, then next time he is likely to be inclined to buy the product and service, and will often praise and recommend the product and service to other related groups, which will have a positive effect on the purchase decision behavior of other related groups Promoting role. On the contrary, he tends to no longer purchase the product and service, and may complain to relevant departments on the spot, or complain about the product and service in front of relevant groups and others, which greatly influences the purchase decision of these people. negative impacts. When tourists experience neither satisfaction nor obvious dissatisfaction, they generally have little influence on the purchase decision of others.

In reality, not all travel behaviors need to go through the five stages of demand identification, information collection and evaluation, travel motivation and decision-making, travel purchase and consumption behavior, and post-satisfaction. They often vary with the behavior of tourists. Shows great volatility.

Related Study

High-speed rail tourism research content abroad

1. Research on the Impact of High Speed Rail on Regional Tourism Economy

Bonnafeous (1987) pointed out that the opening of the French high-speed rail (TGV) between Paris and Lyon has caused major changes in tourism demand and supply. The number of tourists between Paris and Lyon has continued to rise, and tourism shopping expenditure has increased significantly. After the opening, the stimulus effect on the regional tourism economy has been significantly enhanced. Okada (1994) analyzed that after the opening of the Shinkansen in Japan, the journey from Tokyo to Osaka was shortened to 2 hours and 25 minutes. As a result, residents along the route had a significant increase in their desire to travel to Tokyo, and this resulted in a clear direction of tourist flow, and the travel rate of residents along the route. Significantly improved, the economic role of Osaka City has been significantly enhanced. Bruce Prideaux (2000) and Banister (2005) respectively pointed out that after the opening of the high-speed rail, the areas along the high-speed rail have been promoted to take advantage of travel convenience to promote the development of the regional tourism economy, and the economic income level of the tourist cities connected by the high-speed rail and the tourist destinations passing by has increased significantly. Paul Peeters (2007) analyzed the high-speed rail

transportation system throughout Europe, and pointed out that the rapid development of high-speed rail construction and residents' choice of high-speed rail as a travel mode have further promoted the integration of European countries in economic, social, and cultural aspects. The role of tourism is very important. Sean Randolph (2008) studied the economic impact of the high-speed rail on the cities along the route and predicted the employment and population of the California Bay Area in 2030, and pointed out that the construction of the high-speed rail will promote the growth of both population and employment in tourist destinations along the route. Jose M Urena (2009) pointed out that the completion of the high-speed rail has brought more tourists to the Mediterranean region, and the number of tourists has increased significantly. Moreover, traveling by high-speed rail is convenient and fast, which greatly saves tourists' time consumption during travel and accelerates travel schedules. Therefore, the "day trip" travel method has become more popular.

2. Research on the Impact of High Speed Rail on the Spatial Pattern of Tourist Destinations

Kaul (1985) pointed out that tourist traffic can have a significant impact on tourist destinations at various stages of the life cycle, and a reasonable traffic system can also rejuvenate the declining or dying tourist central area. The development of the transportation system can promote the emergence, evolution, growth and expansion of tourist destinations. As a new tourist transportation tool, high-speed rail has stimulated the tourist wave in tourist centers. Oskar's (2005) study on Sweden's svealand high-speed rail showed that more residents along the high-speed rail choose to travel by high-speed rail due to the advantages of fast speed, comfortable environment, lower ticket prices, and saving travel time. The opening of the high-speed railway has a significant impact on the tourism market and the behavior of tourists, and plays an important reference role in the choice of tourist destinations for residents along the high-speed railway stations. Masson (2009) analyzed the area along the high-speed railway between Perpignan in southern France and Barcelona, Spain. The study showed that high-speed rail has increased the attractiveness of Barcelona's tourism resources and formed an agglomeration effect. The study found that high-speed rail intensified spatial competition among tourist destinations. The convenient conditions brought about by high-speed rail travel have made tourist activities gather in Barcelona, which has weakened the competitiveness of Perpignan's tourism resources and continued to divert tourists. Therefore, he pointed out that the opening of high-speed rail will bring new tourism to cities along the route on the other hand, it also makes the competition of tourist destinations obvious. Each tourist

destination needs to enhance the differentiation of tourism products to increase spatial competitiveness. Garmendia (2011) analyzes the effect of high-speed rail on tourism in underdeveloped areas. The article takes sparsely populated areas as the research object, analyzes the travel frequency and travel purpose of local residents, compares the travel frequency, travel destinations and travel expenses before and after the opening of the high-speed rail, and points out that the high-speed rail has caused problems in areas with inconvenient transportation. The spatial pattern of tourism has changed tremendously. The opening of high-speed rail has significantly improved the travel of residents in poorly-traffic areas. Residents have a strong desire to travel and their tourism goals are clearly directed. High-speed rail promotes the accelerated integrated development of cities with a travel time of less than one hour.

3. Research on the Impact of High Speed Rail on Tourists' Behavior and Motivation

Prideaux (2000) used a transportation cost model to analyze the relationship between traffic conditions and the choice of tourism purpose, and pointed out that tourists would seek alternative tourist destinations because of inefficient transportation systems. The transportation cost caused by the distance between the tourist residence and the tourist destination has become an important factor influencing the tourist's choice of destination. Travel time, travel comfort, and travel expenses together constitute the Factors affecting land selection. High-speed rail saves time and costs, improves travel comfort, can reduce tourist transportation costs, and promotes the development of tourist destinations along the route. Reg Harman (2006) analyzed that the opening of French high-speed rail has greatly changed the way business travelers travel. As the travel time is shortened, business tourists can realize the same-day round trip between the two cities, and the accommodation rate is reduced. The number of "day trips" and short-distance tourists has increased significantly. Masson (2009) compared the number of tourists in Catalonia and Roussillon before and after the opening of the high-speed rail, and found that the opening of the high-speed rail triggered a change in tourists' travel motivation and behavior, and more tourists came and went for shopping on the same day.

4. Research on the impact of high-speed rail on tourism enterprises

Danaher (1996) pointed out that the emergence of high-speed railways can shorten the time and space distance between tourists and destinations, and further stimulate people's desire to travel. At the same time, it has also promoted changes in tourism. High-speed rail business tourism and leisure tourism have developed

rapidly, the accommodation rate of business hotels and tourist resort hotels has increased significantly, and the local leisure tourism and entertainment facilities have also been greatly improved. Reg Harman (2006) and Masson (2009) also pointed out that due to the fast and convenient high-speed rail, the travel time was reduced, and the number of “day trips” tourists increased rapidly, which also had a certain impact on the accommodation industry in tourist destination cities. Prideaux (2000) Paul Peeters (2007) and José M Ureñá (2009) pointed out that the construction of high-speed rail stimulates the development of tourism and provides more employment opportunities. The appearance of a large number of tourists has also caused the adjustment of the industrial structure of tourism enterprises. The emergence of high-speed rail has promoted the close connection between large and medium-sized cities and surrounding small cities, and has changed the hierarchy of regional urban systems. Facilitating the developed high-speed rail transportation system enables countries to further integrate economic, social, and cultural, and further promotes tourism cooperation between countries, which has an important impact on the development of tourism enterprises in various countries.

China's high-speed rail tourism research content

1. Research on the Comprehensive Impact of High Speed Rail on Tourism Industry in Tourist Destinations

Xiong Yuanbin et al. (2010) and Hu Fen et al. (2010) separately studied the impact of Wuhan-Guangzhou high-speed rail on the development of Hubei's tourism industry, and believed that the opening of Wuhan-Guangzhou high-speed rail is a good opportunity for the development of Hubei's tourism industry. The article analyzes the problems and challenges in the development of Hubei's tourism industry, and proposes that Hubei's tourism industry should take advantage of the good opportunities of the high-speed rail era to adjust the tourism industry structure, innovate tourism products, and strengthen tourism marketing. Jiang Zhaoyi (2011) studied the tourism development strategy of Northern Jiangsu in the era of high-speed rail. The railway transportation in Northern Jiangsu has always been relatively backward. The construction of the high-speed railway transportation network will undoubtedly give the tourism of Northern Jiangsu the wings to take off. With the help of tourist resources brought by high-speed rail, the tourism industry in northern Jiangsu will further integrate tourist resources, plan tourist routes, and provide tourists with refined tourist products. Wang Xuefeng (2011) studied the impact of Zhengzhou-Xi'an high-speed rail on tourism in Luoyang, and pointed out that the opening of

Zheng-Xi's high-speed rail promoted the further development of urban tourism. At the same time, it also brought certain problems. The influx of tourists has brought challenges to urban infrastructure construction.

2. Research on the impact of high-speed rail on tourism economy along the route.

Huang Ailian (2011) uses the new economic geography model to study the impact of high-speed rail on the development of regional tourism economy. The operation of high-speed rail strengthens economic, cultural and personnel exchanges between regions, accelerates the flow of personnel, logistics, capital, and information, optimizes resource allocation, and effectively Promote the coordinated promotion of tourism economic and social development strategies in various regions. Zhu Taoxing et al. (2016) pointed out that the most direct role of high-speed railways is reflected in the "time and space" effect created for urban tourism. The completion of high-speed railway stations will gather a large number of tourist flows and will develop into landmark buildings and tourist attractions in the city; And to promote the urban economic late-comer advantages of stations along the high-speed rail to be reflected. High-speed rail has given birth to a number of cross-regional "high-speed rail tourism city circles" and "high-speed rail tourism economic circles" of different levels and scales. Guo Jianke et al. (2016) analyzed the change characteristics of the accessibility of the tourism transportation network of the northeastern cities after the opening of the Harbin-Dalian high-speed rail. The study shows that the high-speed rail has strengthened the accessibility of tourism transportation and tourism economic links in the northeast cities. Big tourism development momentum, and accelerate the formation of the Harbin-Dalian high-speed rail tourism belt. In addition, the high-speed rail has caused a "polarization effect" in the spatial distribution of the tourism market. While improving the efficiency of supply and demand in the tourism industry, it has also widened the tourism gap between cities, which is not conducive to the coordinated development of the tourism industry.

3. Research on the accessibility of high-speed rail to tourist destinations.

Guo Wei et al. (2014) studied the changes in tourism accessibility in the Beijing-Tianjin-Hebei region after the opening of the high-speed rail, and pointed out that the construction of the high-speed rail network has promoted the overall optimization of tourism traffic in the Beijing-Tianjin-Hebei region, and the connection between cities is more convenient and closer. However, the improvement of accessibility is negatively related to the perfection of local transportation. The dense road network formed by the opening of high-speed rail will only narrow the difference between "core cities"

and “peripheral cities” to a certain extent, but this difference cannot be eliminated in the short term. Wang Degen (2014) analyzed the impact of Wuhan-Guangzhou high-speed rail on the accessibility of cities along the line, and pointed out that before and after the opening of Wuhan-Guangzhou high-speed rail, Wuhan, Changsha-Zhutan and the core cities of the Pearl River Delta Metropolitan Area Significant changes have taken place, and it is proposed to use the metropolitan area as the basic spatial structural unit, and the Wuhan-Guangzhou high-speed rail as the link, and finally construct the Wuhan-Guangzhou high-speed rail tourism belt by identifying large-scale regional key tourism development points, tourism development axes, and tourism destination systems, And then achieve the goal of integrated development of high-speed rail regional tourism. Chen Fang et al. (2016) took Yunnan as an example to analyze the impact of high-speed rail on the accessibility pattern of regional tourism and pointed out that after the completion of high-speed rail, the level of accessibility of tourist transportation to Yunnan via tourist sources in various cities has been greatly increased, and tourist traffic can reach the convergent effect of sexual time and space is obvious.

4. Research on the impact of high-speed rail on tourists' travel patterns.

Xu Chunxiao (2014) used Changsha residents as an example to study the behavior and willingness of high-speed rail rides, Feng Yingjie (2014) used Nanjing residents as an example to study the impact of high-speed rail on urban residents' parade behavior, Kang Yue (2016) analyzed the post-70s and post-80s The post-90s motives for choosing high-speed rail travel behavior all point out that high-speed rail is an important mode of transportation for tourists when they travel, which promotes inter-city mobility among residents, and has a significant effect on tourism, shopping, leisure and entertainment. High-speed rail has increased the attractiveness of tourist centers, but its effect on small cities along the line is not obvious, and pointed out that there are still certain problems with high-speed rail travel for consumers in small and medium-sized cities.

