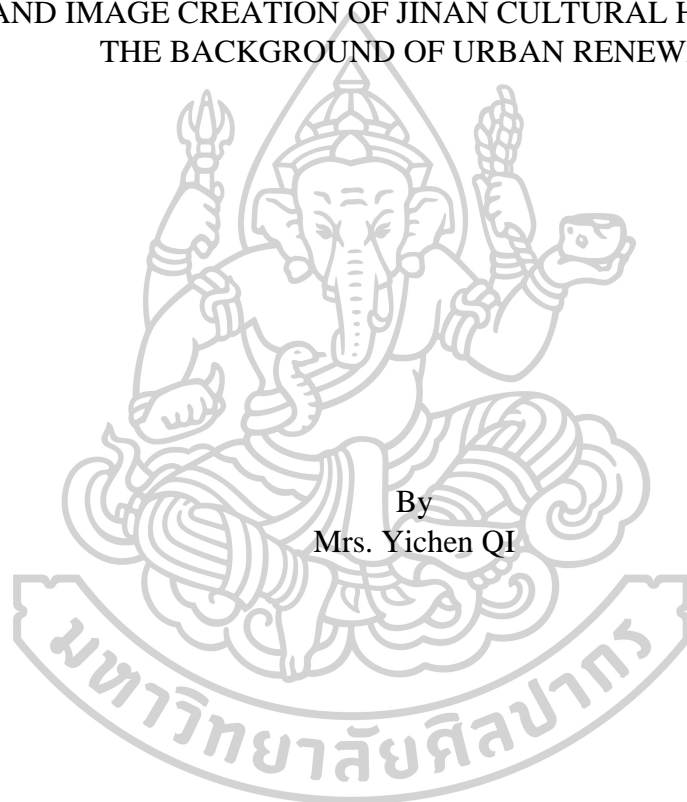THE BRAND IMAGE CREATION OF JINAN CULTURAL HERITAGE UNDER
THE BACKGROUND OF URBAN RENEWAL

By

Mrs. Yichen QI

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy DESIGN
Silpakorn University
Academic Year 2023
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Mrs.Yichen QI

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต
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Title	The Brand Image Creation of Jinan Cultural Heritage under the Background of Urban Renewal
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Field of Study	DESIGN
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This study investigates the creation of cultural heritage brand image in Jinan City against the backdrop of urban renewal. The aim is to create a unique city brand image by incorporating elements of regional cultural heritage and to explore the factors influencing its brand image formation. This study summarizes the relevant theories of urban brand design and cultural heritage, studies the relationship between them, and pays special attention to the issues surrounding cultural heritage preservation and inheritance during the urban renewal process, as well as the phenomenon of cultural deficiency during the city .The research methods employed include field surveys, focus group discussions, and a combination of qualitative and quantitative studies.

In practice, Baihuazhou Historical and Cultural Block, a demonstration area of urban renewal in Jinan City, was selected as the design object. Based on theoretical exploration and research in the early stage, the brand image creation model of urban cultural heritage was constructed, cultural elements in regional culture were extracted, a set of historical and cultural block brand design schemes was constructed, including brand visual image, signage system design, and tourist navigation map design. The proposed brand positioning is "An Experiential Folk and Historical Cultural Block Connected by Springs." The objective is to allow more people to experience the cultural charm of the Baihuazhou Historical and Cultural Block through the unique effects of the brand and the interactivity of cultural communication, it has also become a new business card for Jinan's urban promotion.

This study affirms the importance of incorporating cultural heritage elements into urban brand design. The proposed design concept has received recognition from relevant experts and has been validated through exhibitions. The theoretical research on cultural heritage and urban historical and cultural block brand design, as well as the practical design work for the Baihuazhou Historical and Cultural Block brand, provides a useful reference for the brand design of domestic historical and cultural blocks.

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CHAPTER 1 INTRODUCTION

1.1 Problem statem

What makes a city a good city? This is perhaps a difficult question to answer. Cities encompass so much complexity and diversity that it is challenging to provide a suitable evaluation criterion. A city can be seen as a story, a space of diversity and coexistence, an economic cluster, the habitat of soul, and even a place of contradictions. Its essence lies in the continuation of history, the functioning of its economy, the spiritual refuge it provides, and much more.

As a wise philosopher once said, "Cities have their origins in art and find their fulfillment in society's needs." The process of their formation is a slow accumulation and transformation. From the moment of their birth, cities have been evolving harmoniously, following the dual laws of nature and society in accordance with the needs of human society. They continuously regenerate, evolve, and gradually expand. Through the cycles of conflicting creation and resolution, functional requirements and fulfillment, imbalances and re-balancing, cities undergo an organic process of metabolism and a lengthy process of evolution. However, in recent decades, cities have been expanding at an unprecedented pace, experiencing explosive development. The demand for land and pursuit of interests have grown exponentially, resulting in the instantaneous formation of new urban areas and fragments. Cities are losing their original form, density, distinctiveness, diversity, and historical and cultural expressions, becoming a form of urbanization without the essence of urbanity. Tukahasu has observed the urbanization process in China and summarized it as a process that creates significant disparities, which is not an orderly and ideal urban development plan (Quan, 1991).

With the continuous development of our country's economy and the constant progress of society, urbanization has entered a period of rapid growth. Compared to the peak of urban construction triggered by early-stage urbanization, the phenomenon of mutual imitation and homogenization of urban architectural images has become more serious, resulting in the gradual disappearance of urban cultural characteristics and spiritual style, the increasing presence of "placeless" urban spaces, and a series of serious issues related to the "uniformization" and "convergence" of urban

cultural development. At the present stage, a greater emphasis is placed on the cultural construction of cities, as many traditional development models have become outdated and no longer applicable, necessitating innovative approaches (Liu et al., 2018). In recent years, China's urbanization has been advancing at an astonishing speed in an orderly manner, accompanied by large-scale urban renewal and transformation. However, during this large-scale renewal and transformation, there have been destructive developments that have exacerbated the loss of traditional humanistic and ecological elements embedded in urban renewal and the decline of social adaptability, creating an era of "unprecedented attention" and "unprecedented impact".

It is an undeniable fact that in today's urban renewal, there is a tendency to prioritize material aspects over cultural aspects, leading to the continuous weakening of the social foundation of a nation's traditional cultural resources and the constant loss of their spatial carriers (Junhua & Mingyue, 2015). These factors bring significant challenges to protecting and inheriting effectively. However, protecting cultural heritage is an inherent requirement of urban renewal. How to preserve and develop during urban renewal and turn it into a brand asset that enhances the influence of the city's brand has become a widely discussed issue.

Philip Kotler(2015), the father of modern marketing, proposed in his book "Marketing Management" that a "brand" is a set of specific attributes, benefits, and services that sellers offer to a target audience over the long term. A brand is an intangible asset that creates product premiums, adds value, and generates emotional benefits for its audience. The essence of a brand is to create differentiation. Behind traditional culture lies the intangible content and cultural artistry. Its unique form plays multiple roles, from economy to art. From an economic perspective, only by establishing a brand can traditional culture and cultural heritage in China expand nationwide and eventually go global. Branding provides a new perspective for its development.

This study starts from the conservation perspective, a significant urban renewal perspective, using well-preserved historic and cultural districts as platforms to integrate brand resources. It conducts value analysis and management of cultural heritage resources, aiming to enhance their value foundation. Cultural heritage not only promotes the diversity of urban brand culture but also enables historic and cultural

districts to establish their unique identities and maintain vitality through preserving this identity. Furthermore, cultural heritage can serve as a catalyst for creative development in historic and cultural districts, as well as the entire region. It can directly empower creative development in the region.

According to research, the application of cultural heritage resources in brand-building projects within urban renewal in China is relatively scarce. Some scholars have conducted systematic academic studies on brand-building in urban renewal, but most of them have remained at the theoretical level. Due to researchers primarily focusing on theoretical studies of brand design, in recent years, a significant amount of research has been concentrated on traditional brand survival and development, as well as humanistic heritage. Extensive field surveys have been conducted on tangible and intangible cultural heritage in various cities across the country, such as Dashilan in Beijing, Ciqikou in Shapingba District in Chongqing, Wudadao in Tianjin, and Kuanzhai Alley in Chengdu, providing a solid research foundation. Historic and cultural districts, as organic components of cities, are a special type of cultural heritage area known for their strong commemorative and aesthetic value. Currently, most districts share common issues related to cultural heritage resources, tourism products, cultural integration, and marketing communication (Boussaa, 2017). Therefore, it is of great significance to explore approaches to enhance brand visibility, strengthen the city's attractiveness, and fully utilize its historical and cultural value. Addressing this issue not only has significance for individual cases but also provides valuable insights for the cultural heritage brand-building of other cities.

1.2 Research background

1.2.1 Theoretical background

Urban renewal serves as an essential component of every city's sustainable policy. Beswick (2002) provides two key reasons for its growing growth. First, more and more people are migrating to and living in cities, especially in old urban areas, which creates a need for urban structure renewal. Second, it is a response to the problems of urban expansion and abandoned old urban areas. Today, it is closely associated with sustainable development.

In the early stages, urban renewal focused primarily on the physical transformation of entities such as dilapidated buildings within the city. However, with

the large-scale demolition and reconstruction in cities, we have gradually come to realize that urban renewal is not just about the external transformation of the city but also about preserving the cultural heritage of the city. Urban renewal should expand from the physical transformation of the city to the coordinated update of both the physical infrastructure and the cultural aspects of the city. Urban renewal comprises two main aspects: firstly, the renovation of physical structures such as buildings; secondly, the transformation of various ecological, spatial, historical, cultural, visual, and recreational elements of the urban environment (Roberts, 2008). The ultimate goal is to restore vitality to the old city and enhance its competitiveness.

In China, urban renewal has gone through several stages. Urban renewal began in 1989, The government takes the lead, focusing on renovating old cities and improving the supporting infrastructure for people's livelihood. From 1990 to 2007, private developers mainly led the transformation, with seriously insufficient management of the overall spatial structure and its underlying texture. Multiple large-scale, hasty, and indiscriminate urban transformations have led to problems such as inadequate public space, destruction of historical context, demolition of historical buildings, fragmentation of space, and ecological damage. These problems accumulate over time, making it impossible for cities to achieve sustainable development, causing cities to lose their resilience and vitality (Jianqiang & Yue, 2020a). After 2008, the government began to get involved in urban redevelopment, establishing planning and management mechanisms to guide market-driven operations. This marked a shift towards an organic renewal concept that emphasized "bottom-up" and people-centric approaches. Urban renewal pays more and more attention to the multi-dimensional upgrading of the economy, society, culture, material, environment and other fields. On November 20, 2019, the China Urban Renewal (Yangtze River Delta) Summit was held in Shanghai. In 2020, the "14th Five-Year Plan and Vision 2035 Recommended Goals" explicitly stated the need to implement urban renewal actions. This means that our country's urban development and urban renewal methods are now entering a new phase of transformation and upgrading (Jinping, 2020).

However, since the 1980s, China has experienced rapid economic development, which has resulted in various issues such as disruptions in historical contexts, demolitions of historical buildings, fragmentation of cultural spaces, and the

rough severance of urban cultural fabric. These problems have accumulated over time, preventing cities from achieving sustainable development and leading to weakened adaptability and vitality. In response to these challenges, some scholars have proposed their suggestions. For instance, Chen Zhanxiang (1983) introduced the concept of "urban metabolism," encompassing the protection and restoration of historical cultural buildings as well as the reconstruction of poorly constructed areas. Wu Liangyou (1996) proposed the concept of "organic renewal", emphasizing that appropriate scales and dimensions should be adopted in the renewal process of the urban historical environment, taking into account both current and future requirements. The studies mentioned above mainly focus on the external transformation of the urban environment but pay less attention to the economy and culture in the urban development process. In the 21st century, China's urban transformation and development face new challenges. "On one hand, it encapsulates all the problems observed in the urbanization process of Western countries in the past two centuries. On the other hand, China, which is developing fast, must evolve from a pre-industrial society to a highly modernized society within a few decades." In this context, scholars have once again put forward concepts such as "urban regeneration," "urban revival," and "urban renewal." Compared to the concepts of "urban metabolism" and "organic renewal," these new concepts adopt a more comprehensive and integrated perspective on urban issues, Not only should we pay attention to the external environment, but we should also emphasize internal elements such as history, space, aesthetics and culture.

In the present day, cultural heritage, as a vital cultural resource that emerges from the daily production and life of various ethnic groups, possesses a distinct ethnic character. It is a dynamic reflection of ethnic charm and signifies the spiritual essence of human cultural heritage.

In current era of rapid economic and technological advancement, the shaping of cultural heritage brands plays a crucial role. However, there are several issues with the path of cultural heritage branding in our country. Firstly, there is a lack of brand awareness, resulting in weak awareness and implementation of the transformation and promotion of research outcomes. While there is a considerable theoretical foundation regarding cultural heritage achievements, the practical aspects of cultural branding remain insufficient. Consequently, cultural products have a relatively

monotonous output and there is a failure to explore the value of cultural heritage fully. Additionally, there is a limited capacity for the transformation of cultural heritage achievements. It requires continuous exploration and improvement. Currently, the means of protection and development are relatively single, needing more advanced technology and a sufficient number of highly skilled professionals. At the same time, the current education system lacks a comprehensive talent development framework for the preservation and inheritance of cultural heritage, leading to the absence of established channels for cultural heritage transmission. The absence of inheritors of cultural heritage and the one-dimensional approach to its development are significant contributing factors to the sluggish progress in cultural heritage branding. In the process of brand building, cultural heritage can provide essential creative elements to give cities distinct characteristics and enhance their competitiveness. Therefore, incorporating more local and distinctive cultural heritage elements into the design and construction of urban brands will undoubtedly greatly improve the city's brand competitiveness.