Over all

From the above literature review, it can be found that due to the early construction of high-speed rail in foreign countries, there are relatively more studies on the impact of high-speed rail on tourism; China's high-speed rail research mainly focuses on the research on the impact of high-speed rail on the development of tourist destinations, and the impact of high-speed rail on the regional spatial structure Research, research on the impact of high-speed rail on tourist behavior, etc. The

existing domestic research on high-speed rail mainly analyzes the role of high-speed rail as a transportation facility and the changes it brings from the perspective of supply, and from the perspective of demand the analysis of factors affecting consumers' demand changes and behavior choices under this influence is less involved. In short, the domestic research on high-speed rail tourism has a large gap compared with foreign countries, and it is still in its infancy.

With the development of transportation, tourists have more choices in the transportation mode. In order to meet the changes and development of consumer demand, the research focus should be extended from the perspective of tourism transportation planning and supply to the perspective of tourism transportation demand. And further strengthen the discussion and research on tourist decision-making, travel and other behavior rules from the perspective of tourist needs. Therefore, it is necessary and significant to strengthen research on the impact of high-speed rail tourist behavior from the perspective of demand; second, we can try to introduce models to explore the characteristics and influence mechanism of high-speed rail tourist behavior decision-making.

In view of this, this article conducts research on high-speed rail tourist behavior decision-making, by introducing the theory of perceived value, constructing a high-speed rail tourist behavior decision model, and analyzing the characteristics and influence mechanism of tourist behavior changes caused by high-speed rail in order to help tourism-related companies make scientific decisions, Make reasonable plans, and provide reference opinions and suggestions for the operators of the high-speed rail tourism market in terms of market development, operation and management.

Theoretical framework

According to the literature review, the theoretical content is discussed, and the model framework of the impact of high-speed rail on tourists' travel decisions is established (Figure 2) including three structures, demographic characteristics, high-speed rail value perception, and travel decision-making.

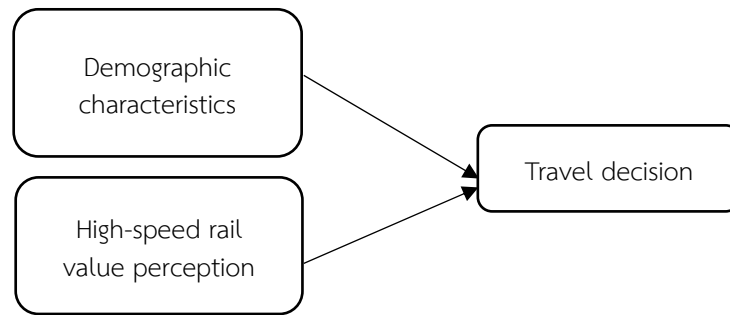


Figure 2 Theoretical framework

Conceptual framework

According to the concept of theoretical framework, and the literature review, then, in this study will follow some specialists and scholar researches' verifications, and structure the conceptual framework (Figure 3).

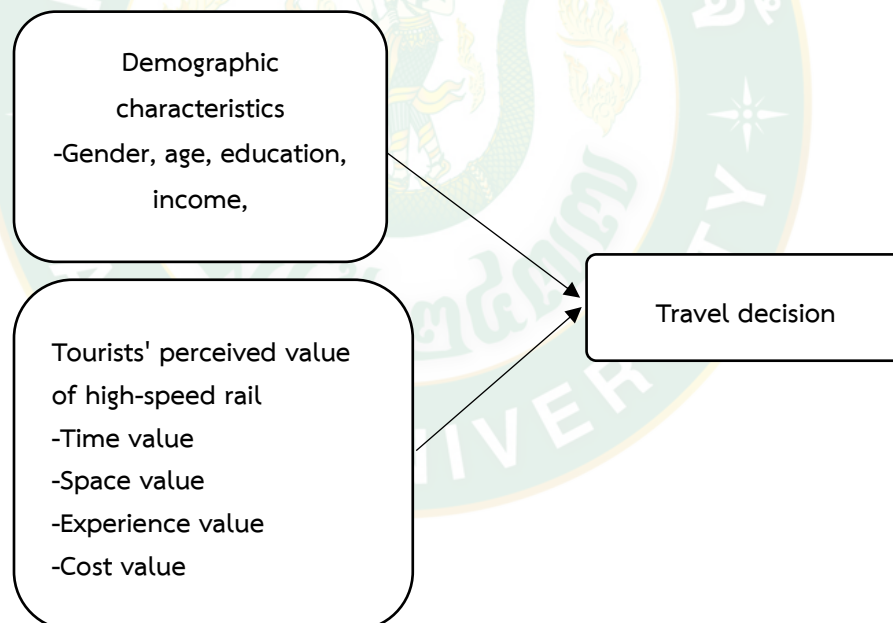


Figure 3 Conceptual framework

Research Hypothesis

Based on the above related literature research and the model construction of this article, this article puts forward the following research hypotheses:

H1 There are significant differences in the impact of high-speed rail on the perceived value and travel decision-making of tourists of different genders

H2 There are significant differences in the impact of high-speed rail on the perceived value and travel decision-making of tourists of different ages

H3 There are significant differences in the impact of high-speed rail on the perceived value and travel decision-making of tourists with different educational backgrounds

H4 There are significant differences in the impact of high-speed rail on the perceived value and travel decisions of tourists with different incomes

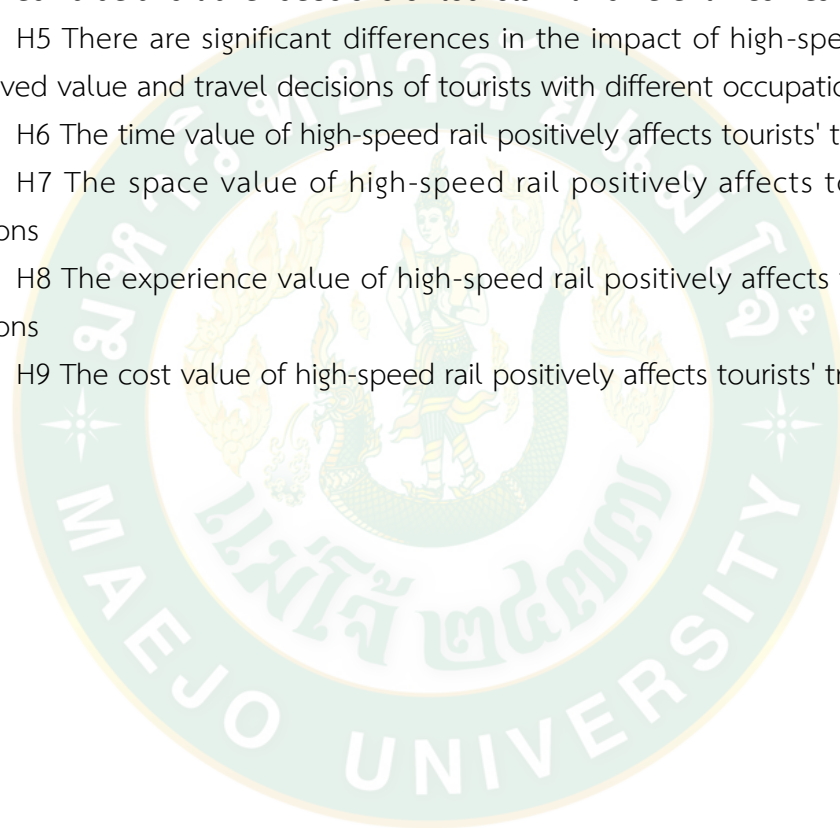
H5 There are significant differences in the impact of high-speed rail on the perceived value and travel decisions of tourists with different occupation

H6 The time value of high-speed rail positively affects tourists' travel decisions

H7 The space value of high-speed rail positively affects tourists' travel decisions

H8 The experience value of high-speed rail positively affects tourists' travel decisions

H9 The cost value of high-speed rail positively affects tourists' travel decisions



CHAPTER III

RESEARCH METHODOLOGY

Locale of the Study

The location of this study is concentrated in Nanning City, China. Nanning City is the capital of Guangxi Province, with a total area of 22,100 square kilometers.

Population and Sampling Procedures

Population

The survey objects of this study are residents living in Nanning City. According to China's seventh census data, as of 0:00 on November 1, 2020, the permanent population of Nanning City is 8.741584 million.

Sampling

In this study will use the Convenience Sampling. The sample of this research is calculated by using Taro Yamane (Yamane, 1973) formula with 95% confidence level. (According to the data of the China's seventh census in 2020, the permanent population of Nanning is 8,741,584.) The calculation formula of Taro Yamane is presented as follows.

$$n = \frac{N}{1 + N(e)^2}$$

n= sample size required

N = number of people in the population

e = allowable error (%)

Substitute numbers in formula:

$$n = \frac{8,741,584}{1 + 8,741,584(0.05)^2}$$

n = 400 (Rounded)

From the calculation point of view, the sample size should be 400 or more. In order to avoid incomplete or missing part of the questionnaires during the collection process, the researchers chose to distribute 500 questionnaires to collect data at Nanning East Railway Station. Then, 449 questionnaires were selected from the sample units for further analysis.

Research Measurement

This study will take a questionnaire survey. The questionnaire of this research includes three parts: demographic characteristics, the theoretical scale of tourists' perceived value of high-speed rail, and the impact of high-speed rail on tourists' travel decisions. The demographic characteristics of the first part are mainly based on the characteristics of the research object; the second part of the Perceived Value Scale uses the Likert five-level scale for scoring; the third part is the impact of high-speed rail on tourists' travel decisions, mainly used to count the high-speed rail. The relevant preferences and travel characteristics of tourists in order to provide constructive opinions and suggestions to the subjects related to high-speed rail tourism.

In this study part 2 will take the questionnaire survey. The questionnaire adopts Likert-type scale with 5 degrees, and uses the criteria of the measurement as follows: 5= Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree, to measure the respondents' intention for each question. Moreover, after the data analysis, we can discuss the degree of the agreement, if gets the point between of 4.21 - 5.00, that means strongly agrees with the argument; if gets the point between of 3.41 - 4.20, that means agrees with the argument; if gets the point between of 2.61 - 3.40, that means neutral with the argument; if gets the point between of 1.81 - 2.60, that means disagrees with the argument; finally, if gets the point between 1.00 - 1.80, that means strongly disagrees with the argument.

Demographic characteristics

The demographic characteristics part is mainly to consider different characteristics according to the basic situation of the measured object obtained. Differences in decision-making for high-speed rail travel among recruits. The first part of the basic information mainly includes 5 questions: They are the collection of information in five aspects: gender, age, occupation, education, and income of the research object.

High Speed Rail Perceived Value Scale

Table 1 High Speed Rail Perceived Value Scale

variable	Measurement item
Time value	1. The high-speed rail runs fast, which can save travel time
	2. The high-speed rail can meet my requirements for travel schedule
	3. High-speed rail operation has a high punctuality rate and short waiting time
	4. High-speed rail can reduce the time loss of early travel to avoid mishaps
Space value	1. The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities
	2. High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass through
	3. High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail
Experience value	1. Good high-speed rail passenger service
	2. High-speed rail runs smoothly
	3. High-speed rail seats are highly comfortable
	4. It is more convenient for passengers to eat, go to the toilet and move their bodies during travel
Cost value	1. The fare of high-speed rail is lower than that of the same mileage
	2. High-speed rail fares are not high
	3. High-speed rail is cost-effective

Scale for the impact of high-speed rail on tourists' travel decisions

Table 2 Behavioral Decision Scale

Travel decision	<ol style="list-style-type: none"> 1. I am willing to recommend to others to take the high-speed rail 2. After the experience, I am willing to choose to take the high-speed rail again 3. After the high-speed rail is opened, I will choose high-speed rail as a common way to travel
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The impact of high-speed rail on tourists' travel decisions

Tourists' travel decisions largely reflect the tourists' personal preferences and travel characteristics. This part of the design is based on an extended study of the travel characteristics of high-speed rail tourists. There are 12 questions (the first 10 questions are single choice, the last two questions are multiple choice):

1. You choose the time you are willing to travel on the high-speed rail;
2. When you travel, you will choose to take the high-speed rail within a few hours of driving;
3. When you travel, how far away you will choose to take the railway;
4. When you travel, what price range you will choose to take the high-speed rail;
5. When you travel, which way of travel will choose the high-speed rail;
6. In what time period do you usually choose to travel by high-speed rail;
7. After arriving at the tourist destination by high-speed rail, your choice of transportation is;
8. Which of the following accommodation methods would you choose in the tourist destination;
9. You are traveling Which of the following dining options will the destination choose;
10. Which of the following shopping venues will you choose in the tourist destination;
11. What is your main purpose for traveling by high-speed rail;
12. Which type of tourist destination will you choose when traveling by high-speed rail?

Research Instrument

According to the research purpose and research theme, combined with relevant research and literature review, the research tool of this research, namely the scale of the perceived value of high-speed rail, is constructed. This research questionnaire specifically includes three parts: demographic characteristics, tourists' perceived value of high-speed rail, and high-speed rail's influence on tourists' travel decisions. In the second part of the table, each item in the table uses the Richter five-level scoring table.

Pretesting of the Instrument

About how many participants should be recruited in the pretest? According to Narins (1999) pointed that it is difficult to say how many participants to have per pretest. A rule of thumb is a sample of 25 to 75 for a large-scale study. This can vary depending upon time constraints and resources as well as whether or not a similar study has been conducted with a similar population. And on the book "Making Health Communication Programs Work: A Planners Guide" has the chapter to discuss about the planning and pretest, it mentions that in pretest the sample size should be large enough, however, to give the confidence that have sampled a range of opinions. A reasonable and adequate sample size is 50 participants typical of the target audience. According to the references in this study will get 50 participants in the pretest process.

Data Gathering

Data collection is a term used to describe the process of preparing and collecting data, for example, as part of a process improvement or similar project. The purpose of data collection is to obtain information, make decisions and record important issues, and pass the information to others (Weller and Romney, 1988). First, collect data to provide information about a specific topic. The data collection plan in this study will include the following activities:

Pre-collection activities: Obtain target data for pre-testing and determine analysis methods.

Collection: Collect data in accordance with convenience sampling methods.

Current findings: Involving some form of classification analysis and paperwork.

Following the sampling method and data collection plan, this study will use paper questionnaires and QR code questionnaires.

Analysis of Data

This study uses SPSS software to analyze from five aspects: descriptive statistical analysis, reliability analysis, validity analysis, correlation analysis, and regression analysis.

Descriptive statistical analysis

Descriptive statistical analysis is to describe the overall situation of the data, and its purpose is to ensure that the survey data is reliable. In order to understand the demographic characteristics of the sample and try to avoid errors caused by a single sample, this study uses SPSS to perform statistical analysis on the sample's gender, age, occupation and other data, and briefly explain it.

Reliability analysis

Reliability mainly refers to the comprehensive evaluation of the internal consistency, accuracy and stability of the measurement scale. The higher the reliability of the evaluation result, the higher the internal consistency, accuracy and stability of the scale. Commonly used reliability analysis methods mainly include retest reliability, half-fold reliability, and internal consistency. Among them, internal consistency is often used in the reliability test of Likertscale scale, and Cronbach is used in the reliability test. The coefficient (Cronbach's) is used as a specific indicator for quantification. The Cronbach's coefficient (Cronbach's) is between 0 and 1. The closer to 1, the higher the reliability.

validity analysis

Validity refers to the extent to which the scale can measure the required information to verify the deviation between the ideal value and the actual value. The higher the validity, the smaller the deviation between the actual effect and the ideal effect, that is, the higher the fit. Validity measurement methods mainly include structure validity, surface validity and content validity, etc. This study uses structure validity to measure the degree of consistency between actual results and ideal results.

Analysis of variance

Analysis of variance (ANOVA) is a collection of statistical models and their associated estimation procedures (such as the "variation" among and between groups) used to analyze the differences among means. ANOVA was developed by the statistician Ronald Fisher. ANOVA is based on the law of total variance, where the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether two or more population means are equal, and therefore generalizes the t-test beyond two means.

ANOVA is a form of statistical hypothesis testing heavily used in the analysis of experimental data. A test result (calculated from the null hypothesis and the sample) is called statistically significant if it is deemed unlikely to have occurred by chance, assuming the truth of the null hypothesis. A statistically significant result, when a probability (p-value) is less than a pre-specified threshold (significance level), justifies the rejection of the null hypothesis, but only if the a priori probability of the null hypothesis is not high.

Correlation analysis

Correlation analysis is a statistical method to study the closeness of the relationship between variables. This paper mainly uses the Person correlation coefficient to conduct a preliminary test of the linear relationship between the variables, in order to initially judge whether the research hypothesis and model design are reasonable. The value range of the correlation coefficient r is between -1 and 1. If the correlation coefficient $r > 0$, it means that there is a positive correlation between the two variables; otherwise, it is a negative correlation. The closer the absolute value of the correlation coefficient r is to 1, the stronger the correlation; the closer the absolute value of the correlation coefficient r is to 0, the weaker the correlation. It is generally considered that $0 \cong |r| \leq 0.2$ is extremely weak or irrelevant, $0.2 \leq |r| \leq 0.4$ is weak correlation, $0.4 \leq |r| \leq 0.6$ is moderate correlation, $0.6 \leq |r| \leq 0.8$ is strong correlation, $0.8 \leq |r| \leq 1$ is a significant correlation.

Research Duration

About the research duration in this study, it is from June 2020 to June 2021. In this duration includes 10 tasks should be down.

CHAPTER IV

RESULTS AND DISCUSSION

This research adopts the method of field research, mainly randomly issuing questionnaires (paper questionnaires or QR code questionnaires) in the waiting room of high-speed rail stations. The survey subjects are mainly Nanning residents who are about to take or have taken high-speed trains, and are expected to have plans and choose to travel by high-speed trains at present or at some point in the future.

The official survey time of this research questionnaire is March and April 2021. It is mainly distributed randomly in the waiting room of Nanning East Railway Station. A total of 500 copies were distributed, and 449 questionnaires were actually returned.

Descriptive analysis

Descriptive statistical analysis of basic population characteristics

Through the data processing of the 449 valid questionnaires collected from the survey, descriptive statistical analysis was carried out from various aspects of the basic demographic characteristics such as gender, age, occupation, education level and income level of the interviewees. The specific conditions are shown in the following table:

Table 3 Statistical table of basic characteristics of the sample

Items	Categories	N	Percent (%)
1. What is your gender	male	265	59%
	Female	184	41%
2. What is your age	<18 years old	12	3%
	18-30 years old	129	29%
	31-40 years old	127	28%
	41-55 years old	143	32%
	>55 years old	38	9%

Table 3 (Continued)

Items	Categories	N	Percent (%)
	worker	4	1%
	Farmer	22	5%
	government employee	69	15%
	Institutional personnel	102	23%
	Private company employees	90	20%
3. What is your occupation	Operators	35	8%
	Professional and technical personnel	26	6%
	teacher	21	5%
	student	40	9%
	Self-employed	28	6%
	Retirees	11	2%
	other	1	0%
	Junior high school and below	19	4%
	High school / technical secondary school / vocational high school	63	14%
4. What is your educational background	Junior college	125	28%
	Undergraduate	174	39%
	Postgraduate and above	68	15%
	1000 yuan and below	23	5%
	1001-3000 yuan	43	10%
	3001-5000 yuan	117	26%
5. What is your current salary	5001-7000 yuan	147	33%
	7001-10000 yuan	94	21%
	10001 yuan and above	25	6%

According to table 3

1. From the perspective of gender composition, there are 265 males and 184 females in the effective sample, accounting for 59% and 41% of the valid questionnaires respectively. Overall, the proportion of men is higher than that of women.

2. From the perspective of age composition, the age of the subjects in this study is mainly distributed between 41-50 years old, accounting for 32% of the total number of samples; followed by 18-30 years old and 31-40 years old, accounting for 29% and 29% of the total. 28%, it can be seen that the main source of tourists in the tourism market is mainly composed of young and middle-aged people.

3. From the perspective of the occupational composition of the interviewees, the occupational composition is relatively comprehensive. Among them, public institutions accounted for the largest proportion, 23.0%, with a total of 102 people; followed by private enterprise employees, with 20%, with a total of 90 people; and third was civil servants, with 8%, with a total of 69 people.

4. It can be seen from the education level that the respondents have generally higher education levels. The education level of the subjects in this study is mainly concentrated in undergraduates, accounting for 39%, a total of 174 people; followed by college students, accounting for 28%, a total of 125 people; the third is graduate students, accounting for 15%, a total of 68 people.

5. From the perspective of the monthly salary and income of the interviewees, the highest number is 147 people with a monthly income of 5000-7000 yuan, accounting for 33%; followed by 117 people with a monthly income of 3000-5000 yuan, accounting for 26%; The third is 7000-10000 RMB 94, accounting for 21%; the fourth is 1,000-3,000 yuan and below, 43 people, accounting for 10%; income above 10,000 yuan and less than 1,000 yuan, 25 and 23, respectively, accounting for 6% and 5%. According to the above analysis results, it can be seen that the numerical characteristics of the population variables reflect the situation of the respondents this time. The mean value represents the central tendency, and the standard deviation represents the fluctuation. According to the frequency results of each variable, this survey meets the basic requirements of the sampling survey.

Descriptive statistical analysis of variables

Table 4 Descriptive statistics of tourists' perception of value variables of high-speed rail

variable	Items	Sum	Mean	S.D.
Time value	A1. The high-speed rail runs fast, which can save travel time	1717	3.82	0.852
	A2. High-speed rail can meet my requirements for travel schedule	1714	3.82	0.9
	A3. High-speed rail operation has a high punctuality rate and short waiting time	1737	3.87	0.873
	A4. High-speed rail can reduce the time loss of early travel to avoid mishaps	1659	3.69	0.939
Space value	B1. The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities	1720	3.83	0.89
	B2. High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass by	1678	3.74	1.003
	B3. High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail	1743	3.88	0.875
Experience value	C1. Good high-speed rail passenger service	1775	3.95	0.843
	C2. The high-speed rail runs smoothly	1815	4.04	0.788
	C3. High-speed rail seats are highly comfortable	1743	3.88	0.983
	C4. It is more convenient for passengers to eat, go to the toilet and move their bodies during travel	1684	3.75	1.042
Cost value	D1. The high-speed rail fare is lower than that of an airplane ticket of the same mileage	1725	3.84	0.963
	D2. High-speed rail fares are not high	1667	3.71	1.132
	D3. High-speed rail is cost-effective	1763	3.93	0.907

In the time-perceived value, the average value of A1, A2, A3, and A4 of the interviewees fluctuates between 3.6-3.9, which is in the range of 3 points to agree to 4 partitions, indicating that the tourist's time-perceived value of high-speed rail is average, of which the average value of A3 Reaching 3.87 indicates that tourists most agree with the perceived value of "high-speed rail operations with high punctuality and short waiting time". In addition, the standard deviation coefficients of A1 and A3 are the smallest, indicating that the respondents have relatively consistent views on these two items and have the least fluctuations. In the spatial perception value, the average values of B1, B2, and B3 of the respondents are between 3.7 and 3.9. Compared with the time-perceived value, the respondent's spatial perception value of the high-speed rail is slightly higher; in the experience-perceived value dimension, the average values of C1, C2, C3, and C4 are all between 3.7-4.1, indicating that the respondents' "Passenger service", "stable operation", "convenience of travel activities" and other experience values have a higher sense of identity. The reason is that compared with ordinary trains, the ride facilities and service standards of high-speed rail are more complete, which makes the respondents feel more value. High; in the cost-perceived value dimension, the respondents have the highest perceived value of D3, with an average of 3.93, while the averages of D1 and D2 are 3.84 and 3.71, and the standard deviation coefficient is about 1.0, indicating that the respondents generally agree with the "high-speed rail" The attributes of "high cost-effective" and "high-speed rail fares are lower than airfares of the same mileage." Generally speaking, tourists have a higher perception of the economic cost of high-speed rail-the fare, that is, high-speed rail is more cost-effective, the fare customization is not high.