1.2.2 Realistic background

The hosting of the 2008 Beijing Olympics allowed Beijing to project an image of enthusiasm, civility, depth, and vitality to the world. The Shanghai World Expo in 2010 triggered another wave of urban brand image promotion. The National People's Games held in Xi'an showcased the city as the ancient capital of China and the birthplace of Chinese civilization. Similarly, Jinan, as a historical and cultural city, faces opportunities for urban image promotion. However, currently, the situation regarding the construction of its urban brand is not optimistic. As one of the earliest historical cities established in my country, Jinan has laid a solid foundation for protecting urban historical and cultural heritage. Nevertheless, subsequent protection efforts have progressed slowly, making Jinan one of the regions where preservation work lags behind. The old city area of Jinan formerly boasted a clear urban fabric and street layout, unique architectural styles, and relatively intact urban living forms. However, in the following decades of urban development and construction, the protective regulations originally formulated by Jinan city have become almost meaningless. The "old city transformation" project aimed at numerous historical and cultural districts has at times, turned into "demolition and reconstruction" for new urban construction.

In the process of "soft renewal" of cities, it is essential to establish cultural heritage brand. We should re-evaluate the reuse and innovative development of cultural heritage and create distinctive local brands. The construction of urban cultural heritage resource brands should coexist with urban renewal. The transformation and integration of ecological, spatial, cultural and other cultural heritage resources should be an important component of urban renewal.

2021 is an essential year in China's "14th Five-Year Plan". It is also the year when the Shandong Provincial Party Committee officially implements the "provincial capital strengthening" strategy. Jinan, the capital city of Shandong Province, covers an area of 10,244 square kilometres. In 2021, the city's permanent population will be about 10 million, of which the urban population will be approximately 7 million. Jinan is classified as a megacity. At the same time, it is also a national historical city and one of China's outstanding tourist cities. Jinan must seize the opportunity presented by the "strengthening provincial capital" strategy, align with national strategies such as the development of smart cities with high standards, and accelerate the enhancement of its urban capacity. The aim is to elevate its status as a provincial capital, and establish a modernized and strong provincial capital in the new era ("Shandong Provincial People's Government Management Network," 2021). It can be foreseen that with the implementation and promotion of the "strengthening provincial capital" strategy in Shandong Province, various high-quality resources and factors will further accelerate their accumulation in Jinan. Aligned with the "strengthening provincial capital" strategy, it is imperative to prioritize the enhancement and design of various cultural brands in Jinan city. Comprehensive efforts are needed to shape new brands and images. According to the latest "China Urban Marketing Development Report (2020): Building Urban Brand Resilience" (referred to as the "report") released by the Chinese Academy of Sciences, In 2020, the China City Brand Index shows that the top ten cities are Hong Kong, Beijing, Shanghai, Nanjing, Guangzhou, Chongqing, Shenzhen, Wuhan, Zhengzhou, and Chengdu. The City Brand Development Index (CBDI) of Jinan ranks only 20th in the country, indicating a certain gap compared to first-tier cities. In the field of brand image communication, Jinan is in an exploratory and upward phase ("China Urban Marketing Development Report," 2020). In 2020, the report found that during the epidemic, urban development slowed down and the resilience of brand value

emerged. City investment brands played a more significant role in supporting urban renewal and development than expected. Livable city brands and tourism brands were more affected by the epidemic.

In such a reality, it is of significant importance to comprehensively initiate brand building for Jinan's urban renewal. Urban renewal must focus on brand building and enhance the influence of urban cultural brands.

1.3 Research purpose

This research aims to incorporate the protection and transformation of cultural heritage into the urban renewal process. By utilizing the branding of cultural heritage, this study aims to address the issue of the marginalization of traditional culture caused by contemporary urban renewal and seek greater opportunities for cultural heritage preservation in modern urban renewal projects. Drawing upon typical cases of urban renewal both domestically and internationally, this study seeks to explore pathways for cultural heritage protection and develop a model for constructing urban cultural heritage brands. Taking the "Baihuazhou Historical and Cultural Block" in the Jinan Urban Renewal Demonstration Area as a design practice case, this research aims to extend its findings from individual cases to larger populations, providing valuable references for cultural heritage preservation and brand shaping in similar urban renewal projects in China.

1.4 Research objectives

Objective one: Study sustainable development strategies in the context of urban renewal. The purpose is to maintain urban vitality and sustain urban development. In addition to physical infrastructure, a region's history and culture are vital in enhancing urban dynamism. Therefore, the protection link in the urban renewal process is crucial.

Objective two: Explore conservation and utilization strategies in urban regeneration. This study aims to enhance the city's overall image, attract tourists, promote industrial integration, and contribute to the diversified development of the city by integrating cultural heritage into the creation and transformation of city brands.

Objective three: Research the paths and methods of building the brand image of historic districts. This study takes the historical district as the starting point to explore the formation mechanism of its regional "cultural heritage characteristics".

Under the premise of preserving the original social structure and cultural ecology of the historical blocks, this research aims to construct pathways and methods for integrating urban cultural heritage into the shaping of brand image in historical and cultural blocks.

Objective four: Examine the application of cultural heritage in the shaping of urban brand image. Various methods will be used, ranging from identifying specific characteristics and elements to determining the key factors constituting the design of the brand. Ultimately, a model for shaping urban cultural heritage brands will be developed, thereby redefining the brand shaping approach for urban cultural heritage.

Objective five: Conduct a comprehensive analysis of design outcomes and achievements, and formulate a complete brand design plan. This includes establishing appropriate guiding principles and strategies to provide theoretical and practical references for other related research.

1.5 Research significance

In the context of urban renewal, the interactive research on the shaping of urban cultural heritage brand image holds both theoretical and practical significance.

1.5.1 Significance of theoretical research

Cultural heritage encapsulates the values of a city's history, culture, science, and aesthetics, and urban renewal is an essential part of a city's modernization. Currently, At present, there are many studies on its basic theory, mainly focusing on content, characteristics, functions, preservation, development and utilization, etc. Likewise, urban renewal has been extensively studied, covering its essence, features, positioning, shaping, and promotion. However, there is limited research that combines both aspects.

This study aims to further enrich the theoretical basis of cultural heritage brand construction in the context of urban renewal. This study will integrate urban renewal and cultural heritage protection theories to explore the development path of cultural heritage brands from the renewal perspective. This will help improve the theoretical framework of cultural heritage branding in urban renewal and deepen the depth of research areas such as urban brand development and cultural heritage protection.

1.5.2 Practical guiding significance

1.5.2.1 Facilitating the preservation and inheritance of historical culture.

Historical culture is a key part of a city's charm. By integrating the preservation and inheritance of traditional culture into urban renewal, the spatial quality and cultural charm of the city will continually improve. The city will become healthier, safer, and more livable by effectively balancing tradition with modernity, and continuity with development.

1.5.2.2 Enhancing the City's image

The Baihuazhou Historical and Cultural Block represents the bustling past and deep historical and cultural heritage of Jinan, making it a significant cultural brand in the region. As a tourist destination that reflects the city's image, the brand image of the blocks directly affects tourists' impressions and sense of identification with Jinan. Therefore, it is essential to shape and promote the brand image of the Baihuazhou Historical and Cultural Block. The establishment and wide dissemination of an excellent brand for a historical and cultural block can leave a good help the audience form impressions, understand its attributes, experience its connotation, and develop emotional connections with the block. This will increase the block's visibility and reputation, enhancing the overall image and soft power of Jinan.

1.5.2.3 Providing references for the branding of other city cultural heritage.

Many cities overlook the value and uniqueness of their regional culture during the urban renewal process. This study emphasizes the importance of incorporating regional cultural heritage elements into urban brand design. The theoretical research on regional culture and historical cultural block brand design, as well as the practical design work for the Baihuazhou Historical and Cultural Block brand, provides meaningful references for the study of branding historical cultural blocks based on regional culture in China.

1.6 Research questions

This study explores the interaction between cultural heritage resource conversion and sustainable urban regeneration. From the perspective of protecting and developing cultural heritage resources, it focuses on how to develop them into a city brand, explores more suitable ways and paths for the protection of intangible cultural heritage, and provides a platform and social foundation for their construction.

To solve the main problem, it is necessary to analyze the background problems and sub-problems and draw corresponding conclusions.

1.6.1 Main research question

how can branding be used to protect and inherit historical culture, enabling culture to contribute to and empower urban renewal, and forming a systematic design model for the brand image of cultural heritage blocks.

To address the main issue in the research, it is necessary to analyze the following background research questions and sub-research questions.

1.6.2 Background research questions

To explore the development path of cultural heritage branding in urban renewal, it is important to clarify the basic concepts of urban renewal, cultural heritage, cultural heritage branding, and the theoretical domains involved in the research:

1. Definition of related concepts such as urban renewal, cultural heritage, and cultural heritage branding.

2. What theoretical research framework should this study be based on? What existing research theories make up this framework? What are the existing research methods? What are its limitations?

1.6.3 Sub-research questions

In the process of answering the main research questions, a series of specific questions need to be solved:

1. Under what circumstances is it necessary to conduct an in-depth study on the current situation of cultural heritage brand image shaping in urban renewal? Based on the influencing factors of urban renewal brand image shaping, which aspects will be described and analyzed?

2. When using qualitative and quantitative research methods, which approach should be chosen as the main tool for designing the research at each stage? How can important factors for brand design be determined based on different cultural characteristics? How can a brand-specific database be built and a final design proposal be formulated?

3. How can relevant research findings be summarized and consolidated to provide theoretical references for cultural heritage brand image shaping in historical cultural blocks in urban renewal. How can these findings also provide beneficial insights for similar design practices in China?

1.7 Research scope

1.7.1 Content scope

This study mainly focuses on the relevant content of brand visual image design within the framework of modern brand theory. It does not involve commercial operations such as brand marketing and brand communication.

The branding of urban cultural heritage is different from general branding. Brand image building must be based on a deep understanding of its historical origins, regional characteristics, and cultural connotations. From the perspective of brand theory, it focuses on studying the visualization of brand image and defining the key design factors of the brand. Comprehensive analysis is conducted from various aspects such as brand cognition, brand positioning, brand value, and brand communication. A clear position is defined to establish a brand image shaping model and build a brand cultural gene resource library.

By finding the intersection of urban characteristics, cultural heritage, and historical cultural blocks, cities are endowed with cultural significance while giving cultural heritage a modern label.

1.7.1.1 "Factor" extraction

A distinct brand positioning is established, and brand factors applicable to brand image design are extracted. This involves tangible aspects that can be perceived and experienced by all relevant groups, including all explicit manifestations.

1.7.1.2 Brand building

(1) Symbol system – What distinctive identification symbols does cultural heritage possess?

(2) Benefit system – If a brand can reflect its functional advantages, its added value will be sublimated.

(3) Meaning system – The brand forms a community with consumers sharing common values and psychological patterns.

1.7.1.3 "Design output."

(1) Propose branding design strategies for cultural heritage.

(2) Develop a comprehensive design proposal for the cultural heritage brand image of Baihuazhou Historical Cultural Block.

1.7.2 Regional scope

The scope covers the entire area of Baihuazhou Historical Cultural Block in Jinan, Shandong Province. Baihuazhou Historical Cultural Block, selected for this study, is the primary area for urban renewal in Jinan City. It is the most intact historical cultural block with existing cultural heritage and embodies the most typical characteristics of historical culture in Jinan. Against its rich historical and cultural backdrop, an in-depth investigation of the block's humanistic features, architectural characteristics, spatial layout, and brand positioning will be conducted. Problems and their causes will be analyzed, and targeted strategies for the inheritance, protection, and transformation of historical cultural heritage will be proposed.

1.8 Definition of terms/Keywords

1.8.1 Urban renewal

It refers to the functional transformation of underutilized areas in the old city with insufficient demand, low utilization efficiency, and poor environmental quality. Focus on renovating old residential areas, historic districts, commercial port areas, business districts, and urban villages to create new living spaces (Couch, 1990). However, the scope of urban renewal may vary in different cities based on their specific circumstances and needs. Urban renewal aims to enhance and improve the spatial form and functions of the city, going beyond the improvement of infrastructure and public facilities to optimization and enhancement of historical culture, urban landscape, and industrial structure.

1.8.2 Cultural heritage

The term "cultural heritage" refers to property left for future generations. It needs to be passed down across generations and it should be of rarity and typicality. Heritage is the sum of material and spiritual wealth that should be preserved to safeguard its value, which has been inherited from the natural evolution of the Earth and the social evolution of humankind. Heritage represents the essence accumulated during the processes of natural evolution and human development, and it is unique and non-renewable.

As a precious treasure left by history to mankind, it can be divided into intangible cultural heritage and material cultural heritage according to its form of existence. The former exists in various non-forms, is closely related to people's lives,

and is passed down from generation to generation (Blake, 2000). The latter represents the continuity of regional historical context and is an irreplaceable special public resource, which mainly includes cultural relics, buildings, sites, etc.

1.8.3 Brand building

Branding creates a unique and identifiable identity for a user, product, company, etc (Crespi‑Vallbona & Richards, 2007). It involves strategically crafting and managing various elements such as name, logo, design, messaging, and overall image with the aim of differentiating and positioning oneself or one's product in the minds of the target audience.

1.8.4 Cultural heritage brand

A "Cultural heritage brand" is a brand that incorporates and promotes elements of cultural heritage, tradition and historical significance into its products, services or overall image. These brands often emphasize preserving, celebrating and disseminating cultural values, contributing to recognizing and appreciating a specific cultural identity. Cultural heritage originates from the folk and has strong regional characteristics. China, with its vast territory and diverse ethnic groups, possesses a rich and diverse cultural heritage. It encompasses unique ways of life, customs, and local characteristics of different regions and ethnic groups. It is a living testimony to China's 5,000-year history and serves as a "gene bank" of agricultural civilization. Once transformed into a brand, cultural heritage can generate extraordinary tourism experiences due to its monopolistic, brand-like, original, authentic, mysterious, commercial, commemorative, operational, and value-preserving characteristics, thereby attracting market segments with different regions, groups, and cultural backgrounds.

1.8.5 Historical and Cultural Blocks

It is designated and announced by the people's governments of provinces, autonomous regions, and municipalities directly under the Central Government. It refers to the rich and well-preserved historical buildings in the area. An area of a specific scale rich in cultural relics and historic sites can reflect the traditional pattern and historical features relatively entirely and genuinely.

They are important areas for urban renewal and transformation (Chen, 2011). Historical and Cultural Blocks are where many original residents live,

representing urban landscapes with unique community cultures. Its conservation involves protecting the physical structure of historic buildings, preserving the cultural content they carry, and safeguarding intangible forms of cultural heritage, thus promoting cultural diversity.

1.9 Thesis overview

The paper is divided into five chapters. The first chapter is the introduction, including the problem statement, research background, research purpose, research purpose, research significance, research content, research scope, and keywords. Chapter 2 is a literature review outlining the current research status of urban renewal, cultural heritage and brand design. As the focus of design practice, the relevant situation of Baihuazhou District in Jinan City is introduced. Chapter 3 discusses the research methodology, including research methods, process, data collection and analysis procedures. The importance of combining qualitative and quantitative research methods is emphasized. Chapter 4 presents the findings, including data collection, analysis and results. Chapter 5 explores the research conclusions and recommendations and the achievement of the research objectives.

1.10 Conclusion

In the first chapter of "Research on the Brand Image Creation of Jinan Urban Cultural Heritage Under the Background of Urban Renewal," the research background, purpose, and significance. The study seeks to investigate the branding of Jinan's cultural heritage within the context of urban renewal. It aims to understand how visual symbols and heritage elements contribute to Jinan's brand image. This research is of great significance for the diversified development of urban renewal, cultural heritage protection, and urban development and tourism promotion. Key terms and concepts, such as urban renewal, cultural heritage, and brand image, are clarified. This chapter sets the stage for the subsequent research, emphasizing the importance of cultural identity in urban planning and branding.

CHAPTER 2 LITERATURE REVIEW

Since the issues discussed involve urban renewal, cultural heritage resources, city branding, and historical and cultural blocks, Jinan City is used as a case study. Therefore, a literature review was conducted. It mainly focuses on the current research status of urban renewal, cultural heritage, city brands, historical and cultural blocks, and cultural heritage brands at home and abroad.

2.1 Relevant concepts

2.1.1 Urban renewal

In urban planning, this study closely relates to terms such as urban renewal, reconstruction, and revitalization. Among them, "urban renewal" and "sustainable development" have similar meanings and involve large-scale work. Urban renewal refers to a reconstruction process that takes heritage preservation and other factors into account (Couch et al., 2011). On the other hand, urban regeneration aims to address multifaceted issues in impoverished urban areas and integrate their economic, material, social, and environmental conditions through a vision and comprehensive actions (Roberts & Sykes, 1999). In contrast, urban regeneration is more specific and involves redeveloping and reusing existing sites, such as converting older houses into residential apartments (Ujang & Zakariya, 2015), and restoring buildings to a good state of condition, operation, or capability (De Magalhães, 2015).

Urban renewal is a continuous driving force for social progress and economic development. Since its birth, it has been continuously developed and improved. Urban renewal, as a metabolic function of a city's normal development, constantly enhances the city's spatial structure and its multifaceted functions (Zeming, 2000). The concept of urban renewal originated in the West. After World War II, Western countries launched a large-scale urban transformation movement to heal the wounds of war and address various issues in urban development. Under this movement's impetus, the concept of urban renewal gradually emerged in cities in Western countries in the 1950s. However, it wasn't until the first Urban Renewal Symposium was held in The Hague, Netherlands, in 1958 that urban renewal gained a more authoritative definition (Jianqiang, 1995): "People living in the city are dissatisfied with the environment they inhabit, which subsequently initiates a series of

environmental improvement measures, including the improvement of their own homes, the beautification of streets, the establishment of green spaces, and the removal of poor housing." This definition particularly emphasizes issues related to land use patterns and environmental improvements, aiming to create a comfortable urban living environment and a positive urban image through large-scale urban renewal plans.

2.1.2 Cultural heritage

Throughout the vast expanse of history, humanity has continually accumulated wisdom and progressed from savagery to civilization through its struggle with nature. The cultural heritage left behind by this evolutionary process not only serves as a record of human advancement with academic research value but also provides aesthetic enjoyment and aesthetic value when revisited (Gillman, 2010). In the past, this field was not widely recognized and valued, but as people's quality of life continues to improve and their pursuit of spiritual happiness increases, more people tend to pay attention to the benefits that culture brings to us. Additionally, the international environment places great importance on cultural heritage. To declare intangible cultural heritage is no longer just a regional honor but has also become a significant way to foster national pride and a sense of belonging.

On February 22, 2005, the "Notice on Strengthening the Protection of Cultural Heritage" ("Central People's Government of the People's Republic of China," 2005) issued by the State Council provided an authoritative definition of "cultural heritage": "Cultural heritage includes tangible cultural heritage and intangible cultural heritage. Tangible cultural heritage refers to cultural relics with historical, artistic, and scientific value, including ancient ruins, tombs, ancient buildings, grotto temples, stone carvings, murals, modern and contemporary significant historical sites. even distribution, or integration with the environmental scenery. Intangible cultural heritage refers to various forms of traditional cultural expressions that exist in non-material form, are closely related to the lives of the people, and have been passed down from generation to generation. It includes oral traditions, traditional performing arts, folk activities and rituals, traditional knowledge and practices related to nature and the universe, traditional craftsmanship skills, as well as cultural spaces associated with the aforementioned traditional cultural expressions" (Kearney, 2008).

In 2003, China joined the UNESCO Convention for the Protection of Intangible Cultural Heritage, which allowed the translation of the term "intangible cultural heritage" to be confirmed in legal form and gradually gained attention and recognition from all sectors of society. In 2011, the country promulgated the "Intangible Cultural Heritage Protection Law of the People's Republic of China", which is consistent with the definition of the UNESCO Convention. The legal recognition includes various forms of traditional cultural expressions passed down from generation to generation by different peoples and the material heritage and carriers associated with these expressions. This includes 1. Traditional handicrafts, folk arts, drama, music, dance and acrobatics. 2. Traditional oral literature. 3. Traditional Chinese Medicine. 4. Traditional folk customs, folk customs and festivals. 5. Traditional sports. 6. Categories existing in other forms (Ping, 2011).

The "Law of the People's Republic of China on the Protection of Intangible Cultural Heritage" and the UNESCO "Convention for the Safeguarding of the Intangible Cultural Heritage" generally share a consistent definition, scope, and content regarding intangible cultural heritage. In terms of classification, there are generally two methods. Classified by level, it can be divided into world-level, national-level, and provincial/municipal/county-level designations. Specifically reflected in Table 1 and Table 2:

Table 1 Classification of intangible cultural heritage (International standard)

Type	Manifestation
Oral legends and representations	Poems, myths, legends, stories, rumors
Performance art	Music, Drama, Puppetry, Song and Dance
Social customs, etiquette, festivals	Important festivals, etiquette, celebrations, recreational activities
Nature-related knowledge and practice	Agricultural activities and knowledge, ecological knowledge and practice, textile knowledge and practice.
Traditional handicraft skills	Craftsmanship, cooking crafts, traditional arts and crafts

Table 2 Classification of intangible cultural heritage (Chinese standard)

Type	Manifestation
Traditional oral literature and language as its carrier	Legends, ballads, epics of ethnic minoritiesetc.;
Traditional fine arts, calligraphy, music, dance, drama, folk art and acrobatics	New Year pictures, paper-cutting, cross-stitching, sculpture, embroidery, etc.; folk songs, folk songs, playing and percussion arts; folk dragon and lion dance and ethnic minority dances; five-tone drama, ethnic minority drama, folk drama, etc.;
Traditional arts, medicine	Ceramics, Batik, Four Treasures of Study, Winemaking, Jewelry Processing Technology; Acupuncture, Traditional Chinese Medicine, etc.;
Traditional etiquette, festivals and other folk customs	Traditional festivals, wedding customs, sacrifices, etiquette and folk customs of ethnic minorities, etc.;
Traditional Sports and Entertainment	Traditional martial arts, Tai Chi, etc.;
Other Intangible Cultural Heritage	

As China's protection work continues to deepen, the national, provincial, municipal, county, and township-level protection systems have been established. Four batches of national-level representative projects have been announced, with 1,372 projects and 3,145 sub-projects (China Intangible Cultural Heritage Network)

2.1.3 Brand image shaping

2.1.3.1 Brand

In ancient times, people used a form of branding to distinguish their belongings from those of others, which is the prototype of a brand. With the passage of time and the advancement of human civilization, brands have evolved from mere marks. People also became aware of the economic benefits and legal responsibilities of brand identity in business competition. In 1960, the American Marketing Association (AMA) answered the definition of a brand: a name, symbol, logo, design and a combination of these elements. Its function is to identify goods or products and to differentiate information from similar brands or competitors (Park et al., 1986). In the 1970s to 1990s, the concept of a brand underwent further development. It was no longer a standalone concept but was classified as a branch of integrated marketing theory and played a role. While the concept of a brand continues to expand and enrich, the essential elements that constitute a brand can generally be categorized into two aspects.

On one hand, there are objective components, including brand names, products, packaging, and other tangible forms. On the other hand, there are subjective cognitive elements. When brand value is assigned and conveyed to consumers, they gradually form perceptions about the brand. This means the brand provides value and builds good interactivity and customer loyalty.

Brand building is a long-term process. The brand design needs to achieve several goals: assisting enterprises, forming brand value, helping consumers better remember, and enhancing consumers' sense of identity and belonging (Xingliang, 2012).

2.1.3.2 Brand image design

Brand image design is an ongoing process of negotiation between producers and consumers about how to define promises and brand meanings. Elements typically included in brand design are market analysis, brand positioning, brand storytelling, design, pricing, promotion, and customer relations (Lina, 2005).

Brand design is a type of visual communication which based on a correct self-positioning of the enterprise and a proper brand definition. It assists in developing an image entity for the enterprise. Not only does it help the company grasp the brand direction accurately, but it also enables people to remember the company's image effectively and memorably. Products can have brands, as can services, organizations, regions, and even individuals. A brand is a satisfying promise. It's a symbol, a metaphor, much like the relationship between producers and consumers, sellers and buyers, performers and audiences.

Brand design is a process of translating abstract concepts into concrete elements. It involves defining specific concepts such as brand concepts, philosophies, culture, and underlying ideas. The visual identity of a brand primarily consists of a logo, brand colors, visual symbols, visual tone, and composition standards. The logo is the simplest and most direct visual element and core visual asset of a brand. Brand colors are standardized colors used for advertising and any display visuals. Visual symbols, also known as super symbols, can be expanded into auxiliary graphics that are organically integrated with the logo. The visual tone unifies the overall content of the brand's visuals, leaving an impression of impact. For example, luxury brands convey sophistication, while internet brands exude playfulness, and maternity and baby products evoke warmth. Composition standards involve integrating and standardizing

the brand's visual information. It should also consider the emotional experiences of consumers, ensuring that visual designs are effective in communication and dissemination (Yanhong, 2007).

2.1.3.3 Brand image shaping

The core of brand image shaping is to shape the cognition and emotions associated with the brand. It goes beyond mere visual aesthetics and extends into the realm of storytelling and creating meaningful connections with customers. A successful brand conveys clear and consistent messages about its values, personality, and commitment, thereby resonating with the target audience (Peng et al., 2015).

The benefits of an effective brand image are manifold. A strong brand can enhance credibility, foster trust, and establish familiarity and loyalty among customers. It can also differentiate the brand from competitors, creating a unique position in the market. Implementing a well-executed brand strategy helps increase brand awareness, and customer preference, and ultimately achieves long-term business success.

2.1.3.4 Cultural heritage brand

Cultural heritage branding refers to a unique and recognizable identity associated with a specific culture or historical heritage, which creates an authentic connection with the target audience. They typically focus on preserving, disseminating, and sharing the essence of a particular culture. This helps enhance awareness, appreciation, and continuity of the culture while attract consumers seeking products or experiences with rich historical or cultural backgrounds.

Cultural heritage represents a series of symbols that represent a city. Protecting cultural heritage means preserving the meaning behind these symbols. By endowing symbols with products and allowing them to replace symbols, we not only provide differentiated symbols for products but also conform to the trend of modern semiotics (Han & Huiyuan, 2012). In today's highly developed industrial civilization, materializing culture can be seen as a method of continuity. From a cultural perspective, it transforms culture from intangible to tangible and infuses the unique regional cultural connotations into the brand, thereby protecting and inheriting cultural heritage. From the perspective of capital, industrialization shapes culture in another form. It strives to protect the authenticity of urban regional culture and better meet the demands of contemporary people, thereby expanding the influence of culture.

2.1.3.5 Urban branding

The cohesion, attractiveness, and radiance of a city brand, when combined, can greatly enhance the city's competitiveness. Therefore, a city brand is a significant intangible asset, possessing immense value and representing an immeasurable intangible asset. The accumulation of various tangible and intangible assets within a city forms the asset foundation of a city brand. A single factor does not shape it but is jointly affected by factors such as politics, economy, natural environment, education, and culture. Factors like the city's natural environment, historical development, cultural heritage, humanistic charm, economic strength, and industrial growth gradually refine over the course of historical development through processes like integration, summarization, selection, comparison, and abstraction, forming specific symbols for the development of the city's image (Shengyu, 2009). based on an analysis of its own image positioning, a city establishes its core values and integrates elements such as traditional culture, history, local customs, residents' way of life, and urban characteristics into a perceptible visual representation of the city brand.