In summary, in descending order of average value, the highest perceived value of respondents is experience perceived value, followed by cost perceived value, third is spatial perceived value, and the lowest average is time perceived value.

Descriptive statistics of high-speed rail decision-making variables for tourists

Table 5 Descriptive statistics of high-speed rail decision variables for tourist travel

Items	Sum	Mean	S.D.
E1 I would recommend to others to take the high-speed rail	1760	3.92	0.806
E2 After the experience, I am willing to choose to travel by high-speed rail again	1761	3.92	0.84
E3 After the opening of the high-speed rail, I will choose the high-speed rail as a common way to travel	1756	3.91	0.877

In the high-speed rail ride willingness dimension, the average value of E1, E2, and E3 is around 3.9, which is between the average 3 points and the agreed four regions, indicating that the respondents' willingness to pay for the high-speed rail is average. Among them, the average value of E1, E2 reaches 3.92, indicating the relative Compared with "After the high-speed rail is opened, I will choose high-speed rail as a common way to travel", the interviewees agree more with the two items of "I am willing to recommend high-speed rail to others" and "I am willing to travel by high-speed rail again after the experience".

Descriptive statistical analysis of the decision-making components of Nanning residents traveling by high-speed rail

In order to further explore the travel intentions, characteristics and preferences of high-speed rail tourists, in order to better discover and summarize problems, and better provide effective opinions and suggestions for high-speed rail tourism related managers, the fourth part of the questionnaire in this study is Research on the impact of high-speed rail on tourists' travel decisions.

Table 6 Statistics on the impact of high-speed rail on travel decisions of Nanning residents

Items	Categories	N	Percent (%)
1. When you choose to travel by high-speed rail and are willing to play:	1 day	24	5.3
	2-3 days	132	29.4
	4-5 days	186	41.4
	6-7 days	82	18.3
	7 days and above	25	5.6
2. When you travel, within a few hours' drive, would you choose to take the high-speed rail?	Less than 2 hours	29	6.5
	2-3 hours	95	21.2
	3-4 hours	195	43.4
	4-5 hours	97	21.6
	5 hours and above	33	7.3
3. When you travel, how far away would you choose to take the high-speed rail?	0-250km	26	5.8
	251-500km	83	18.5
	501-1000km	170	37.9
	1001-1500km	128	28.5
	1500km or more	42	9.4
4. When you travel, what price range would you choose to take the high-speed rail?	Less than 100 yuan	25	5.6
	101-200 yuan	89	19.8
	201-300 yuan	172	38.3
	301-400 yuan	135	30.1
	400 yuan and above	28	6.2
5. When you travel, which way of travel would you choose to take the high-speed rail?	Travel agency organization	38	8.5
	Organization	93	20.7
	Friends and relatives	192	42.8
	A person	107	23.8
	other	19	4.2
6. When do you usually choose to travel by high-speed rail?	weekend	29	6.5
	Holidays	174	38.8
	annual leave	149	33.2
	Winter and summer vacation	84	18.7
	other	13	2.9

Table 6 (Continued)

Items	Categories	N	Percent (%)
7. The transportation options after taking the high-speed rail to the tourist destination are:	subway	39	8.7
	bus	65	14.5
	taxi	124	27.6
	Private car or rental car	129	28.7
	tour bus	85	18.9
	other	7	1.6
8. Which type of accommodation would you choose in a tourist destination:	family Inn	27	6
	Youth Hostel	71	15.8
	Star Hotels	94	20.9
	Economy hotel	214	47.7
	Relatives and friends home	41	9.1
	other	2	0.4
9. Which way of dining would you choose in a tourist destination:	Chinese and Western fast food	37	8.2
	Local specialty snacks	216	48.1
	Restaurant	152	33.9
	Bring your own food	37	8.2
	other	7	1.6
10. Which shopping place would you choose on your travel day:	Featured neighborhoods	40	8.9
	Mall	73	16.3
	Roadside shop	81	18
	Train station or airport shopping point	98	21.8
	Shopping spots in tourist attractions	140	31.2
	other	17	3.8
11. What is your main purpose for traveling by high-speed rail:	Sightseeing	153	34.1
	Vacation and leisure	259	57.7
	Wellness	138	30.7
	Religious worship	210	46.8
	other	30	6.7

Table 6 (Continued)

Items	Categories	N	Percent (%)
12. Which type of tourist destination would you choose when traveling by high-speed rail:	Natural scenery tourist spot	105	23.4
	Cultural tourism destination	193	43
	Historical sites	225	50.1
	Themepark tourist attraction	191	42.5
	Sporty tourist destination	154	34.3
	Industrial tourism spot	85	18.9
	Comprehensive tourist destination	56	12.5

According to table 6:

1. In terms of the length of travel by high-speed rail, 41.4% of the respondents are more willing to travel by high-speed rail for 4-5 days; 29.4% of the respondents are willing to travel for 2-3 days; 18.3% are willing to travel 6-7 days; 5.6% of people are willing to play for more than 7 days; and only 5.3% of people choose to play for only one day. It can be seen from this that most people expect to go out for fun when traveling by high-speed rail within 2-5 days, which is generally a medium-to-long-scale travel range.

2. In terms of the tendency of travel time when traveling by high-speed rail, 43.3% of people expect a 3-4 hour drive; 21.6% are willing to drive within 4-5 hours; 21.2% choose 2-3 hours Within the car; 7.5% of people would choose to drive more than 5 hours; only 6.5% of people want to travel less than 2 hours. According to the current speed of high-speed trains in my country is not less than 200km/h, most people are still willing to choose medium and long-scale tourist destinations when traveling by high-speed rail.

3. In terms of travel distance by high-speed rail, 37.9% of people would choose the range of 501-1000km; 28.5% would choose the range of 1001-1500km; 18.5% would choose the range of 251-500km; 9.4% would choose 1500km Above; only 5.8% of people choose 0-250km. It can be seen that most people choose high-speed rail travel and their choice of travel space distance tends to be in the range of 251-1000km.

4. When traveling by high-speed rail, in terms of ticket price selection, the acceptable price is 201-300 yuan, accounting for 38.3%; 30.1% of people are willing to choose 301-400 yuan; 19.8% of people will choose 100- The fare is more than 200 yuan; 6.2 people choose the fare less than 400 yuan; 5.6% of the people choose the

fare less than 100 yuan. It shows that the fare generally accepted by the public is in the middle price range.

5. When traveling by high-speed rail as a means of transportation, 42.8% of people would choose to travel with relatives and friends; 23.8% would choose a person; 20.7% would choose a unit organization; 8.5% would be organized by a travel agency; Others accounted for 4.2%.

6. The choice of travel time when traveling by high-speed rail, accounting for 38.3% of people choose holidays; 33.2% of people will travel on annual vacations; 18.7% of people choose to travel during winter and summer vacations; 6.5% of people choose to travel on weekends; 2.9 % Of people choose to travel at other times. It can be seen that there is much to be done to adjust the low and peak seasons of tourism and guide tourists to travel time.

7. In the choice of transportation after arriving at a tourist destination by high-speed rail, 28.7% of people would choose a private car or rent a car; 27.6% would choose a taxi; 8.9% would choose a tourist bus; 8.7% would choose; 6.4% of people choose subway; 1.6% of people choose other.

8. In the choice of accommodation after arriving at a tourist destination, 47.7% of people are willing to choose budget hotels; 20.9% of people choose star hotels; 15.8% of people choose youth hostels; 9.8% of people choose relatives and friends' homes; 6 % Of people choose family hotels; 0.4% of people choose other. It can be seen that in order to further meet the demand of mass tourism consumption, the tourism accommodation industry should pay attention to the development of economic hotels.

9. After arriving at the tourist destination, 48.1% of the people choose local specialty snacks; 33.9% choose restaurants; 8.2% choose Chinese and Western fast food and bring their own food; 1.6% choose others; Only 2.6% chose to bring their own food. It can be seen that the cuisine with local characteristics is very attractive to tourists and the market prospect is broad.

10. In the choice of shopping places after arriving at a tourist destination, 31.2% of people choose to shop in tourist attractions; 21.8% of people choose to shop at train stations or airports; 18% of people choose to shop at roadside shops; 16.3% of people are willing to shop in large shopping malls; 8.9% of people choose characteristic neighborhoods; 3.8% of people choose others.

11. The purpose of traveling by high-speed rail and the choice of destination type are multiple-choice questions, which means that respondents can choose according to their actual situation and interest preferences. The analysis result shows

that the purpose of traveling is sightseeing. Recreation, vacation and leisure, health and wellness, religious worship, and others accounted for 34.1%, 57.7%, 30.7%, 46.8%, and 6.3% respectively; in terms of types of tourist destinations, natural scenery tourist sites, cultural tourist sites, and historical monuments tourist sites , Theme park tourist destinations, sports tourism destinations, industrial tourism destinations, and comprehensive tourism destinations, accounting for 23.4%, 43%, 50.1%, 42.5%, 34.3%, 18.9%, and 12.5% respectively.

Reliability analysis

Time value reliability analysis

Table 7 Time value reliability analysis table

	Corrected Item- Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
A1. The high-speed rail runs fast, which can save travel time	0.767	0.839	
A2. High-speed rail can meet my requirements for travel schedule	0.73	0.853	
A3. High-speed rail operation has a high punctuality rate and short waiting time	0.787	0.831	0.881
A4. High-speed rail can reduce the time loss of early travel to avoid mishaps	0.692	0.869	

The reliability measurement uses the Cronbach alpha coefficient. The reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, the reliability of the scale is acceptable. If the reliability coefficient of the scale is between 0.7 - 0.8, it means that some items of the scale need to be revised, and the reliability coefficient below 0.7 indicates that some items of the scale need to be discarded. In summary, from the Cronbach's alpha coefficient reliability test in the above table, the Cronbach's α is greater than 0.7, indicating good reliability. Therefore,

the overall content of the time value dimension does not need to be adjusted.

Analysis of Spatial Value Reliability

Table 8 Space value reliability analysis table

	Corrected Item-Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
B1. The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities	0.696	.629	
B2. High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass by	0.67	0.655	0.783
B3. High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail	0.516	0.813	

The reliability measurement uses the Cronbach alpha coefficient. The reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, the reliability of the scale is acceptable. If the reliability coefficient of the scale is 0.7 Between -0.8, it means that some items of the scale need to be revised, and the reliability coefficient below 0.7 indicates that some items of the scale need to be discarded. In summary, from the Cronbach's alpha coefficient reliability test in the above table, the Cronbach's α is greater than 0.7, indicating good reliability. Therefore, the overall content of the spatial value dimension does not need to be adjusted.

Reliability analysis of experience value

Table 9 Experience Value Reliability Analysis Table

	Corrected Item- Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Cronbach 's Alpha
C1. Good high-speed rail passenger service	0.665	0.821	
C2. The high-speed rail runs smoothly	0.656	0.826	
C3. High-speed rail seats are highly comfortable	0.764	0.776	0.850
C4. It is more convenient for passengers to eat, go to the toilet and move their bodies during travel	0.699	0.81	

The reliability measurement uses the Cronbach alpha coefficient. The reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, the reliability of the scale is acceptable. If the reliability coefficient of the scale is 0.7 Between -0.8, it means that some items of the scale need to be revised, and the reliability coefficient below 0.7 indicates that some items of the scale need to be discarded. In summary, from the Cronbach's alpha coefficient reliability test in the above table, the Cronbach's α is greater than 0.7, indicating good reliability. Therefore, the overall content of the experience value dimension does not need to be adjusted.

Analysis of cost value reliability

Table 10 Cost value reliability analysis table

	Corrected Item- Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
D1. The high-speed rail fare is lower than that of an airplane ticket of the same mileage	0.635	0.68	0.778
D2. High-speed rail fares are not high	0.571	0.767	
D3. High-speed rail is cost-effective	0.658	0.663	

The reliability measurement uses the Kronbach alpha coefficient. The reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, the reliability of the scale is acceptable. If the reliability coefficient of the scale is 0.7 Between -0.8, it means that some items of the scale need to be revised, and the reliability coefficient below 0.7 indicates that some items of the scale need to be discarded. In summary, from the Cronbach's alpha coefficient reliability test in the above table, the Cronbasha's α is greater than 0.7, indicating good reliability. Therefore, the overall content of the cost value dimension does not need to be adjusted.