The assets of a city brand have a strong driving effect on shaping and enhancing the city brand image, which in turn increases the visibility of the city brand. Simultaneously, the formation and shaping of the city's brand image play a vital role in promoting the development of city brand assets.

2.1.4 Historical and Cultural Blocks

Protecting historic districts is essential to urban protection work and vital in protecting historical heritage. The "Nairobi Recommendation" points out that historical areas are closely intertwined with the daily living environment of human beings, bearing witness to past social activities, and possessing high social and research value. Both the government and citizens should consider the protection of historical areas as their responsibility (Jixiang, 2007).Historical and cultural blocks are specific geographical areas with significant historical, cultural, architectural, or artistic value. They are often established to protect, showcase, and celebrate the unique heritage and traditions of a community or region. Historical blocks are built upon a certain scale of historical remains, presenting an intact historical appearance, and maintaining the life of a community with social and functional structures. They typically possess three essential conditions: firstly, the presence of a certain scale of historical remains;

secondly, the relatively complete and authentic preservation of traditional layouts and historical appearances; thirdly, meeting the national standards for size (historical and cultural districts covers an area of no less than 1 hectare, with cultural relics, historical sites, and historic buildings within the district occupies over 60% of the total built area).

2.1.5 Overview of Jinan's urban characteristics

2.1.5.1 Background

Jinan is the capital city of Shandong province and serves as the whole province's political, cultural, economic, financial, and educational center. Jinan is located in the middle of Shandong Province, on the lower reaches of the Yellow River, the mother river, in the Bohai Rim Economic Belt, and is an essential strategic city in North China. It is recognized as one of the national historical and cultural cities by the State Council and is also approved as a coastal open city and one of the fifteen sub-provincial cities. It is listed among the "Top 50 Cities in Comprehensive Strength" and "Top 40 Cities in Investment Environment" in China. (Source: "Global City Lab") Jinan is one of the first batch of excellent tourist cities in China. It serves as the leading city on the Shuilv Shengren ('Sage of Water and Mountains') Tourism Line and the core city of the provincial capital city cluster tourism economy.

Additionally, Jinan is an important node city on the Beijing-Shanghai high-speed railway tourism golden line (Figure 1).

Figure 1 Jinan urban location map. Source: produced by author.

In addition, Jinan, known as the "Spring City," is renowned for its abundant springs, with a saying that goes, "Every household has spring water, and every

household has willow trees." For many years, Jinan spring water has been a core "business card" in urban development, economic growth, tourism and culture. The springs have become the city's most prominent characteristic and a dazzling urban brand. As part of the sustainable development of today's cities, protecting spring water, promoting spring water culture, promoting spring city characteristics, maintaining the urban ecological environment, building a harmonious social environment, and promoting people's happiness index are essential for implementing sustainable development (Figure 2).

Figure 2 Jinan spring water related data. Source: http://www.jinan.gov.cn.

Jinan is one of the first cities in China to formulate regulations on the planning and protecting historical and cultural cities. In 1986, it was announced as one of the first national historical and cultural cities. The focus of this regulation is to protect existing ancient towns, villages, historical and cultural blocks, regional culture, buildings, etc., in the city.

It laid a good foundation for urban cultural heritage conservation in China. However, Jinan is also one of the areas that have lagged in practical conservation efforts. The old city area of Jinan originally had a clear urban texture and street pattern, with unique architectural styles, and the preservation of the city's urban lifestyle was relatively intact. However, in the following decades of urban development and construction, the protective regulations that were initially established in Jinan have almost become empty words. The "old city renovation" projects in many historical and cultural blocks even evolved into the construction of new cities by demolishing the old (Wenxing, 2012).

2.1.5.2 Urban cultural characteristics

(1) Qilu culture: Qilu culture is a regional cultural name specifically referring to the combined Qilu cultures of "Qi" and "Lu." The Qi State, located on the eastern coast, produced the ideology and teachings of Jiang Taigong and absorbed and developed the local culture. The difference between the two ancient cultures is that Qi culture emphasizes practicality, while Lu culture emphasizes ethics; the former pursues innovation and the latter respects tradition. They gradually organically merged during their development, which is the origin of Qi and Lu cultures and Lu cultures.

Qilu culture is an essential part of my country's excellent traditional culture and has profoundly impacted Chinese civilization. The land of Qilu not only witnessed the emergence of influential figures such as Confucius, Guan Zhong, Mozi, Sunzi, and Mencius but also witnessed the establishment of the famous Jixia Academy (Figure 3), which was a remarkable phenomenon in the history of world culture. Fu Sinian stated in his work "An East-West Comparison of Barbarians and the Chinese" that from the Spring and Autumn period to the reign of Wang Mang, Chinese upper-class culture centered in Qilu (Xiuzhi, 2008).

Figure 3 Representative figures of Shandong Qilu culture. Source: http://www.qufu.gov.cn.

(2) Spring water culture: The city development, historical evolution, and local customs of Jinan are directly and closely connected to its spring water. The springs of Jinan have a long and profound history. According to historical and archaeological experts, as early as 1542 BC, more than 3,540 years ago, the meeting between Duke Huan of Lu and Duke Xiang of Qi at the Luo River was recorded in "Annals of Spring and Autumn, Year 18 of Duke Huan." The source of the Luo River is the present Baotu Spring, which has a history of over 2,600 years (Jie et al., 2017).

Spring water is the soul of Jinan, and its spring culture is the city's core competitiveness and soft power, as well as a cultural symbol of Jinan. The city still preserves its ancient urban architecture. Walking through the narrow alleys, one can experience the integration of the thousands of years of Jinan's spring culture alongside the flowing water, with houses having springs and outdoor sunsets. Due to its unique geographical conditions, Jinan has abundant spring water, and its 72 famous springs have earned it the reputation of the "City of Springs." The four major spring groups, Black Tiger Spring, Baotu Spring, Wulongtan, and Pearl Spring, are all in the old city area (Figure 4).

Figure 4 Jinan spring water related data. Source: https://baijiahao. gov.cn.

The abundance of springs in Jinan is rare among Chinese cities. According to hydrogeological experts and recent field investigations, there are a total of 645 springs within the jurisdiction of Jinan. Within the small area of the old city, which covers only 2.6 square kilometers, the four major spring clusters of Baotu Spring, Heihu Spring, Wulong Pond, and Pearl Spring account for 136 springs. The normal daily discharge of these springs can reach up to 300,000 cubic meters (Jianjiang, 2003). Modern hydrogeological experts have found that the formation of Jinan's springs is due to its unique geological structure and geographical environment. The southern part of Jinan is characterized by a steep slope from the Taishan mountain range and hills, gradually transitioning into a gently sloping plain and the alluvial plain of the Yellow River in the city area, with an elevation difference of over 500 meters. The geological layers of the southern mountainous region mainly consist of Cambrian and Ordovician limestone which are inclined at an angle of 3-15 degrees towards the north. Through

multiple tectonic movements and long-term dissolution, these soluble limestones have formed a large number of underground solution channels, sinkholes, caves, and underground rivers, creating a network system for storing and transporting groundwater. After rainfall, a considerable amount of surface water infiltrates into the ground and flows underground from south to north through solution channels, caves, and underground rivers.

On the other hand, the northern part of Jinan, mainly composed of intrusive rocks like diorite and gabbro, acts as an impermeable layer that blocks the underground flow of water. Consequently, the gathered underground water experiences strong horizontal pressure and is forced to rise vertically. It then emerges through various forms of natural springs formed by the fractures in the karst area (Lili et al., 2013).

(3) Over a century ago, Jinan pioneered the opening of commercial ports, setting the precedent for inland Chinese cities to open to the outside world. This greatly promoted the social development and urbanization process of Jinan at that time, becoming a model of "self-development" for cities in the late Qing dynasty. It has witnessed the vicissitudes of Jinan over the past century. From opening its commercial port to reshaping its history, the old commercial port of Jinan carries numerous historical marks left by business, culture, and time-honored brands and witnesses the city's development and innovation (Figure 5). Since the 1980s, Jinan's economy has experienced another takeoff. Today, Jinan, which has experienced a century of ups and downs, is embarking on a new journey, embracing new challenges with a fresh attitude and a spirit of inclusiveness, and creating a new brilliance in its "second opening of the port."

Figure 5 Pictures of Jinan old commercial port. Source: http://jnwl.jinan.gov.cn.

(4) Literati culture: Famous figures are also an important part of a city's historical heritage and an important symbol of cultural identity. Jinan, as a city with a rich national historical and cultural heritage, has been vigorously promoting cultural construction in recent years, and has repeatedly included the excavation and promotion of "literati culture" in government work reports. The 2022 Jinan Municipal Government Work Report proposes promoting the innovative development of local cultures in Jinan, such as Longshan, Dashun, Confucian, and Er'an. Among them, Er'an refers to the renowned poets Li Qingzhao and Xin Qiji from Jinan, who were representative figures of the elegant and bold styles of the Song Dynasty. Er'an culture can be regarded as the excavation and extension of literati culture (Zhuge, 2020) (Figure 6).

Figure 6 Representatives of Jinan celebrity culture. Source: https://www.gushiji.cc.

On January 10, 2022, the National Ministry of Culture and Tourism announced the first batch of 55 national tourism and leisure areas. Baihuazhou, Qushuiting, Jinan City, was selected as one of them.

Baihuazhou, also known as Baihuating or Baihuachi, is mainly formed by the convergence of the Pearl Spring Group and flows northward into Daming Lake. It constitutes a significant component of Jinan's ancient water system. The Baihuazhou area serves as a distinctive symbol of the city's characteristics, It situates in the transitional zone between the "Mingfu City" and the "Daming Lake Scenic Area." This area possesses rich historical remnants and outstanding cultural value. The design focus lies in preserving historical remnants, maintaining the street and lane texture, extending historical context, refining and protecting the spring water environment, incorporating operational formats, and reviving the characteristic appearance of "springs in every

household, willows hanging over each residence." The aim is to transform it into a distinctive district suitable for the development of cultural and leisure industries and enhance the cultural and tourism value of Mingfu City (Figure 7).

Figure 7 Panorama of Baihuazhou. Source: http://jnwl.jinan.gov.cn.

The Baihuazhou area has a history of nearly a thousand years and is a concentrated area of ancient official offices, mansions, and residential buildings, which gave rise to the central commercial district of the ancient city of Jinan. Within this district, the rich spring scenery culture, old courtyard houses featuring typical characteristics of North China, various political and cultural structures, and traditional folk life collectively contribute to making it one of the most well-preserved historical and aesthetic districts in Jinan (Hengguang, 2014).

This block possesses abundant material and intangible cultural heritage, making it the most complete and largest traditional characteristic district in Jinan. It holds immense value in terms of history, culture, and scientific research. As a symbol of Jinan's old city, the Baihuazhou Historical and Cultural Block is currently undergoing renewal and development.

Within the various dimensions influencing the transformation of the old city, factors such as historical significance, local identity, commercial aspects, and public elements all play crucial roles (Figure 8).
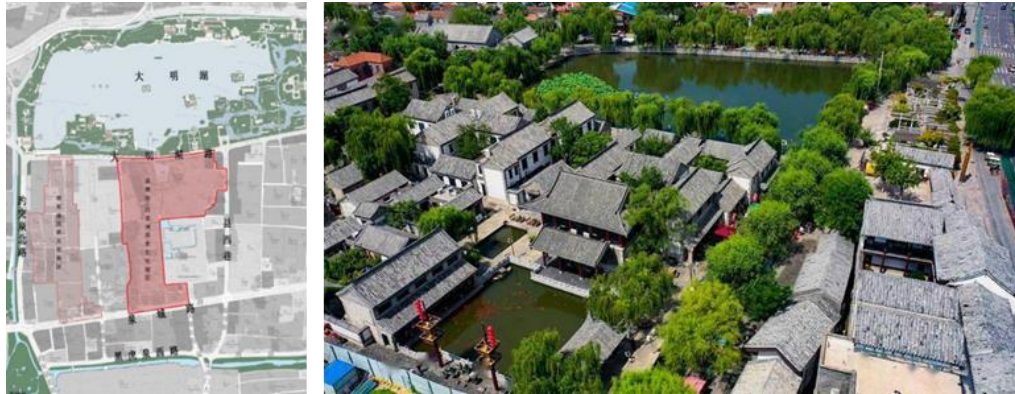
Figure 8 Interior view of Baihuazhou block. Source: photographed by the author.

2.1.6 Conclusion

Tourism and leisure blocks are important public spaces in cities and are also the preferred places to showcase the city's temperament and image. Many blocks in cities around the world have flourished as significant parts of urban revitalization due to their vibrant local experiences, historical significance, and representation of the city's identity. The creation of urban memories and a sense of place within these districts becomes an integral part of the city's vitality and image. Key elements in urban revitalization, brand building, and the shaping of historical and cultural blocks lie in effective collaboration among all stakeholders. By leveraging a place's unique qualities and preserving its cultural heritage, a city can create vibrant and livable spaces that not only preserve its heritage but also contribute to its sustainable development.

2.2 Theory and review

2.2.1 Urban renewal

2.2.1.1 Foreign theories and reviews

After World War II, Western countries faced numerous urban problems, leading to the emergence of the concept of urban renewal. Initial urban renewal efforts focused on large-scale demolition and reconstruction in the city center, as well as slum clearance, which resulted in significant destruction and exacerbated suburbanization, leading to widespread urban decline (ke, 1998). This phenomenon prompted many government officials and scholars to conduct research and critical reflection on the urban renewal movement. In 1961, Jane Jacobs (1961) proposed the concept of "urban diversity" in her book "The Book of Life and Death of American Cities" and emphasized the significance of maintaining urban diversity. Subsequently, urban

sociologists from the Chicago School, such as Burgess and Bourne (1985), argued that cities were living organisms, and planned urban renewal can help cities escape from decline and gradually restore their functions (Figure 9).
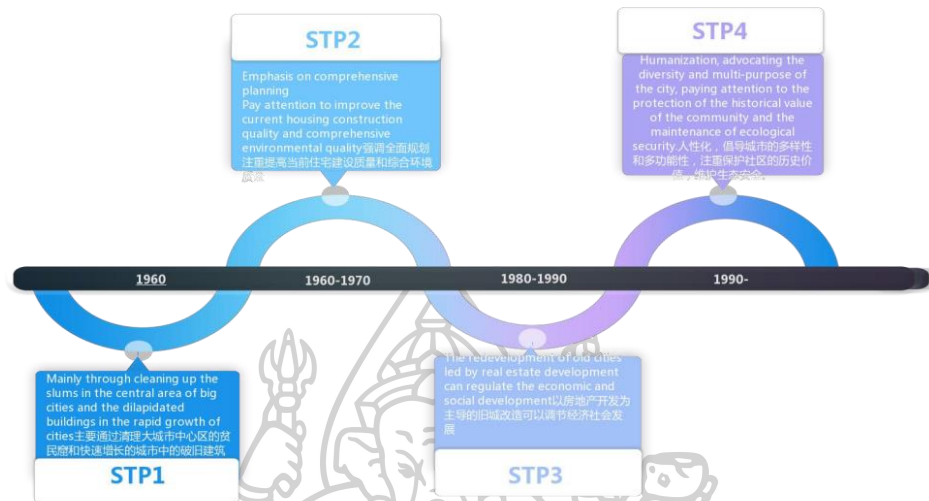
Figure 9 Time course chart of foreign urban renewal development. Source: drawn by the author.

If we take a deep analysis of the evolution sequence of the Western urban renewal ideology, it is not difficult to find that urban renewal theory has gradually moved towards a "people-oriented" direction. It considers cultural values as the core element of urban renewal, believing that in the process of urban renewal, it is not limited to establishing simple surface connections between people and the city, but also explores and maintains the deep-seated connections between the city and human behavior (de Kleijn, 1986). Influenced by the humanism in the 1990s, the concept of urban renewal has evolved to a new stage, which increasingly emphasizes the human experience in urban renewal. It not only focuses on improving the living environment for people but also incorporates the issue of imparting and inheriting urban context into the agenda of urban renewal. In the book "The Urban Design Handbook," Hugh. Seacombe and Peter. Roberts propose that urban renewal is a comprehensive systemic engineering, which should be guided by holistic and sustainable concepts. It should be committed to continuous and far-reaching updates in various aspects of urban politics, economics, culture, and society (Roberts & Sykes, 1999). At the same time, there is also a rich body of case studies on urban renewal during this period, mainly focusing on successful cases. For example, in cities like London and boston, they have utilized

traditional culture to drive the transformation and upgrade of the city through urban renewal. However, some scholars have raised questions about these successful cases, pointing out that they also hide drawbacks, such as neglecting the needs of urban residents. They suggest that a critical perspective should be taken toward the successful cases of urban renewal. In addition, there has been a focus on the characteristic renewal practices in small and medium-sized cities during this period, which has driven the improvement of the urban renewal case system.

Through the search the keywords used in the literature search were urban renewal, urban revitalization, urban sustainable development and urban diversity. The search criteria adopted are ("urban renewal" or "urban regeneration", "urban redevelopment" or "diversity",) and ("sustainable development" or "sustainability"), which form the core of the SCI database Search terms. Using the aforementioned search criteria, subjects were scanned in the SCI database, covering the time span from January 1, 2001, to December 31, 2021, and the language used was English. Following this criterion, a total of 188 papers were retrieved (including articles, conference papers, editorials, and reviews). In the literature, previous research primarily focused on the following aspects:

2.2.1.1.1 Research on diversity of urban renewal

Diversity in urban renewal emphasizes creating an environment with diverse characteristics through a comprehensive and multi-level approach(Pardy, 2009). This theory believes that urban renewal is the physical transformation of old urban areas and social, cultural, and economic integration. Under the diversified theoretical framework, urban renewal seeks to break the traditional single-functional zoning and create a more dynamic and inclusive urban space through mixed-use, introducing cultural and creative industries and social participation.

The critical elements of diversified urban renewal include, first, reasonable planning so that the city is no longer divided into rigid residential, commercial, and industrial areas but can accommodate multiple functions in the same place, making the city more compact and convenient. Secondly, it focuses on introducing new creative industries, stimulating urban creativity through art, design, and innovative activities, and giving the city unique artistic charm. Finally, mass social participation is seen as key to success, with citizens encouraged to participate in the entire process to ensure

that the updated direction meets the needs and expectations of the public at large (De Oliver, 2016). (Viola, 2008)focused on Canada and paid particular attention to the diverse experiences in the public cultural field by analyzing diversity in urban renewal projects. This study provides an in-depth understanding of the concept of diversity in urban regeneration practices in Canada, emphasizing the importance of cultural identity and community engagement. (Biswas, 2019)explores inclusion in urban renewal from a global perspective. Attention to the role of urban-related policies and planning in creating just and inclusive urban futures provides theoretical and practical implications for achieving more diverse urban renewal. These research results represent different perspectives and in-depth research in the field of urban renewal diversity. They provide theoretical support and practical experience on urban diversity, providing a valuable reference for building a more inclusive and innovative urban environment.

2.2.1.1.2 Research on urban renewal infrastructure

Infrastructure is a planning factor that must be considered in urban renewal. Providing social infrastructure in urban renewal areas is necessary for residents to obtain social benefits reasonably. (Mell et al., 2013) discusses green infrastructure planning in the UK intending to promote human inclusion, ecological sustainability and economic regeneration. (Thacker, 2019) Discuss green centres to maximize their potential for sustainability and community engagement. Auckland's urban commercial facilities were maintained using the "point method" based on geographical differences. The most significant contribution of this method was the comparison and quantification of equipment levels. (Easterling, 2014) studied changes in urban infrastructure during the transition period. The relationship between infrastructure and urban renewal is revealed by examining the development of urban networks, architecture, and planning. This study is instructive for understanding the importance of infrastructure change in urban transformation. These reviews provide a multi-dimensional research perspective on urban infrastructure, covering key aspects such as management, intelligence, and sustainability.

2.2.1.1.3 City culture and heritage

Culture is an integral component considered in urban design. The evolving relationship between urban regeneration, cultural utilization, and governance in the "Barcelona model" was extensively discussed, highlighting it as a prominent example

of cultural regeneration. It was concluded that culture has inherent driving forces for enhancing social cohesion and marketing city brands. A survey highlights the broad contribution of cultural heritage to sustainable urban regeneration, assesses people's perceptions of urban heritage culture in the regeneration process, and recommends that government planners gain a deeper understanding of the interplay between urban spatial context and user experience. , can explain its importance (Tweed & Sutherland, 2007).

2.2.1.1.4 Urban design

Urban renewal involves transforming the physical and functional dimensions of the city and requires strategic decisions regarding the placement and composition of investments in the built environment. These decisions consider functionality, practicality, and aesthetics. Urban design as a comprehensive concept involves all aspects within a planning framework to promote sustainable urban renewal. Many studies in sustainable urban renewal have explored these considerations in depth, pointing out critical factors for environmental sustainability, social improvement, and economic development (Lang, 1994).

Based on the overview, this study reviews outstanding research issues related to urban renewal. The retrieved papers were analyzed from aspects such as planning systems, relevant social systems, and evaluation. While an increasing number of studies address these domains, mechanisms for achieving sustainable urban renewal still require strengthening. Key sections highlight future research trends and can serve as a guide for researchers exploring this research area. The functions of different planning elements, stakeholders' roles, and their interrelationships constitute essential research topics. More research must be evaluated, with most studies focusing on only a few aspects of sustainable renewal. Future research should adopt a more comprehensive perspective and new research directions for better evaluation.

2.2.1.2 Domestic theories and reviews

2.2.1.2.1 Theoretical research and main aspects of urban renewal

Compared to developed Western countries, urban renewal in China possesses its own complexity and uniqueness. Following the period of reform and opening-up, urban economy experienced rapid growth, leading to an unprecedented pace and scale of urban construction and renewal, marking the entry into a new historical phase.

From the founding of New China to 1978, stage one was when reforms comprehensively deepened, witnessed very little urban renewal in China. Urban planning and construction were at a standstill during this period.

In the second stage, after the reform and opening up, from the economic system reform to the comprehensive deepening of reform, China's economy began to develop, and its economic level improved significantly. This period marked the beginning of large-scale urban transformation, and research related to urban renewal began to receive attention. One influential event during this period was the introduction of the theory of "organic renewal" by academician Wu Liangyong (2003). He proposed that urban development resembles the growth of living organisms, involving the continuous removal of old and dilapidated elements to make way for new vitality. The newly developed components should structurally align with the original urban framework, implying that renewing the old city should be based on the existing urban fabric, with a focus on the inheritance and preservation of human culture and urban aesthetics. Renovation of Juner Hutong in Beijing, he emphasized the importance of "appropriate scale and size, handling the relationship between the present and the future based on the content and requirements of the renovation, continuously improving the quality of planning and design, so that the development of each area achieves relative integrity." This laid the foundation for China's theory of organic urban renewal. Subsequently, the book---Modern Urban Renewal proposed the theory of systematic renewal. It suggested that urban renewal should no longer be confined to singular physical transformations but rather should involve comprehensive planning and transformation of the entire urban system. Urban renewal processes were no longer limited to closed government-led patterns but evolved into open participatory models involving the public. The actions of urban renewal transitioned from impulsive demolition and construction to a more cautious and progressive approach that respects urban culture (Suning & Hongmei, 2002). The urban vitality theory proposes that "urban vitality is the powerful vitality of a city that provides humane living conditions for citizens." It decomposes urban vitality into three dimensions: economic, cultural and social, forming the main framework of the "urban form vitality theory".By analyzing methods to cultivate vitality in economic, social, cultural and other aspects, we emphasize the critical role of neighbourhoods in accommodating and supporting

various individual activities and ensuring the sustainable development and vitality of the city.
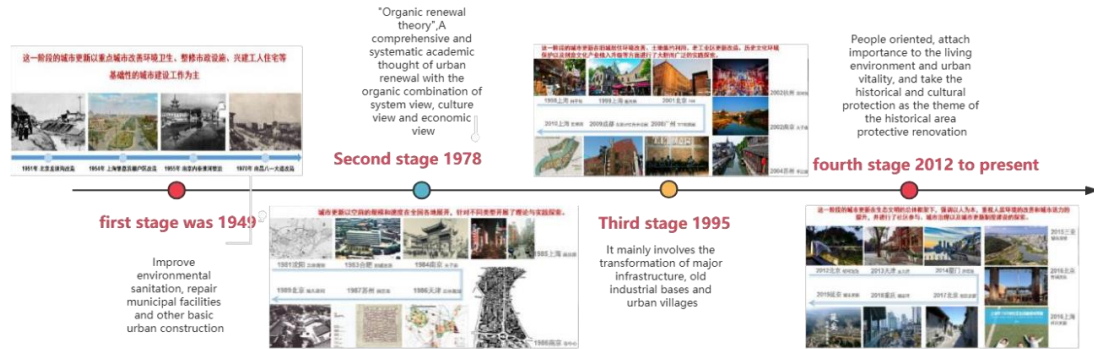
Figure 10 Time course of urban renewal development in China. Source: drawn by the author.

Currently, research on urban renewal in China primarily encompasses three aspects (Jianqiang & Yue, 2020b) (Figure11):

1.Redevelopment: Involves the removal of certain aspects of the current environment to make way for increased space and new content, Mainly to improve the overall quality and environment of the city.

2.Renovation: Focuses on enhancing environmental quality by adding space and new content while eliminating aspects of the current urban environment that are not compatible with the desired improvements.

3.Conservation: Involves the preservation and maintenance of existing patterns and forms, with changes generally not allowed except in special circumstances.

Figure 11 Three major directions of urban renewal in China. Source: drawn by the author.

In November 2019, the China Urban Renewal (Yangtze River Delta) Summit was held in Shanghai. In 2020, the "Implementation of Urban Renewal Action" was proposed as the strategic position of national urban renewal during the "14th Five-Year Plan" period. It emphasizes developing urban connotations, adhering to people-centeredness, and enhancing livability and urban vitality. Specific goals include transforming the objectively existing physical environment, as well as subjective updates in terms of spatial environment, visual environment, recreational environment, neighborhood social networks, and emotional attachment. Furthermore, since 2015, cities such as Guangzhou, Shenzhen, Jinan, Chengdu, and Shanghai have established Urban Planning Bureaus, emphasizing the importance of urban renewal in the process of urban development in the new era. They aim to make urban renewal a significant lever for enhancing the quality of urban spatial environments. Policies have been introduced to discourage large-scale demolitions and constructions and to focus on establishing neighborly social relationships. In light of these circumstances, this study also adheres to the people-oriented concept as its guiding principle.

2.2.1.2.2 Diversified development trends of urban renewal

China's urban renewal is showing a diversified development trend, especially the revitalization of old cities. It is a comprehensive and dynamic process, reflecting the country's commitment to striking a balance between modernization and the protection of rich historical and cultural heritage, reflected in the planning concept, project practice and social participation. This updated representation encompasses ambient spatial, visual and product-oriented dimensions.

(Zheng & Bingwen, 2021) It Examined urban renewal in China from the perspective of political economy. The factors that drive the diversified development of urban renewal in China are revealed by analyzing the government's role in urban renewal and its impact on economic growth. (Meng et al., 2011) focused on the transformation of old cities in China and conducted in-depth research using Xuanwu District in Nanjing City as a case. By analyzing policies, plans and practices, we study the driving factors, challenges and outcomes of old city renewal in China. We provide specific topics and empirical research on old city renewal in urban renewal. (Ruogu et al., 2011) comprehensively examined multiple aspects of urban renewal in China, including the social environment. (Maolin, 2009) revealed the changes and diversity of

the social environment in China's urban renewal by focusing on issues such as social structure, community participation, and residents' experience in urban renewal. (Sai & Yanlei, 2015) focuses on visual transformation in urban renewal in China, taking Hefei as an example. By analyzing urban image, architectural style, and planning policies, we examine how Chinese cities use visual transformation to present new ideas and future visions of the town.