Reliability analysis of travel decision

Table 11 Reliability analysis table of travel decision

	Corrected Item- Total Correlation(CITC)	Cronbach's Alpha if Item Deleted	Cronbach' s Alpha
E1 I would recommend to others to take the high-speed rail	0.763	0.777	0.859

Table 11 (Continued)

	Corrected Item- Total Correlation(CITC)	Cronbach's Alpha if Item Deleted	Cronbach' s Alpha
E2 After the experience, I am willing to choose to travel by high-speed rail again	0.748	0.788	
E3 After the opening of the high-speed rail, I will choose the high-speed rail as a common way to travel	0.693	0.843	

The reliability measurement uses the Cronbach alpha coefficient. The reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, the reliability of the scale is acceptable. If the reliability coefficient of the scale is between 0.7-0.8, it means that some items of the scale need to be revised, and the reliability coefficient below 0.7 indicates that some items of the scale need to be discarded. In summary, from the Cronbach's alpha coefficient reliability test in the above table, the Cronbach's α is greater than 0.7, indicating good reliability. Therefore, the overall content of the travel decision dimension does not need to be adjusted.

Overall reliability analysis

Table 12 Overall reliability analysis

Cronbach Alpha	Cronbach Alpha based on	
	standardized terms	items
.888	.888	17

According to the overall reliability coefficient, it can be seen that the Cronbach Alpha based on standardized items is 0.888, indicating that the overall reliability of the questionnaire is very high.

Validity analysis

Results of the overall validity analysis of the questionnaire

Table 13 KMO and Bartlett test

KMO Measure of Sampling		0.850
	Approx. Chi Square	3953.261
Bartlett Test	Df	136
	sig.	.000

This validity analysis is through the spss25 version, exploratory factor analysis method to achieve the test process. According to the above exploratory factor analysis results, the coefficient of the KMO test is 0.850, and the KMO coefficient is between 0-1. The closer to 1 the questionnaire is, the better it is, indicating that the questionnaire has good reliability. According to the significance of the sphere test, it can also be seen that the significance of this test is infinitely close to 0, indicating that the correlation coefficient is not a unit rectangle and has good construct validity because it is suitable for exploratory factor analysis.

Exploratory factor analysis (EFA)

After the variables pass the appropriateness test, the principal component analysis method and the Varimax orthogonal transformation method are used to extract the common factors. In factor extraction, the number of common factors is determined based on the principle that the feature value is greater than 1, and then Varimax orthogonal transformation is performed on the extracted factors, and the factors with factor loads greater than 0.50 are extracted as representative common factors.

Table 14 Total Variance Explained

Factor	Variance Explained																
	Eigen							% of Variance (Unrotated)							% of Variance (Rotated)		
	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance		
1	5.353	38.239	38.239	5.353	38.239	38.239	2.979	21.28	21.28	2.979	21.28	21.28	2.979	21.28	21.28		
2	2.21	15.786	54.025	2.21	15.786	54.025	2.781	19.867	41.147	2.781	19.867	41.147	2.781	19.867	41.147		
3	1.295	9.249	63.274	1.295	9.249	63.274	2.142	15.302	56.449	1.295	9.249	63.274	2.142	15.302	56.449		
4	1.179	8.418	71.692	1.179	8.418	71.692	2.134	15.243	71.692	1.179	8.418	71.692	2.134	15.243	71.692		
5	0.702	5.014	76.706														
6	0.586	4.182	80.888														
7	0.518	3.701	84.589														
8	0.405	2.889	87.478														
9	0.362	2.586	90.064														
10	0.335	2.392	92.456														
11	0.31	2.214	94.669														
12	0.273	1.95	96.619														
13	0.262	1.87	98.49														
14	0.211	1.51	100														

Remark: Extraction method: principal component analysis method.

Through the extraction of principal components, a total of 4 factors were extracted from the 14 items in the questionnaire in this article, and from the cumulative variance contribution rate analysis in the table, it can be seen that the first seven factors explain 71.692% of the variance variation, including large Part of the information, that is, this factor has a better explanatory power for all items. Therefore, this variable can be divided into 4 categories, and then the sample variables will be further analyzed.

After principal component analysis and variance maximization rotation, a factor is extracted as shown in the table. After the maximum variance is rotated, the factor loading of each item within the factor is greater than 0.5, which meets the research requirements. After rotating the factors, as shown in the table, it can be seen from the cumulative variance contribution rate that the four factors have explained 71.692% of the variance of all indicators and contain most of the information. It can also be explained that this questionnaire has good validity.

Table 15 Factor loading (Rotated)

Component Score Coefficient Matrix				
Topic	Component			
	1	2	3	4
A1. The high-speed rail runs fast, which can save travel time	0.858	0.07	0.096	0.134
A2. High-speed rail can meet my requirements for travel schedule	0.841	0.16	0.063	0.05
A3. High-speed rail operation has a high punctuality rate and short waiting time	0.892	0.077	0.015	0.086
A4. High-speed rail can reduce the time loss of early travel to avoid mishaps	0.763	0.132	0.17	0.225
B1. The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities	0.121	0.206	0.118	0.846
B2. High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass by	0.148	0.243	0.241	0.779

Table 15 (Continued)

Component Score Coefficient Matrix				
Topic	Component			
	1	2	3	4
B3. High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail	0.15	0.151	0.122	0.714
C1. Good high-speed rail passenger service	0.205	0.759	0.149	0.167
C2. The high-speed rail runs smoothly	0.125	0.791	0.083	0.155
C3. High-speed rail seats are highly comfortable	0.066	0.842	0.195	0.148
C4. It is more convenient for passengers to eat, go to the toilet and move their bodies during travel	0.059	0.757	0.261	0.228
D1. The high-speed rail fare is lower than that of an airplane ticket of the same mileage	0.085	0.216	0.831	0.096
D2. High-speed rail fares are not high	0.148	0.236	0.687	0.262
D3. High-speed rail is cost-effective	0.065	0.127	0.845	0.135

Remark: Extraction method: principal component analysis method.
 Rotation method: Caesar normalized maximum variance method.
 a The rotation has converged after 5 iterations.

The four principal component factors are named according to the commonality between the factor load after rotation and the original variables contained in each factor.

The first common factor mainly reflects the tourist's perception dimension of the rapidity of high-speed rail. The four variables A1, A2, A3, and A4 have higher loads of 0.858, 0.841, 0.892, 0.763, respectively, which explains the overall variance The contribution is 21.28%. According to the meaning of these original variables, it reflects the time benefit value factors such as "saving journey time", "satisfying the journey time schedule" and "high punctuality" of the high-speed rail, which matches the hypothetical value dimension of the high-speed rail's perceived time benefit. The common factor is named "time value".

The second common factor mainly reflects the dimensions of tourists' perception of high-speed rail experience. The loads of the four variables C1, C2, C3,

and C4 are 0.759, 0.791, 0.842, and 0.757, respectively, and their contribution to the explanation of the overall variance is 19.867%. Concentrates on the high-speed rail "passenger service", "stable operation", "riding comfort", "travel process convenience" experience perception benefits, reflecting the tourist experience of passenger service, ride comfort and other factors when taking the high-speed rail, and assuming that the high-speed rail's perceived experience benefit value dimension matches, this article names this common factor as "experience value".

The third common factor mainly reflects the tourist's perception of the cost of high-speed rail. The loads of the three variables D1, D2, and D3 are 0.831, 0.687, and 0.845, respectively, and their contribution to the explanation of the overall variance is 15.302%. It collectively reflects the economic cost of high-speed rail tourists, focusing on the perceived cost value dimensions such as "high-speed rail fares are lower than airfares of the same mileage", "high-speed rail fares are not high", and "high-speed rail is more cost-effective". Matching the perceived value dimension of the economic cost of high-speed rail, which is named "cost value" in this article.

The fourth common factor mainly reflects the tourist's perception of the spatial distance of high-speed rail. The loads of the three variables B1, B2, and B3 are 0.846, 0.779, and 0.714, respectively, and their contribution to the explanation of the overall variance is 15.243%. Concentrates on the high-speed rail "wide radiation range", "increasing the desire for tourism in cities along the high-speed rail", "increasing the desire for tourism in scenic spots around the high-speed rail" and other spatially perceived benefits, reflecting that the opening of high-speed rail has greatly shortened the space for tourists to the original cities and scenic spots. The attribute of perceived distance matches the hypothetical dimension of perceived value of high-speed rail space benefits. This article names this common factor as "spatial value".

In summary, from the results of exploratory factor analysis, the key influencing factors of tourists' perceived value of high-speed rail can be summarized into five aspects: experience value, time value, space value, and cost value. This is consistent with the dimensions of tourists' perceived value of high-speed rail proposed in the hypothetical model.

variance analysis

In order to understand whether there are significant differences in the various dimensional variables of the perceived value of high-speed rail by tourists with

different demographic characteristics, this study uses an independent sample T test (One-Sample T Test) to perform a significant test on the two-group average of gender, and uses One-Way ANOVA (One-Way ANOVA) tests the relationship between tourist characteristics and the perceived value of high-speed rail. The demographic variables involved in the comparison include age, occupation, education, and income.



Table 16 Gender and various variables analysis table

Independent Sample Test										
Levene's Test for Equality of Variances					t-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Confidence Interval of the Difference	Lower	Upper
Time value	3.625	0.058	0.085	447.000	0.933	0.025	0.294	-0.553	0.603	
Space value	4.400	0.036	2.999	447.000	0.003	0.661	0.220	0.228	1.094	
Experienc e value	6.954	0.009	3.192	447.000	0.002	0.926	0.290	0.356	1.496	
			3.148	373.989	0.002	0.926	0.294	0.348	1.504	

Table 16 (Continued)

		Independent Sample Test									
		Levene's Test for Equality of Variances					t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference e	Std. Error Difference	Confidence Interval of the Difference		
									Lower	Upper	
Cost value	Equal variances assumed	1.213	0.271	5.129	447.000	0.000	1.202	0.234	0.741	1.662	
	Equal variances not assumed			5.130	393.903	0.000	1.202	0.234	0.741	1.662	
Travel decision	Equal variances assumed	15.034	0.000	3.063	447.000	0.002	0.649	0.212	0.233	1.066	
	Equal variances not assumed			2.972	349.797	0.003	0.649	0.219	0.220	1.079	

Because there are only two grouping variables about gender options in the demographic characteristics variables in this research questionnaire, one-way variance cannot be used for testing, so the independent sample T test is mainly used to analyze the internal relationship between the gender of high-speed rail tourists and each factor. analysis. In the difference analysis part of each variable under different gender dimensions of high-speed rail tourists, the basis for reading the significance level sig (two-tailed) value is whether the hypothesis of the homogeneity of variance test is equal or not. In the table, the significance sig values of time value and cost value are 0.058 and 0.271, which are both greater than 0.05, indicating that the corresponding variances in sig (2-tailed) should be read, which are 0.933 and 0.000 respectively. The significance of spatial value, experience value, and travel decision-making sig values are 0.036, 0.009, 0.000, which are all less than 0.05, indicating that the corresponding variance unequal values in sig (2-tailed) should be read, which are 0.003, 0.002, and 0.003, respectively. Both are less than 0.005. It shows that people of different genders have significant differences in space value, experience value, cost value, and travel decision-making. Therefore, gender factors of men and women show significant differences in space value, experience value, cost value, and travel decision-making. However, there is no difference in time value between men and women.

Not supported H1: There are significant differences in the perceived value and travel decisions of high-speed rail for tourists of different genders

Analysis of the difference of each variable under the age dimension

Unlike the gender variables mentioned above, there are multiple groups under the age dimension. Here, one-way ANOVA is used to analyze the variable differences between high-speed rail tourists of different age groups.