Diverse urban renewal involves significant spatial transformation. A standout is the adaptive reuse of historic buildings. This approach not only preserves the architectural integrity of the old city but also breathes new life into buildings that might have faced neglect or demolition. Spatial transformation often includes creating pedestrian-friendly areas, repairing ancient city walls, and redesigning public spaces to enhance accessibility and foster community(Yi, 2016).

Another distinguishing feature is the emphasis on visual enhancement and preservation, prioritizing the restoration of historic facades, intricate architectural details and iconic landmarks. This visual preservation approach aims to recreate the charm and character of the old city, providing residents and visitors with an immersive experience of Chinese culture and history. Preservation efforts are not limited to physical structures but also include traditional street layouts, cultural symbols, and cultural heritage elements that define the visual character of the area(Xueqin & Liyong, 2015).

Urban regeneration of old cities is not limited to physical structures; it extends to creating innovative urban products and experiences. Cultural precincts, heritage-themed retail spaces and creative clusters are becoming an integral part of these renewal projects. Such urban products are developed to attract a variety of stakeholders, from tourists and artists to entrepreneurs and residents. The themed space displays the unique history and traditions of the old city, creating an immersive environment where history and modernity coexist.

2.2.2 Cultural heritage

2.2.2.1 Foreign theories and research reviews

Many countries prioritise their protection of cultural heritage and promulgated many relevant laws. Building upon protection, they also emphasize inheritance and utilization, gradually forming a virtuous cycle of "protection-

development-utilization-development-protection." The core idea in the new era regarding the protection and utilization of cultural heritage is to "revitalize". To achieve this, it is crucial to establish the relationship between the preservation and inheritance, as protection and inheritance are mutually reinforcing.

Protection of cultural heritage is a prerequisite, but protection should not be limited to preservation alone. Instead, it should be integrated with inheritance and utilization (Figure12).
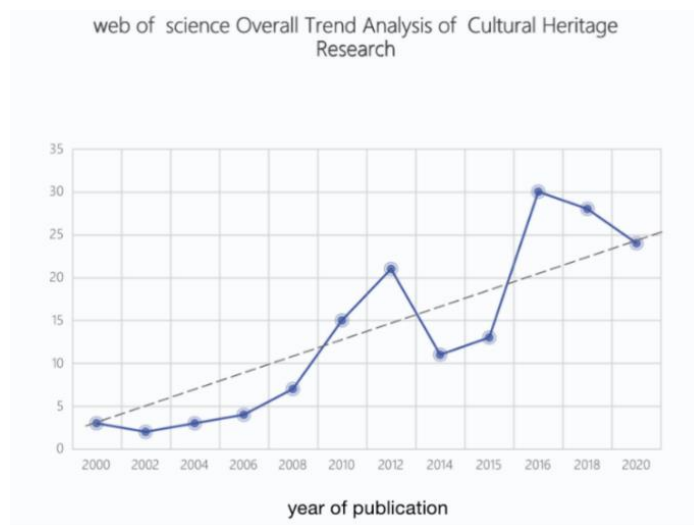
Figure 12 Related foreign theoretical research. Source: drawn by the author.

Foreign research on cultural heritage focuses on several key issues. By conducting advanced searches using keywords such as "cultural heritage," "intangible cultural heritage," "protection," and "development" in the English databases of "Web of Science," the author identified a total of 181 relevant documents published between 2000 and 2022, with "cultural heritage" as the main theme. Foreign research is relatively affluent, emphasising the significance of protection and proposing protection approaches based on specific cases.

The protection of cultural heritage in the West began around the 1840s. France is the first country in the world to enact and legislate its protection. In 1840, France implemented the "Law on Historical Monuments", which was the earliest law on historical protection in France and even in the world. 1930, France promulgated the "Law for the Protection of Historical Monuments". Foreign countries have emphasized the importance of protection by formulating a series of laws and regulations (Murray et al., 2008). There has been a shift from focusing on preservation to the concept of

inheritance and utilization of cultural heritage. Countries have formulated or revised regulations related to inheritance and utilization in existing protection laws and gradually formed organizations and projects for inheritance and utilization. For example, the French government pays more attention to its development and utilization. The government has proposed tax incentives and other incentive policies to provide economic support for subsequent growth and utilization. The government has proposed incentive policies, such as tax incentives, to provide economic support for the development and utilization of cultural heritage. The development model that combines national policies and the market not only strengthens public awareness of protecting cultural heritage but also enhances the brand effect of national culture, making cultural heritage "alive."

During this period, there were also various viewpoints. For example, the article "Cultural Heritage: Diversity and Consistency" proposed the idea that protecting cultural heritage means protecting cultural diversity and consistency (Arizpe, L, 2004). The development of the information society can drive the sustainable protection of cultural heritage (Brown, 2005). Assessing its conservation status emphasizes adopting appropriate measures and compliance with the requirements of UNESCO. Cultural heritage can be transformed into tourism products to achieve the protection of intangible cultural heritage (Pobric et al., 2019). Using the specific case of the Robben Island Conservation Plan, the importance of managing historical heritage is discussed and methods for its conservation are proposed. In the book "Cultural Heritage and Value Creation," intangible cultural heritage protection is explored through real-life examples such as Mediterranean-style cuisine. It is noted that this type of intangible heritage is associated with agriculture and culinary traditions, and while it is shared by Italy, Spain, Greece, and Morocco, each country has its own unique approach to its preservation.

2.2.2.2 Domestic theories and research reviews

On March 27, 2014, President Xi Jinping gave an important speech at the UNESCO headquarters, stating, "Let the cultural relics stored in museums, the heritage displayed on vast lands, and the cultural heritage recorded in ancient books come alive." President Xi also put forward significant statements such as "let cultural relics come alive" and "development through protection and protection through development."

Rational development and utilization are essential means for protecting and inheriting cultural heritage resources and are significant to the sustainable development of many industries. Currently, the protection and development of cultural heritage resources are hot topics in domestic research on cultural heritage. By conducting advanced searches using keywords such as "intangible cultural heritage," "protection," and "development" in the Chinese database "CNKI," a total of 356 articles published between 2000 and 2022 were selected from core journals (CSSCI source journals).

Based on the overall research trends in the field of "cultural heritage inheritance and development," domestic scholars reached their peak in research intensity between 2012 and 2020. Linear forecasts suggest that research on "cultural heritage" in China continues to increase steadily (Figure13).
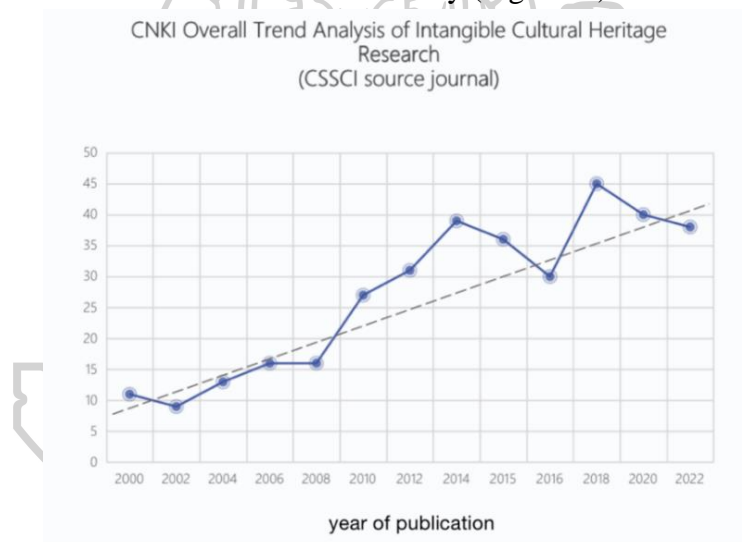
Figure 13 Domestic related theoretical research. Source: drawn by the author.

Zone 1: Research on the inheritance of cultural heritage projects. As an essential part of Chinese national culture, inheriting and promoting it is the responsibility and obligation of every citizen, and project cultivation has also become a core issue. In recent years, many scholars have emerged in China. High-frequency keyword analysis indicates that frequent keywords in this area include intangible cultural heritage (0.61), protection (0.12), inheritors (0.02), and cultural heritage (0.04).

Zone 2: Research on methods of cultural heritage protection. Various protection methods have been explored, including holistic protection (Kuili, 2004), the synergistic protection of static and dynamic elements (Jinping & Hongyan, 2008),

systematic protection, museum-style centralized protection, and digital protection (Yonglin & Guoxin, 2012). Discussions have also taken place on different protection models for cultural heritage. Furthermore, there have been discussions on experiences and practices of cultural heritage protection outside China. Japanese cultural heritage protection experiences have been introduced, emphasizing the integrity and sustainability of Japan's protection policies. The unique features of cultural heritage protection in the UK have been highlighted (Yujun & Wen, 2015). Advanced experiences and achievements in cultural heritage protection management from Asia, Japan, South Korea and other countries have also been introduced, providing multiple suggestions for China's protection and management practices.

Zone 3: Research on cultural heritage brand building. The uniqueness of brand building lies in its products and various characteristic resources, which have a rich cultural heritage. Brand building involves reconstructing cultural symbols and using specific cultural brands to convey and describe cultural products in particular forms. Its importance in construction is self-evident. It can drive the urban economy's development and enhance the city's cultural and economic strength. For linear cultural heritage, various cultural resources can be organized and developed into multiple types of products. For example, the Tea-Horse Ancient Road cultural route can classify abundant resources along the route into natural and cultural resources to enhance the depth and breadth of the cultural brand. Effective promotion is crucial in the construction of cultural heritage brands. It is necessary to employ multiple channels and forms of promotion to subtly influence consumers and encourage their participation and experiences. These can include producing promotional videos and establishing official microblogs for the heritage brand. For instance, the Mogao Grottoes in Dunhuang plans to hold an academic symposium annually under the support of "Dunhuang Studies" to enhance the influence of the "Dunhuang Studies" brand (Yuan, 2016).

After years of exploration, domestic scholars have made significant progress in the study of its dynamic inheritance, and the modes of dynamic inheritance have become increasingly diverse. This includes the construction of cultural routes, which transform cultural routes from static protection modes to dynamic development modes. The systematic construction of cultural heritage archives has been achieved through the establishment of digital databases, maximizing the sharing of cultural

resources. The digital interactive presentation of cultural heritage uses virtual reality, AR, and VR technologies to reproduce historical scenes related to cultural heritage.

Although there have been fruitful academic achievements in recent years, there are still some challenges that need to be addressed in the future. There is a lack of policy support for the dynamic utilization of urban heritage, a relatively weak concept of the holistic development of heritage, insufficient innovation in display methods, and limited development of cultural heritage research and educational products.

2.2.2.3 Relationship between urban renewal and cultural heritage: a review

Due to the diversity of different urban environments, historical heritage, and urban renewal driving forces, more studies are needed on the interaction between the two at home and abroad. A comprehensive theoretical framework in this area has yet to be established. Existing research has primarily focused on case studies examining the relationship between conservation and regeneration at the local level. Some scholars have called for using regional cultural characteristics in foreign studies to determine new directions. Urban renewal should respect the cultural context of the city, inherit its cultural heritage and spirit, and integrate them into the process of urban renewal. Historical and cultural characteristics of a region should be utilized to reshape the city's identity. When it comes to protecting cultural heritage, various methods like textual preservation, talent cultivation, museum preservation, and indigenous use can be employed. However, from the perspective of urban renewal, it often involves the protection of historic cities, historic districts, and ancient cities, as well as the development of tourism resources, in an attempt to seek common ground between economic growth and cultural protection.

Our country's research results on the relationship between the two are not abundant. The main focus of the research is on the motivating role of cultural heritage protection in urban renewal and the destructive effect of urban renewal on the protection and inheritance of heritage.

In the book "The Cultural Vitality of the City and the Inheritance of Cultural Heritage", based on empirical observations, the importance of maintaining the vitality of urban culture is discussed (Hongpei, 2014). The Ministry of Culture pointed out that intangible cultural heritage is an essential witness of human civilization and represents a significant achievement of the accumulation of national culture. Protecting

this heritage is vital to maintaining the city's cultural context and vitality (Shengrui, 2014). In the article "Urban Context and Folk Culture Preservation," it is indicated that the significance of preserving cultural heritage lies in the social cohesion generated by "culture." It can provide a sense of identity and historical awareness to certain cultural groups within urban renewal (Fengming, 2011).

From the perspective of the increasingly severe phenomenon of urban cultural homogenization due to rapid globalization and modernization, emphasize that it is an integral part of the city's cultural heritage. Its protection and revitalization in urban renewal can realize a culturally oriented urban development model.

2.2.2.4 Development opportunities in cultural heritage research

The future development space for cultural heritage research is vast. At present, scholars' research on cultural heritage issues lacks depth and breadth. The studies are generally broad and face challenges such as an imperfect foundational theory, weak integration of theoretical research with practice, and a limited research perspective.

The preservation and inheritance of cultural heritage span multiple areas, requiring a harmonious integration of theory and practice, and exploration from various angles. Based on the above analysis, the author offers the following three outlooks on the future development space for cultural heritage research in our country:

1. Enhance the digital theoretical framework. Since the 1980s, there have been research outcomes related to cultural heritage. However, to date, there aren't many research results available for reference. Currently, academic accomplishments in areas like cultural heritage databases and resource platforms are not advanced. Achievements that reach a metadata research level are even scarcer. There are many gaps in both theoretical and practical aspects of cultural heritage research, leaving much room for further exploration.

2. Transition from theoretical research to practical exploration. After 2010, academic articles began to emerge that studied cultural heritage categorized by region or type. Simultaneously, many scholars have stepped up research on their protection and resource development using technologies such as AR and VR. Although current articles are still at the stage of identifying problems, analyzing them, and proposing methods — and it's unclear whether the suggested measures are feasible — the

evolution of academic content indicates that scholars in our country are increasingly focusing on practical exploration.

3. Delve deeper using multiple perspectives. Initially, most academic literature on cultural heritage published by domestic and international scholars had a macro perspective, with content that was overly broad and lacked targeted strategies. As research deepened, scholars gradually realized that previous strategies were not suitable for the preservation work of all types of cultural heritage. Most explorations approached the subject from a singular perspective. As the protection of cultural heritage involves various disciplines, scholars from all fields should explore it from different angles. Recognizing the uniqueness of cultural heritage, scholars began to categorize it by region and type, combining specific cases and examining it from different perspectives, such as culture, memory, and computer technology application. They proposed targeted and feasible preservation strategies. Although this approach increases the workload for cultural heritage preservation, it ensures the completeness of cultural heritage inheritance.

Cultural heritage preservation research is a hot topic at this stage. After decades of accumulation and development, a wealth of diverse academic achievements has emerged. Although it hasn't reached a leading level yet, it lays a solid foundation for better exploration of cultural heritage issues in the future.

2.2.3 Overview of research on the formation of urban cultural heritage brand image

2.3.3.1 Overview of cultural heritage branding

Foreign research on its brand building mainly focuses on the following aspects: first, studying the theoretical basis of branding and exploring the basic principles of branding; secondly, researching the practical methods of cultural heritage branding and discussing the specific operational steps of cultural heritage branding; thirdly, studying the social effects of cultural heritage branding and exploring its impact on urban renewal; fourthly, researching the development trends of cultural heritage branding and discussing its future directions. Overall, foreign research on the role of cultural heritage branding in urban renewal is limited, mainly focusing on the construction of urban cultural brands from the perspective of urban public space. For example, it is crucial to inspire people's awareness of urban cultural branding and is

important for maintaining city brand, expanding public space, and promoting the development of creative cities. It suggests a new direction for the establishment of urban management systems (Okano & Samson, 2010). From the perspective of the narrative of folk stories and urban brand planning, the relationship between folk stories and urban cultural branding is discussed, proposing an approach to storytelling and urban space construction.

Domestically, the development of cultural heritage branding started relatively late. In the current market economy, it is effective to adopt advanced experiences from both domestic and foreign sources and implement brand management, taking the "brand" road in order to protect cultural heritage. After analyzing the problems faced by the local area, a development path for brand operation was proposed, which helps stimulate and sustain the vitality and inheritance of cultural heritage, protect its intellectual property rights, and promote its transformation from traditional cultural resources to cultural productivity (Ping & Faqin, 2014). By conducting a reason able analysis of the elements of the Hezhe ethnic fishing culture theme, a development path for ethnic cultural brand with distinctive characteristics is proposed (Xuejun & Wei, 2013). Three intangible cultural development demonstration villages in Fujian Province are selected as research objects, a large-scale questionnaire survey was conducted to construct a brand value evaluation model for Fujian's rural cultural heritage development. Use measurement and analysis methods to identify its brand value (Bin, 2019). "Cultural heritage branding" has unique cultural connotations even before becoming a "brand," which distinguishes it from other commercial brands. In the process of branding, it is necessary to focus on shaping and disseminating its cultural connotations. It is still lacking a comprehensive strategic thinking on how to protect and inherit intangible cultural heritage through marketization and branding while not destroying its artistic value. The characteristics of "heirs" and "cultural symbols" are significant elements in the development of cultural heritage branding, and the core foundation of branding lies in the in-depth exploration of cultural genes such as heirs, skills, and history.

Cultural heritage branding is not simply about creating a label or giving it a catchy name. Cultural heritage itself encompasses various categories. Some cultural heritage projects can be brandized through the production of commercialized products,

such as handicrafts or goods made using traditional craftsmanship, or traditional Chinese medicine formulations. However, for some projects, their intrinsic value lies in the process of creation or performance, making it difficult to achieve branding through product production. For example, the performance process of traditional music, dance, and storytelling, or the brewing and crafting processes of traditional techniques, are challenging to brandize.

2.2.3.2 Overview of cultural heritage and urban branding

Based on research findings, the important role of cultural heritage in urban branding construction has been primarily studied from a branding perspective, and feasible recommendations have been proposed. For example, based on a survey and analysis of cultural resources in Baoding City, it is argued that urban cultural resources, including historical cultural heritage, can promote the development of a distinctive urban cultural brand. Cultural heritage, as a city's cultural asset, has inherent advantages in the construction of a city's image. Scholars have discussed the significance of constructing a city's image and proposed the idea of utilizing intangible cultural heritage of traditional martial arts as an opportunity to create a distinctive city image (Feng et al., 2011). Starting from Qiqihar's historical value and contemporary value, analyze the critical role of its resources in the construction of Qiqihar's urban cultural brand (Zhiqiang, 2011).

Overall, scholars in the relevant research on cultural heritage and urban branding have generally recognized the important role of cultural heritage, as a cultural resource, in shaping a unique urban brand. They have analyzed the significance and practices of cultural heritage from perspectives such as urban image, urban landscapes, and the development of urban culture.

2.2.3.3 The interaction between Historical and Cultural Blocks and cultural heritage branding

Blocks play a vital role in urban renewal. They have a protective and activating effect on the revitalization of the city. It can also foster cultural identity, stimulate economic growth and create vibrant and sustainable communities. As a carrier of brand visual identity, the block's connotation characteristics and brand image formation are its dominant characteristics. With the development of urban modernization and internationalization, cultural preservation and revival in the region

have become an inevitable trend. Given the irreplaceability and uniqueness of historical and cultural blocks, there are requirements for the necessity and effectiveness of brand image construction (Shiren, 2002). Through examining the existing brand image designs of historical and cultural blocks, it is evident that those leaving a deep impression often possess unique cultural characteristics specific to the local historical and cultural block.

General Secretary Xi Jinping emphasized the need to combine cultural innovation and heritage in urban development, integrating tradition with modernity to give a city its own memory. In the process of re-planning and designing historical and cultural blocks, it's important not only to preserve historical buildings and the historical appearance, but also to retain various elements that constitute the entire architecture, carry the cultural essence of the district, and maintain the diversity and originality of cultural forms. The purpose of constructing a brand image is to modernize and internationalize historical and cultural blocks, showcasing relevant cultural characteristics and essence, preserving historical memories, and allowing more people to understand and appreciate historical and cultural blocks through visual means, thereby enhancing audience awareness and sense of belonging.

The branding of historic districts involves reinvention and redesign in terms of plasticity while ensuring maximum protection of cultural heritage. Because neighbourhoods originate from the local culture of each region, but their publicity audiences span the world, the creation of neighbourhood brand images is different from traditional branding. It aims to achieve accurate information transmission, traceability, clarity and audience recognition. The style should be based on popular aesthetics, catering to audiences from all walks of life, grounded in pleasing aesthetics, while also reflecting differentiation and standardization, showcasing the block's inherent style and the fusion with its humanistic environment.

Due to its profound heritage, the blocks' brand visual design should respect the blocks' inherent original appearance. It should highlight the original visual style and focus on cultural significance based on its distinct cultural style, for the purpose of redesign. Extracting prototype visual elements as foundational units, the designed brand visual image should align with the overall district style, integrating design with the

environment through visual symbols, allowing people to experience the humanistic aspects, local customs, and design concepts of historical and cultural blocks.

2.2.4 Conclusion

The author compiled and reviewed the literature on urban renewal theory and diversity development, cultural heritage branding, city branding, and interaction with historical and cultural blocks and combined his views with the following summary of the current situation:

First, urban renewal is a comprehensive strategic project, and its theory and practice are increasingly receiving widespread attention. Regarding urban renewal theory, diversity development has become a mainstream trend, reflected in multiple levels such as space, society, and culture. This concept emphasizes the transformation of urban areas and pays attention to social and cultural diversity to create a more inclusive and livable urban environment.

Secondly, practical experience has shown that moderate development and utilization of cultural heritage are important approaches to protect and preserve intangible cultural heritage. Based on research findings regarding the development of cultural heritage resources, introducing brand management and taking the path of "branding" is proven to be an effective protection method.

2.3 Research from the perspective of branding of Historical and Cultural Blocks

2.3.1 Review of foreign theories and research

The concept of Historical and Cultural Blocks was introduced abroad earlier than China and is widely believed to have originated in Europe in the 19th century. This term was mentioned in the "Urban Planning Outline" developed by the World Federation of Building and Construction at the Athens Conference. It was formally defined in the Washington Charter adopted by the International Council on Monuments and Sites in Washington, D.C., in 1987 (Jiayin, 2007). During this period, international conferences and organizations were held that refined the concept and raised its importance to new heights.

Foreign researchers have conducted extensive research on historical and cultural blocks, with a particular focus on their development and preservation. For example, "The Death and Life of Great American Cities" emphasized the importance of urban diversity. In "Revitalizing Historic Urban Quarters," it was argued that historic

districts not only possess aesthetic, sociological, and cultural value but also have practical economic and commercial value. Some scholars have also proposed the concept of "historical and cultural block brands." For instance, In Strategic Brand Management, Duke University's Kevin Lane Keller points out that a geographic location or a specific space can also become a brand." He believed that branding plays a role in integrating the spirit of a city into every element, allowing people to recognize and associate specific thoughts or feelings with a particular area. Therefore, the development of historical and cultural blocks requires an improvement in their brand image.

Based on this philosophy, Branding is the whole process of integrating the spiritual and material cultures of the blocks into the brand design.

2.3.2 Review of domestic theories and research

Judging from the search results of the CNKI database, theoretical research on the branding of historical and cultural blocks in my country is relatively limited. The research focus is primarily on planning and conservation. A precise search for it and a fuzzy search for "brand" only retrieved 185 results. Only 45 results specifically related to "Historical and Cultural District Brand Design". For example, Zhao Hua's "Research on VI Design of Historical and Cultural Blocks", Zhao Hua's "Research on Tourism Visual Identity of Historic Blocks", Wang Zhuo's "Research on Branding of Historical and Cultural Blocks", etc. This shows that the current domestic research attention to its branding could be higher, and there is still much room for research in this area. This also reflects a need for more emphasis on branding.

Most of my country's historical and cultural blocks are located in old cities, which centre urban activities and critical areas for modern urban construction. Many blocks suffer from both government neglect and the temptation of significant economic benefits. Under the control of developers, large areas of historical and cultural blocks have gradually become sacrifices for urban economic development. They are either completely demolished and replaced by new functional areas or undergo arbitrary transformation and excessive development. At the same time, the internal conditions of most blocks are too old to meet the needs of modern life, resulting in a significant loss of the area's cultural heritage. These factors pose complex and severe challenges to blocks protection.

The value system of historical and cultural blocks encompasses both material and spiritual aspects. The specific planning and operational theories also involve both material and spiritual dimensions. There have been numerous mature cases in understanding and managing the material aspects of historical and cultural blocks. However, the understanding and planning of their cultural and spiritual aspects are still insufficient, as evident in the "Code of Conservation Planning for Historic Cities (GB 50357-2005)." In this code, the preservation and development of culture and cultural heritage in old city areas and historical and cultural blocks remain vague, and even the specific research and design content are not entirely clear, creating a significant gap between the material space and cultural spirit.

The unique and inherent cultural appeal of historical blocks should inspire urban planners and developers to recognize that it goes beyond just the buildings or urban planning. More importantly, it lies in the combination and accumulation of various tangible and intangible assets in the city, forming a strategic alliance for urban branding. In the process of urban development, based on the analysis of its own image positioning, a city should establish its core values and integrate factors such as its traditional culture, history, local customs, residents' way of life, and urban characteristics into a tangible brand visual image. Brand resources have a powerful driving effect on shaping and enhancing a city's brand image, increasing its recognition. Conversely, the formation and shaping of a city's brand image plays a crucial role in promoting the preservation and development of cultural heritage.

Currently, research focusing on branding historical and cultural blocks in China is more prominent in first-tier cities, while second and third-tier cities lag behind in development. For example, historical and cultural blocks such as Beijing's Kuanzhai Alley, Glass Street and Nanluoguxiang, Nanjing's Confucius Temple, and Chengdu's Kuanzhai Alley have relatively mature developments, mainly driven by tourism. However, in other cities, the development of historical and cultural blocks is not as sound, primarily due to factors such as policies, geography, and economy.

Currently, cultural districts in China are primarily divided into " historical and cultural blocks, urban center business-cultural districts, theme cultural districts, and characteristic cultural districts" (Jing & Lin, 2010). However, many historical and cultural blocks in China face several issues:

1. Lack of a comprehensive brand system: Through surveys of well-known and representative cultural districts like Nanjing's Confucius Temple and Beijing's Nanluoguxiang, it is evident that although these districts have high levels of recognition nationwide, they have not developed a comprehensive brand system. The various brands within the districts are scattered, and the wayfinding system fails to highlight the cultural characteristics of the districts.

2. Overemphasis on commercial aspects: Many cultural districts, represented by Nanjing's Confucius Temple, face the dilemma of having an overly commercialized atmosphere. There is a lack of establishments consistent with the cultural essence of the district, with an abundance of hot pot restaurants, generic snack shops, small commodity stores, and sports supply shops. Historical and cultural blocks seem to have become shopping centers while lacking creative cultural industries.

3. Serious homogenization of brands: There is a lack of distinctiveness among tourism cultural and creative products. Through the research process, it was observed that various shops in similar historical and cultural blocks across China offer similar trinkets such as bracelets, mirrors, combs, and face masks that have no relevance to the block's culture. While there may be some outstanding examples of block branding, most historical and cultural blocks in China exhibit the issues of incomplete brand shaping, a strong commercial atmosphere overshadowing the cultural atmosphere, and the homogenization of cultural products.