Table 17 Analysis of differences between age and various variables

		N	Mean	S.D.	F	sig
	<18 years old	12	18.17	2.29		
	18-30 years old	129	14.79	2.96		
Time value	31-40 years old	127	14.93	3.31	5.044	0.001
	41-55 years old	143	15.29	2.87		
	>55 years old	38	16.29	2.82		

Table 17 (Continued)

		N	Mean	S.D.	F	sig
Space value	<18 years old	12	12.33	2.27	1.333	0.257
	18-30 years old	129	11.13	2.13		
	31-40 years old	127	11.64	2.41		
	41-55 years old	143	11.53	2.40		
	>55 years old	38	11.32	2.26		
Experience value	<18 years old	12	17.00	4.13	2.644	0.033
	18-30 years old	129	15.01	2.59		
	31-40 years old	127	15.94	3.11		
	41-55 years old	143	15.88	3.11		
	>55 years old	38	15.32	3.47		
Cost value	<18 years old	12	12.92	1.98	7.894	0.000
	18-30 years old	129	10.53	2.31		
	31-40 years old	127	11.63	2.54		
	41-55 years old	143	11.99	2.46		
	>55 years old	38	11.84	2.52		
Travel decision	<18 years old	12	13.00	1.54	4.355	0.002
	18-30 years old	129	11.12	2.47		
	31-40 years old	127	11.98	1.92		
	41-55 years old	143	11.94	2.29		
	>55 years old	38	12.03	1.87		

According to the results of the one-way analysis of variance in Table 19, among the five variables, the four variables of time value, experience value, cost value, and travel decision all have differences in age, because the significance test results are 0.001, 0.033, 0.000 and 0.002 are both less than 0.05. But there is no significant difference in the spatial value, and the result is 0.257, which is greater than 0.05

Not supported H2: There are significant differences in the perceived value and travel decisions of high-speed rail for tourists of different ages

Analysis of the difference of each variable under the educational background dimension

According to the above analysis method, the partial research on the variable differences of people with different educational backgrounds is as follows:



Table 18 Analysis of differences between academic qualifications and various variables

		N	Mean	S.D.	F	sig
Time value	Junior high school and below	19	15.26	3.65		
	High school / technical secondary school / vocational high school	63	14.51	3.38		
	Junior college	125	14.82	3.02	3.116	0.015
	Undergraduate	174	15.35	2.96		
	Postgraduate and above	68	16.16	2.72		
	Junior high school and below	19	11.11	2.11		
Space value	High school / technical secondary school / vocational high school	63	10.86	2.30		
	Junior college	125	11.46	2.25	1.514	0.197
	Undergraduate	174	11.65	2.42		
	Postgraduate and above	68	11.57	2.22		
	Junior high school and below	19	14.58	2.84		
	High school / technical secondary school / vocational high school	63	15.35	3.30		
Experience value	Junior college	125	15.57	3.33	1.141	0.336
	Undergraduate	174	15.70	2.64		
	Postgraduate and above	68	16.10	3.32		

Table 18 (Continued)

		N	Mean	S.D.	F	sig
Cost value	Junior high school and below	19	11.79	1.93		
	High school / technical secondary school / vocational high school	63	10.86	2.52		
	Junior college	125	11.66	2.70	1.681	0.153
	Undergraduate	174	11.39	2.40		
	Postgraduate and above	68	11.87	2.49		
Travel decision	Junior high school and below	19	11.79	2.35		
	High school / technical secondary school / vocational high school	63	11.24	2.37		
	Junior college	125	11.34	2.24	3.76	0.005
	Undergraduate	174	11.99	2.26		
	Postgraduate and above	68	12.37	1.74		

According to Table 19: Under the educational background factor, one-way ANOVA is still used here to analyze the variable differences between high-speed rail tourists with different educational backgrounds. According to the above single-factor analysis of variance results, among the five variables, the two variables of time value and travel decision are different in terms of education, because the significance test results are 0.015 and 0.005, which are both less than 0.05. However, the three variables of space value, experience value, and cost value do not have significant differences in academic qualifications, because the significance test results are 0.197, 0.336, and 0.153, which are all greater than 0.05.

Not supported H3: There are significant differences in the perceived value and travel decisions of high-speed rail for tourists with different academic qualifications

Analysis of the difference of various variables under occupation

In order to explore the impact of tourists' occupations on various dimensions, this study divides occupations into workers, farmers, public servants, public institutions, private enterprise employees, operators, professional and technical personnel, teachers, students, freelancers, and migrants. Retirees and others, a total of 12 categories, explore the impact of different occupations.

Table 19 Occupation and variable analysis table

	N	Mean	S.D.	F	sig
worker	4	16.50	2.52		
Farmer	22	13.50	2.54		
government employee	69	14.55	3.20		
Institutional personnel	102	15.60	2.58		
Private company employees	90	15.60	2.68		
Operators	35	15.26	2.99	1.497	0.129
Professional and technical personnel	26	15.54	3.43		
teacher	21	15.57	3.49		
student	40	15.35	3.51		
Self-employed	28	14.75	3.95		
Retirees	11	14.27	3.82		
other	1	16.00	.		
worker	4	10.25	1.50		
Farmer	22	10.32	1.64		
government employee	69	11.70	2.26	2.297	0.010
Institutional personnel	102	11.77	1.95		
Private company employees	90	11.33	2.50		
Operators	35	12.11	2.27		

Table 19 (Continued)

	N	Mean	S.D.	F	sig
Professional and technical personnel	26	11.27	2.74		
teacher	21	10.52	2.29		
student	40	12.05	2.23		
Self-employed	28	10.50	2.66	2.297	0.010
Retirees	11	11.09	2.59		
other	1	9.00	.		
worker	4	14.25	4.19		
Farmer	22	14.00	2.76		
government employee	69	15.09	2.79		
Institutional personnel	102	16.34	2.78		
Private company employees	90	15.97	3.18		
Operators	35	16.20	2.74		
Professional and technical personnel	26	15.54	3.43	2.48	0.005
teacher	21	14.86	3.43		
student	40	15.88	2.76		
Self-employed	28	14.29	3.15		
Retirees	11	15.36	4.03		
other	1	20.00	.		

Table 19 (Continued)

	N	Mean	S.D.	F	sig
worker	4	11.75	2.87		
Farmer	22	10.32	2.12		
government employee	69	11.45	2.43		
Institutional personnel	102	12.05	2.32		
Private company employees	90	11.83	2.61		
Operators	35	12.09	2.80		
Professional and technical personnel	26	11.46	2.67	2.935	0.001
teacher	21	10.24	2.26		
student	40	11.25	2.20		
Self-employed	28	9.89	2.44		
Retirees	11	11.09	2.51		
other	1	12.00	.		
worker	4	11.50	1.73		
Farmer	22	10.14	2.46		
government employee	69	11.57	2.14		
Institutional personnel	102	11.83	2.05	1.617	0.091
Private company employees	90	11.97	2.26		
Operators	35	11.94	1.96		
Professional and technical personnel	26	12.12	2.32		

Table 19 (Continued)

	N	Mean	S.D.	F	sig
Professional and technical personnel	26	12.12	2.32		
teacher	21	12.00	2.19		
student	40	11.68	2.35		
Self-employed	28	11.54	2.52	1.617	0.091
Retirees	11	12.36	2.62		
other	1	15.00	.		



According to Table 19, The results of the one-way analysis of variance, it can be seen that among the five variables, the three dimensions of spatial value, experience value, and cost travel decision-making all have differences in occupation, because the significance test results are 0.010 and 0.005 respectively., 0.001, both are less than 0.05. There is no significant difference between time value and travel decision in occupation, because the significance test results are 0.129 and 0.091 respectively, which are both greater than 0.05.

Not supported H4: There are significant differences in the perceived value and travel decisions of high-speed rail to tourists of different incomes

Difference analysis of various variables under income

In order to explore the impact of tourists' income on various dimensions, this study divides the income into 1,000 yuan and below, 1001-3000 yuan, 3001-5000 yuan, 5001-7000 yuan, 7001-10000 yuan, 10001 yuan and above, There are 6 levels, to explore the impact of different income levels.

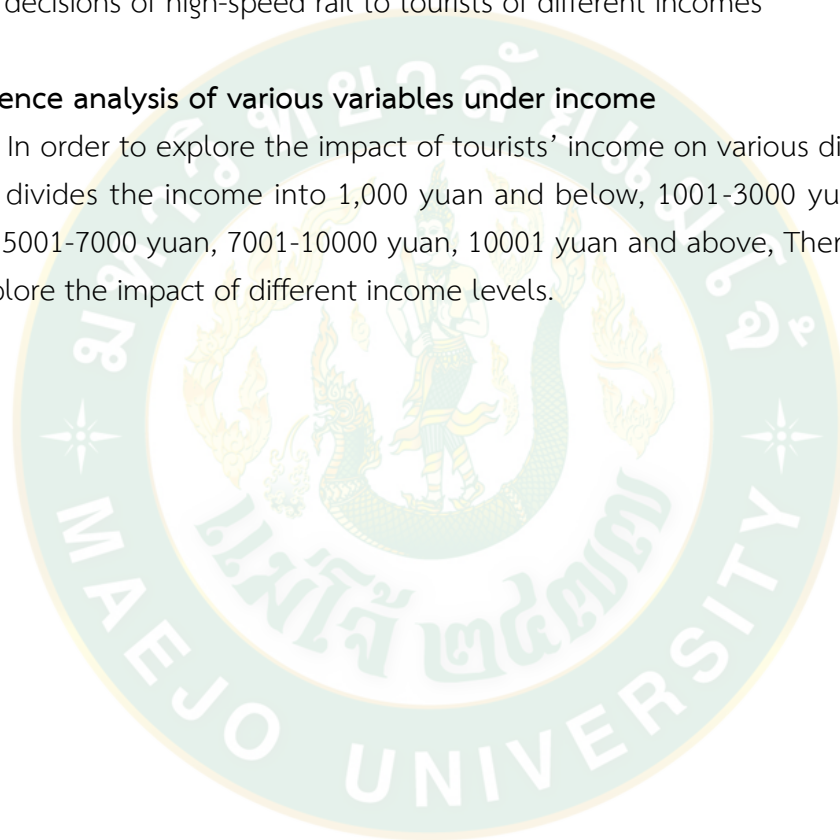


Table 20 Analysis of the difference between income and various variables

		N	Mean	S.D.	F	sig	
Time value	1000 yuan and below	23	14.87	3.195			
	1001-3000 yuan	43	13.81	3.466			
	3001-5000 yuan	117	14.24	2.967			
	5001-7000 yuan	147	15.44	2.816	9.022	0.000	
	7001-10000 yuan	94	16.33	2.637			
	10001 yuan and above	25	16.84	3.287			
	1000 yuan and below	23	11	2.316			
	1001-3000 yuan	43	10.88	2.217			
	3001-5000 yuan	117	10.8	2.206			
	5001-7000 yuan	147	11.61	2.462	5.342	0.000	
Space value	7001-10000 yuan	94	12.24	2.046			
	10001 yuan and above	25	11.96	2.091			
	1000 yuan and below	23	14.78	3.384			
	1001-3000 yuan	43	14.67	2.296			
	3001-5000 yuan	117	14.52	3.073			
	5001-7000 yuan	147	15.83	3.095	10.034	0.000	
	7001-10000 yuan	94	17.07	2.541			
	1000 yuan and below	25	16.6	2.784			
	Experience value	1000 yuan and below	23	14.87	3.195		
		1001-3000 yuan	43	13.81	3.466		
3001-5000 yuan		117	14.24	2.967			
5001-7000 yuan		147	15.44	2.816	9.022	0.000	
7001-10000 yuan		94	16.33	2.637			
10001 yuan and above		25	16.84	3.287			
1000 yuan and below		23	11	2.316			
1001-3000 yuan		43	10.88	2.217			
3001-5000 yuan		117	10.8	2.206			
5001-7000 yuan		147	11.61	2.462	5.342	0.000	

Table 20 (Continued)

	N	Mean	S.D.	F	sig
	23	11.04	2.531		
	43	10.19	2.26		
	117	10.67	2.432		
	147	11.84	2.497	10.08	0.000
Cost value	94	12.59	2.092		
	25	11.68	2.704		
	23	11.3	2.476		
	43	10.65	2.267		
	117	11.5	2.124		
	147	11.88	2.357	4.447	0.001
Travel decision	94	12.32	1.969		
	25	12.36	1.777		

According to Table 20, This study divides tourists' disposable income into five categories. Therefore, the research on the analysis of the variable dimensions of discretionary income will adopt the method of single-factor analysis of variance. The results show that tourists with different incomes have significant differences in the time value, space value, experience value, cost value and travel decision-making of high-speed rail, because the significance test results are 0.000, 0.000, 0.000, 0.000, and 0.001 respectively, which are all less than 0.05.

supported H5: There are significant differences in the perceived value and travel decisions of high-speed rail to tourists of different incomes

Correlation analysis

Through the above-mentioned factor analysis, we can see that the relationship between many items has been transformed into the relationship between the four major factors, and the correlation analysis is based on this to explore the correlation between the factors and the degree of influence.

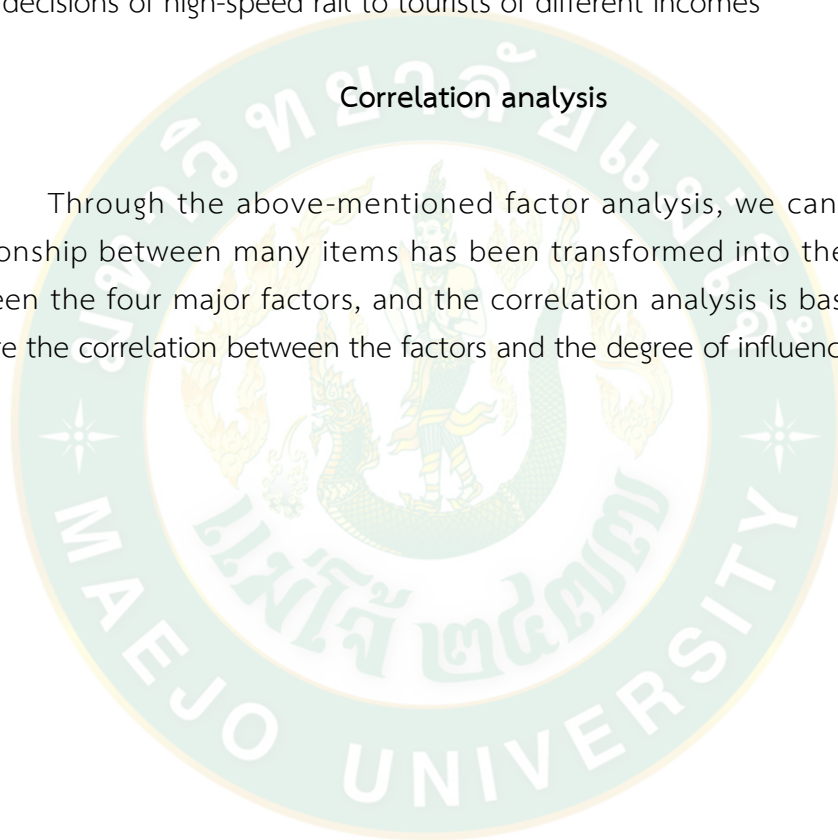


Table 21 Correlation analysis of each dimension

	Time value	Space value	Experience value	Cost value	Travel decision
	1	0.348**	0.302**	0.271**	0.238**
Time value	PPMCC	Sig(2-tailed)	0.000	0.000	0.000
	N	449	449	449	449
Space value	0.348**	1	0.487**	0.447**	0.378**
	sig(2-tailed)	0.000	0.000	0.000	0.000
	N	449	449	449	449
Experience value	0.302**	0.487**	1	0.477**	0.391**
	PPMCC	sig(2-tailed)	0.000	0.000	0.000
	N	449	449	449	449
Cost value	0.271**	0.447**	0.477**	1	0.427**
	PPMCC	sig(2-tailed)	0.000	0.000	0.000
	N	449	449	449	449
Travel decision	0.238**	0.378**	0.391**	0.427**	1
	PPMCC	sig(2-tailed)	0.000	0.000	0.000
	N	449	449	449	449

Remark: ** At the 0.01 level (two-tailed), the correlation is significant.

Correlation analysis is the most commonly used analysis method in correlation research. This time, the spss 25 version is used for correlation analysis module. According to the correlation analysis results in Table 22, it can be seen that there is a significant correlation between the various variables, and the correlation coefficients are all greater than 0, which are all positive correlations. The correlation coefficient between time value and travel decision is 0.238, which is a positive correlation; the correlation coefficient between space value and travel decision is 0.378, which is a positive correlation; the correlation coefficient between experience value and travel decision is 0.391, It is a positive correlation; the correlation coefficient between the cost value and the travel decision is 0.427, which is a positive correlation, indicating that the more cost-effective the high-speed rail fare, the more willing the high-speed rail tourists to choose to ride.

supported H6: The time value of high-speed rail positively affects tourists' travel decisions

supported H7: The spatial value of high-speed rail positively affects tourists' travel decisions

supported H8: The experience value of high-speed rail positively affects tourists' travel decisions

supported H9: The cost value of high-speed rail positively affects tourists' travel decisions

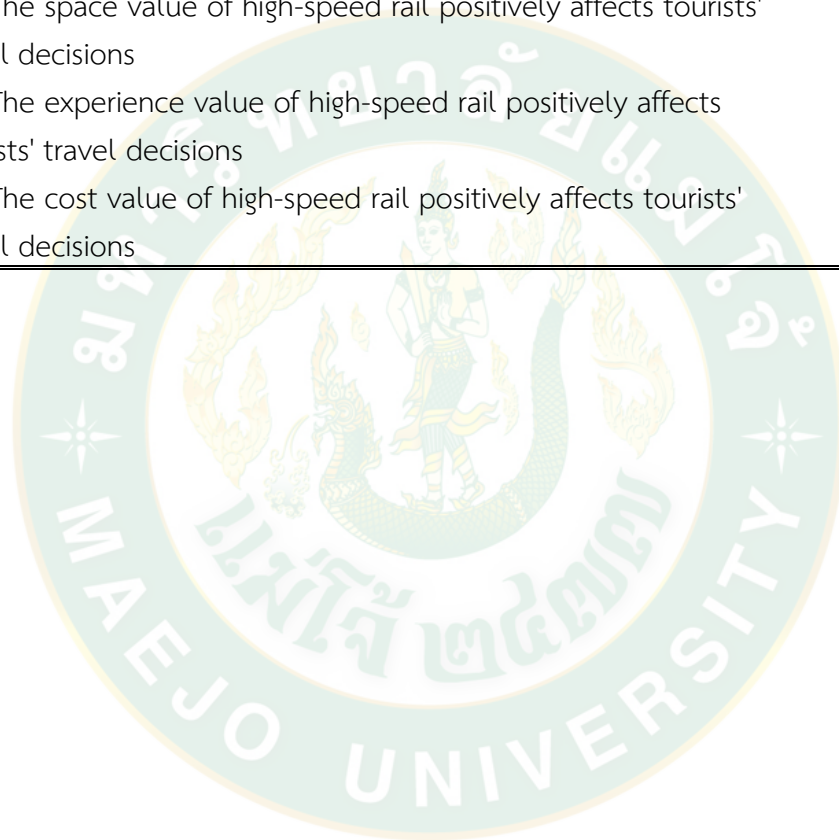
Results of research hypotheses

Table 22 Results of research hypotheses

research hypotheses	Results
H1: There are significant differences in the impact of high-speed rail on travel decisions of tourists of different genders.	Not supported
H2: There are significant differences in the impact of high-speed rail on the perceived value and travel decision-making of tourists of different ages	Not supported
H3: There are significant differences in the perceived value and travel decisions of high-speed rail for tourists with different academic qualifications	Not supported
H4: There are significant differences in the perceived value and travel decisions of high-speed rail to tourists of different incomes	Not supported

Table 22 (Continued)

research hypotheses	Results
H5: There are significant differences in the perceived value and travel decisions of high-speed rail to tourists of different occupation	supported
H6: The time value of high-speed rail positively affects tourists' travel decisions	supported
H7: The space value of high-speed rail positively affects tourists' travel decisions	supported
H8: The experience value of high-speed rail positively affects tourists' travel decisions	supported
H9: The cost value of high-speed rail positively affects tourists' travel decisions	supported



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Research conclusion

With the advent of the high-speed era, the rapid development of the tourism industry and the increasing willingness of people to travel, high-speed rail has become more and more popular as a means of transportation for people. As an important breakthrough in transportation reform, high-speed railway has not only received extensive attention from all walks of life and academia, but also received great attention from relevant government departments and tourism-related enterprises. This research takes the theory of perceived value as the core theoretical foundation, and takes the perspective of Nanning high-speed rail tourists as the starting point for the research to deeply analyze the needs and behavior intentions of high-speed rail tourists. The main conclusions and results of this research are as follows:

This study applies the theory of perceived value to the research field of high-speed rail tourists, and determines the factors that affect the behavior and decision-making of high-speed rail tourists as four major variables, namely, the time value of high-speed rail, the value of high-speed rail space, the value of high-speed rail experience, and the value of high-speed rail cost. And it has certain application value and can provide a certain reference in follow-up research.

From the perspective of the impact of the perceived value of high-speed rail on tourists' decision-making, time value, space value, experience value, and cost value are all significantly positively correlated with tourists' behavioral decision-making, and the correlation coefficients are 0.238, 0.378, 0.391, 0.427, respectively. Time value, space value, and experience value are weakly correlated with travel decision-making, and cost value is moderately correlated with travel decision-making. It shows that cost value is still the priority reason for respondents to travel by high-speed rail. The most important reason for respondents to choose high-speed rail is to consider cost-effectiveness. The higher their perception of cost-effectiveness of high-speed rail, the higher their willingness to ride. Experience value is the second influencing factor for tourists' decision-making on high-speed rail trips, indicating that high-speed rail travel respondents desire a comfortable and convenient ride environment; space value is the third influencing factor for tourists' decision-making

on high-speed rail trips, and tourists have an influence on the regional space of high-speed rail. Recognition of accessibility. At the same time, as the major high-speed rails are gradually put into operation, it will have a certain degree of impact on the respondents' actual decision-making on high-speed rail rides; although the average value of time perception is the lowest, it still has an impact on respondents' high-speed rail rides Positive impact.

This research also explores the inherent relationship between personal attributes and the impact of high-speed rail time value, high-speed rail space value, high-speed rail experience value, high-speed rail cost value, and high-speed rail departure from the five aspects of gender, age, occupation, education, and income; research; It is found that gender factors of men and women show significant differences in space value, experience value, cost value, and travel decision-making, but there is no difference in time value between male and female gender factors; different ages are in terms of time value, experience value, cost value, and travel decision-making. There are significant differences in age in the four dimensions, but there is no significant difference in the dimension of space value. Different educational backgrounds have differences in the two dimensions of time value and travel decision-making. Tourists with a master's degree or above have the highest time value, experience value, cost value, and average value of the high-speed rail, while tourists with a bachelor degree have the highest perception of the spatial value of the high-speed rail The average value is the highest, indicating that to a certain extent, with the improvement of education level, the various dimensions of the perceived value of high-speed rail are also increasing; different occupations have differences in the three dimensions of space value, experience value, and cost travel decision-making. There is no significant difference between time value and travel decision-making in terms of occupation; tourists with different incomes have significant differences in the time value, space value, experience value, cost value and travel decision-making of high-speed rail.

This study also analyzed the impact of high-speed rail on tourists' travel decisions and found that tourists mainly tend to choose medium and long-scale tourist destinations for 2-5 days in the form of relatives and friends or as a person; most of them the acceptable high-speed rail fare is in the range of 201-400 yuan. Accommodation will be mainly in budget hotels. Dining is more willing to experience local specialty snacks. Most shopping will choose shopping spots in tourist attractions; the purpose of tourism is mainly vacation and leisure. Religious worship, sightseeing tours, and health and wellness; tourist destinations prefer historical sites, cultural

tourism and theme park tourism. Combining the decision-making preferences and tendencies of these high-speed rail tourists has great practical significance for marketing, resource development, product mix, and scenic spot management.

Research recommendations

In this study, we studied the perceived value of high-speed rail tourists and the impact of high-speed rail on tourists' travel decisions. Based on the results of data analysis, we tried to make the following suggestions for high-speed rail tourism:

Through studying the perceived value of high-speed rail, we know that cost value has the greatest impact on high-speed rail travel decisions. Generally speaking, high-speed rail fares are much higher than ordinary trains and cars, and even higher than air fares on some routes. Compared with a major weakness of other modes of transportation, from the results of on-site surveys, the interviewed tourists have also verified this point. In order to expand the market share of high-speed rail and make high-speed rail a travel option for more tourists, it is recommended that the government and railway departments implement flexible fare policies. For example, the introduction of high-speed rail fare preferential policies for students, the elderly, the disabled, etc., the preferential people can enjoy preferential tickets with valid certificates; the fares are appropriately adjusted according to the off-peak season of scenic spots, the off-season fares are appropriately reduced, and the peak season fares are appropriately increased. On the one hand, restrict the passenger flow during peak seasons, and on the other hand, increase the off-season high-speed rail travel rate; at the same time, we can also consider cooperating with scenic spots to launch coupons to attract more tourists to choose high-speed rail travel.

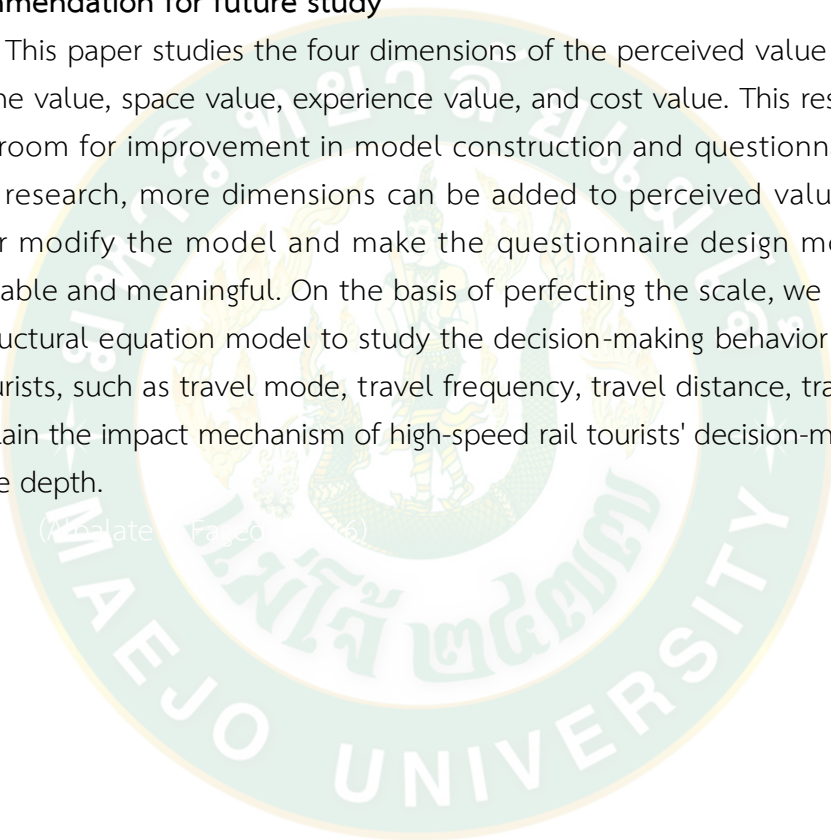
For travel companies, groups with a bachelor's degree or above, business managers and civil servants, and a monthly income of more than 5,000 yuan are the first target market for high-speed rail tourism. Corresponding high-speed rail travel service packages can be provided for this group of people. In view of the short time of high-speed rail travel, tourism companies should develop medium- and short-term high-speed rail tourism products to shorten the travel time from the original 7 days to 2-3 days; in response to the increase in self-guided tourists, tourism companies should launch a series of self-guided tours. According to the characteristics of tourist accommodation and catering, tourism companies should work with government departments to develop catering institutions with local characteristics and launch uniquely attractive local dishes to create shopping classics with local characteristics.

To provide tourists with a more assured and satisfying shopping space, and at the same time to introduce a more cost-effective accommodation environment; finally, through the respondents' travel purpose and preference for tourist destinations, it can be known that tourist attractions along the high-speed rail, tourism enterprises and government departments should work together. It is necessary to protect and open historical sites and tourist sites, develop cultural tourist sites and theme park tourist sites, and strengthen infrastructure construction.

Recommendation for future study

This paper studies the four dimensions of the perceived value of high-speed rail: time value, space value, experience value, and cost value. This research still has much room for improvement in model construction and questionnaire design. In future research, more dimensions can be added to perceived value, in order to further modify the model and make the questionnaire design more scientific, reasonable and meaningful. On the basis of perfecting the scale, we can try to use the structural equation model to study the decision-making behavior of high-speed rail tourists, such as travel mode, travel frequency, travel distance, travel time, etc., to explain the impact mechanism of high-speed rail tourists' decision-making behavior in more depth.

(Website: www.maejo.ac.th)



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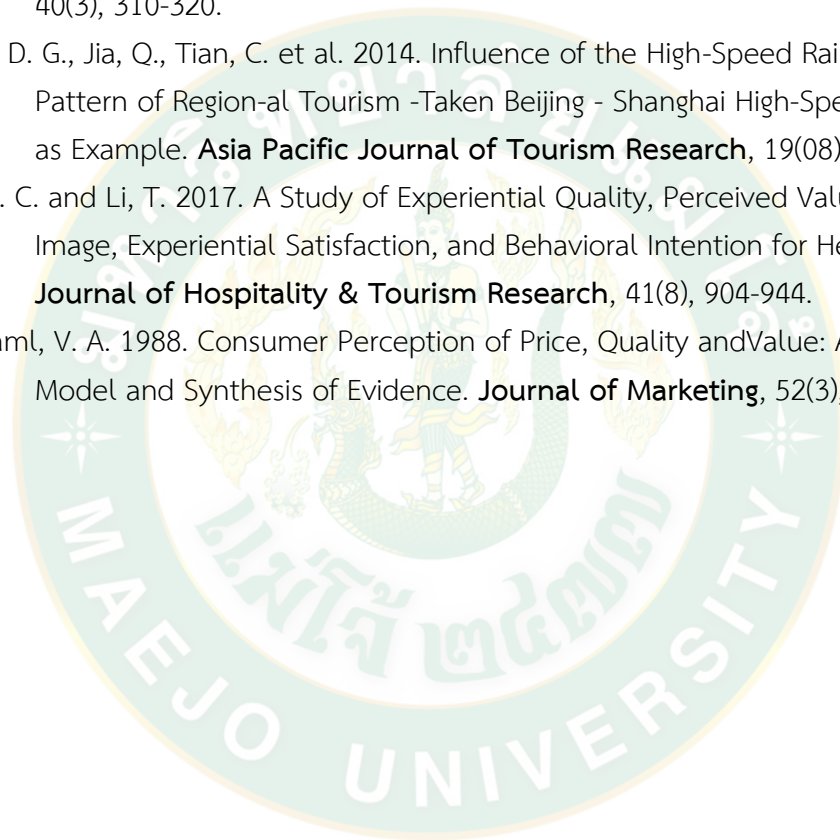
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APPENDIX

**Questionnaire on the impact of high-speed rail
on travel decisions of local residents**

Dear Sir/Madam:

Hello! Thank you very much for participating in this survey! This is a questionnaire for scientific research, the purpose is to understand the impact of the opening of the high-speed rail on the travel decisions of local residents. Please tick "√" on the letter or number of the selected answer according to your true thoughts.

I sincerely hope to get your support and cooperation, thank you!

Part 1 : basic information (anonymous, completely confidential)

1. Your gender is:

A. Male	B. Female
---------	-----------
2. Your age is:

A. <18 years old	B.18-30 years old
C.31-40 years old	D.41-55 years old
E.>55 years old	
3. Your occupation:

A. Workers	B. Farmers
C. Public servants	D. Institutional staff
E. Private enterprise employees	
F. Operators	
G. Professional and technical personnel	
H. Teacher I students	
J. Self-employed	K. Retired personnel
L. Others	
4. Your educational background is:
 - A. Junior high school and below
 - B. Senior high school / technical secondary school / vocational high school
 - C. Junior college
 - D. Undergraduate
 - E. Graduate school and above
5. Your current salary income is:

A. 1,000 yuan and below	B. 1001-3,000 yuan
C. 3001-5,000 yuan	D.5001-7000 yuan
E.7001-10000 yuan	F.10001 yuan and above

Part 2: Measurement of tourists' perceived value of high-speed rail

NO.	Question item	Strongly disagree	Disagree	Normally	agree	Strongly agree
1	The high-speed rail runs fast, which can save travel time					
2	The high-speed rail can meet my requirements for travel schedule					
3	High-speed rail operation has a high punctuality rate and short waiting time					
4	High-speed rail can reduce the time loss of early travel to avoid mishaps					
5	The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities					
6	High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass through					
7	High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail					
8	Good high-speed rail passenger service					
9	High-speed rail runs smoothly					
10	High-speed rail seats are highly comfortable					
11	It is more convenient for passengers to eat, go to the toilet and move their bodies during travel					
12	The fare of high-speed rail is lower than that of the same mileage					
13	High-speed rail fares are not high					
14	High-speed rail is cost-effective					
15	1. I am willing to recommend to others to take the high-speed rail					
16	2. After the experience, I am willing to choose to take the high-speed rail again					
17	3. After the high-speed rail is opened, I will choose high-speed rail as a common way to travel					

Part 3 The impact of high-speed rail on tourists' travel decisions

1. When you choose to travel by high-speed rail and are willing to play:

- | | |
|---------------------|-------------|
| A. 1 day | B. 2-3 days |
| C. 4-5 days | D. 6-7 days |
| E. 7 days and above | |

2. When you travel, within a few hours' drive, would you choose to take the high-speed rail?

- | | |
|----------------------|--------------|
| A. Less than 2 hours | B. 2-3 hours |
| C. 3-4 hours | D. 4-5 hours |
| E. 5 hours and above | |

3. When you travel, how far away would you choose to take the high-speed rail?

- | | |
|-----------------|----------------|
| A. 0-250km | B. 251-500km |
| C. 501-1000km | D. 1001-1500km |
| E. Above 1500km | |

4. When you travel, what price range would you choose to take the high-speed rail?

- | | |
|-----------------------|-----------------|
| A. Less than 100 yuan | B. 101-200 yuan |
| C. 201-300 yuan | D. 301-400 yuan |
| E. 400 yuan and above | |

5. When you travel, which way of travel would you choose to take the high-speed rail?

- | | |
|-------------------------------|----------------------|
| A. Travel agency organization | B. Unit organization |
| C. Friends and relatives | D. One person |
| E. Other | |

6. When do you usually choose to travel by high-speed rail?

- | | |
|---------------------|--------------------------------|
| A. Weekends | B. Holidays |
| C. Annual vacations | D. Winter and summer vacations |
| E. Others | |

7. The transportation options after taking the high-speed rail to the tourist destination are:

- | | |
|----------------|------------------------------|
| A. Subway | B. Bus |
| C. Taxi | D. Private car or rental car |
| E. Tourist bus | F. Other |

8. What kind of accommodation will you choose in a tourist destination:

- A. Family hotels
- B. Youth hostels
- C. Star-rated hotels
- D. Budget hotels
- E. Family and friends' homes
- F. Others

9. Which way of dining would you choose in a tourist destination:

- A. Chinese and Western fast food
- B. Local specialty snacks
- C. Restaurants
- D. Bring your own food
- E. Others

10. Which shopping place will you choose on the tourist day:

- A. Featured blocks
- B. Large shopping malls
- C. Roadside shops
- D. Train stations or airport shopping spots
- E. Shopping spots in tourist attractions
- F. Others

11. What is your main purpose for traveling by high-speed rail? (multiple choices available)

- A. Sightseeing and play
- B. Vacation and leisure
- C. Religious worship
- D. Health and wellness
- E. Others

12. What type of tourist destination would you choose when traveling by high-speed rail? (multiple choices available)

- A. Natural scenic tourist spots
- B. Cultural tourist spots
- C. Historical sites tourist spots
- D. Theme park tourist spots
- E. Sports tourism destination
- F. Industrial tourism destination
- G. Comprehensive tourism destination

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