4. Insufficient marketing efforts: For instance, the Republic-era cultural street on Yihe Road in Nanjing lacks a comprehensive and coordinated brand marketing strategy. Relying solely on the relatively low recognition of 39 Jiangsu Road is not enough. Searching for "Yihe Road" on the internet returns not only results about the street itself but also about "Yihe Mansion" or "Yihe Park." The overall block lacks a public webpage to disseminate district information, introduce its history, promote district activities, and provide services to visitors.

Historical and cultural blocks retain the urban context and are an important part of cities. A successful branding of cultural districts undoubtedly becomes a hallmark of the city. A well-developed brand image helps increase the district's recognition and attract consumers. Therefore, the branding of historical and cultural blocks deserves attention and emphasis.

2.3.3 Summary

My country's historical cities are the most tangible material and cultural complexes that reflect the appearance of ancient cities. Appropriately protecting and utilizing blocks will not only play a positive role in the continuation of the city's history and subsequent development, but they will also bring considerable long-term benefits to the city's economic growth. In order to further enhance the regional competitiveness of the city, it is necessary to optimize the business structure and shape the brand of Jinan's historical and cultural block, to convey the superior information of this area to the outside, and to provide long-term charm and momentum support for regional development, thus influencing the behavior of external investors and consumers.

While improving the overall competitiveness of cultural blocks, the city's core competitiveness has also been enhanced through cultural blocks, and urban tourism resources have been enriched.

2.4 Jinan's Historical and Cultural Blocks and distribution of cultural heritage

2.4.1 Overview of Historical and Cultural Blocks

In ancient China, urban construction often revolved around the political center, with other functional areas symmetrically arranged around it. Additionally, features such as left ancestral and right communal halls, front imperial courts and rear markets, and grid-like street divisions were fundamental principles followed in the planning of ancient Chinese cities. Jinan, as a historically significant cultural city in China, exhibits a general layout that reflects these principles. However, due to the unique geographical environment and the dominant influence of human factors, the urban layout of ancient Jinan also demonstrates a substantial degree of subjective flexibility (Xuxia & Jiamei, 2006) (Figure14) .
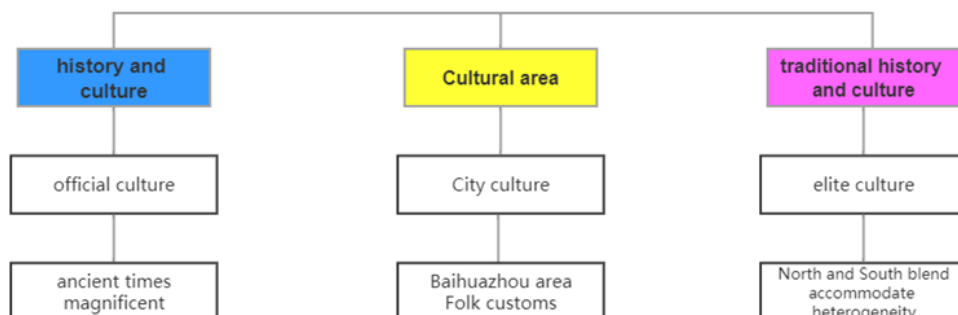
Figure 14 Planning and layout of Chinese historical and cultural blocks. Source: drawn by the author.

2.4.1.1 Distribution status and urban value analysis of Historical and Cultural Blocks in Jinan

Based on the concept definition of "historical and cultural blocks," we can deduce that when Jinan was approved as a national level "historical and cultural city," there were many areas within the city that could be classified as "historical and cultural blocks." The most representative and typical ones can be categorized into four main regions:

1. The central area of the old city, represented by Baihua Island and Qushuiting Street, forms the urban center in conjunction with the Pearl Spring water system. The Baihua Island area has a history of nearly a thousand years, serving as a concentrated region of ancient government offices, mansions, and residences, thus giving rise to the central business district of ancient Jinan. With a developed network of spring landscapes and characteristic old courtyard houses typical of northern China, this district is one of the most well-preserved historical areas of Jinan's urban appearance.

2. Represented by Puli Street and Jianzi Alley, the West Gate commercial district was formed in conjunction with the Baotu Spring water system. After Jinan's opening as a port, Puli Gate was widened and transformed into Puli Street, a gathering place for modern commerce, bearing witness to the city's economic transformation after its port opening.

3. Represented by Sili Street and Suoli Street, the official and commercial residential district is formed in conjunction with the Heihu Spring water system. Sili Street was predominantly inhabited by officials, while the street was home to merchants, especially those dealing in salt. The specific resident groups contributed to the district's unique folk culture. The residential architecture in this area features a distinct northern-style courtyard layout, reflecting the cultural characteristics of the upper social class during the Ming and Qing dynasties.

4. Represented by Jing'er Road, this area represents the commercial trading district reflecting modern Jinan's commercial port culture. Although the commercial port district does not possess the deep cultural heritage of the old city area, it accurately reflects the development trajectory of modern Jinan.

5. Represented by Jing'er Road, this area represents the commercial trading district reflecting modern Jinan's commercial port culture. Although the commercial port district does not possess the deep cultural heritage of the old city area, it accurately reflects the development trajectory of modern Jinan.

This series of historical districts embodies the distinctive historical and cultural features created by different social classes in Jinan during different periods. They provide an authentic depiction of Jinan's social changes and urban development. However, due to inadequate preservation efforts in later stages and the strong push for modern urban construction, only the Baihua Island and Qushuiting Street areas have been relatively well-preserved. The other regions have suffered significant destruction, resulting in incomplete appearances, and some have even vanished altogether. In 2009, the Jinan Municipal Urban Planning Bureau announced the scope of the existing historical and cultural districts and characteristic districts in Jinan. It proposed the requirements for prioritized protection of historical and cultural communities (Figure 15).

neighborhood name	geographic location	protected content
Furong Street Baihuazhou Traditional Historical and Cultural Block	It reaches Gongyuan Filling Street in the west, Daizong Street in the east, Yuanhou Street and Quancheng Road in the south, and Minghu Road in the north.	The real historical relics and traditional features reflect the local characteristics of "every family spring water, every household weeping willow", and gradually improve the infrastructure conditions and environment.
Jiangjun Temple Historic and Cultural Block	South to Jiangjunmiao Street and Qiming Street, north to Xigongjie Street, west to Shoukanglou Street and Shuangzhong Temple Street.	Remains with historical and cultural value, valuable Catholic churches, courtyard dwellings, and a large number of human and natural landscapes such as spring pools and water systems.
Shandong University West Campus Historical and Cultural Block	East to Yucai Road in the school, west to Guangchang West Road and Wenhua West Road, south to Qingyang Road in the school, and north to Xinglin in the school.	Excellent architectural complexes such as Lanqi Building, Bergen Building, St. Paul Building, and Kaowen Building in the West Campus of Shandong University, and excellent architectural complexes such as Xinxing Building, Gonghe Building, and Qiuzhen Building in Qilu Hospital.
Hongjialou Historical and Cultural Block	East to the boundary of the old campus of Shandong University, west to Hongjialou North Road, south to Huayuan Road, and north to the old campus of Shandong University.	Hongjialou Catholic Church Complex
Zhujiayu Historical and Cultural Block	South of Shidong Road, Zhujiayu Ancient Village at the northeast foot of Hushan	The original architectural pattern and style of the ancient village
Kuanhouli Street Characteristic Block	East to Lishanding Street, west to West Xiaowangfu Street, south to Heihu Spring	Traditional residential buildings with high existing value

Figure 15 Distribution of historical and cultural blocks in Jinan City. Source: drawn by the author.

2.4.1.2 Analysis of the preservation of Historical Blocks in Jinan City

Jinan City has actively formulated my country's first regulations on protecting historical cities, namely the "Jinan City Historical and Cultural City Protection Plan". This plan outlines the protection scope as "one belt, one area, three

neighborhoods, fifty-two points, and one network." However, during the subsequent urban development process, these provisions were not effectively implemented. Throughout its developmental trajectory, the preservation efforts for Jinan's old city have consistently fallen short, with governmental authorities often prioritizing "urban renewal" rather than "protection" for most of Jinan's historical neighborhoods (Xinli, 2007).

In the context of the designated "city preservation efforts" in Jinan, the redevelopment of the Xianxi Alley and Liberation Pavilion areas directly led to extensive demolition and reconstruction in Xianxi Alley. This resulted in only scattered cultural heritage units such as the Zhe-Min Guild Hall and the Jin Family Courtyard being preserved. According to data presented during the 2010 "Jinan Toponymic Culture Forum," numerous old streets and alleys in Jinan's historic city have already disappeared, along with their names. Despite the significant scale of destruction, Jinan's "urban renewal" projects have continued unabated, while efforts towards "historic city preservation" have remained conspicuously stagnant.

In general, the government has established comprehensive regulations for the preservation of Jinan's old city. Based on the project list announced by the Planning Bureau and related preservation regulations, the scope of preservation in Jinan is extensive, covering a wide range of content, and supported by a relatively comprehensive theoretical framework.

However, an analysis of the actual construction situation reveals that Jinan City tends to focus more on the protection of natural heritage and cultural heritage units, while lacking a sufficient understanding of the urban value of historical and cultural blocks. Consequently, there are significant limitations and blind spots in the corresponding preservation efforts.

Jinan's few remaining characteristic blocks, we should not continue to cause further destruction through extensive "redevelopment" or adopt a passive attitude of allowing their decline. The long-term nature of the preservation of historical and cultural blocks necessitates the realization that only by starting from the basics and taking action now, with "protection" as the primary goal, can we plan the future development of the districts in a sustainable manner. Gradually improving the

functionality of the neighborhoods within a sustained preservation effort will truly achieve the dual development of social value and economic benefits of the districts.

2.5 Analysis of the Baihuazhou Historical and Cultural Block

2.5.1 Research and analysis of Baihuazhou culture

2.5.1.1 Historical origins and cultural accumulation of Baihuazhou

As early as the pre-Qin period, the State of Qi, which was situated south of Lishan, built a city between Shuo River and Li River to protect its capital. Over time, springs converged to form Daming Lake. The exquisite natural scenery has attracted countless literati and scholars since ancient times to gather, rejoice, and exchange ideas and creations here. The present-day Baihuazhou area had already become a hub for poets and writers during the Wei and Jin dynasties.

According to historical records, the Wangfu Pond located in the southern part of the block was already a place where nearby residents enjoyed the springs during the Tang and Song dynasties. Initially named the Grey Spring, the pond was incorporated into the Prince's Mansion during the Ming Dynasty and became a private spring pool for the mansion, hence the name "Wangfu Pond". By the Qing Dynasty, the Prince's Mansion was abolished and converted into the provincial governor's office. The Wangfu Pond then became public property.

Since the Northern Song Dynasty, China's cultural system and religious beliefs have undergone significant changes. Influenced deeply by "Neo-Confucianism" and Taoist thought, Jinan sequentially constructed four architectural complexes with feudal cultural characteristics from south to north along Furong Street in its central urban area: The Earth God Temple, Dragon God Temple, Guandi Temple, and Confucius Temple. Due to the requirements of the feudal system, the Martial Temple was established on the west side of Furong Street. As the eastern part of Furong Street, around Pearl Spring, has always been the location of the royal residence, the Confucius Temple was situated at the north end of Furong Street, forming a relative layout of "civil on the left, military on the right".

During the Ming and Qing dynasties, the area around Furong Street was the political and cultural center of Jinan, serving as a gathering place for literati and scholars. It had tremendous commercial potential, attracting a large number of

merchants and investors, thus becoming the bustling central business district of Jinan. Shops selling various goods lined the streets, showcasing different cultural influences.

After Jinan opened as a port, despite restrictions on commercial areas, the development of transportation and changes in urban form led to an influx of national capital into the Furong Street area, gradually forming a prosperous business model. With the permeation of Western culture, Western-style guildhalls and foreign firms were built, creating a streetscape that blended Chinese and Western architectural styles.

Due to the relatively fixed spatial layout already established in the Baihuazhou area, with high building density, emerging commercial shops had to find alternative routes for development or expand vertically. The existing Baihuazhou Historical and Cultural Block largely maintains the layout and spatial relationships of that time.

As of November 2020, according to available data, there are four provincial-level protected cultural heritage sites and eleven municipal-level protected cultural heritage sites within the Baihuazhou Historical Block. The Confucius Temple is a large architectural complex within the historical block, with a symmetrical layout along a central axis. It is currently open to the public, mainly serving as a showcase and experience of traditional Chinese culture.

2.5.1.2 Analysis of the regional environment in the Baihuazhou Block

(1) Functional zone and street layout

The Baihuazhou Historical and Cultural Block is located from Zong Street and Xigengdao Street in the east to the Gongyuanqianggen Street and the eastern wall of Shandong Provincial Statistics Bureau in the west, from Yuanhou Street and Quancheng Road in the south to Minghu Road in the north, covering an area of 8.5 hectares (Figure 16). As it is located in the center of the ancient city, it has always been a prosperous and bustling place where gentlemen, literati, and merchants gather. Evolving through various dynasties, this block gradually became a comprehensive urban district integrating culture, education, politics, commerce, and residence, characterized by its association with spring culture. It is considered the essence of the entire ancient city of Jinan. The development of the block revolves around the Pearl Spring water system, with numerous springs throughout the area, including famous

ones like Furong Spring, Qifeng Spring, and other water features that reflect the characteristics of spring culture.

Figure 16 Regional environment and street layout of Baihuazhou. Source: drawn by the author.

(2) Architectural features

Important public buildings in the block, such as Confucius Temple and Guandi Temple, have been restored and renovated to a significant extent in recent years, aiming to recreate their original appearance as much as possible. In addition to these, the historical and cultural block also includes two major types of buildings: ① traditional commercial buildings mainly distributed along Furong Street; ② widely scattered traditional residential buildings (Figure 17).
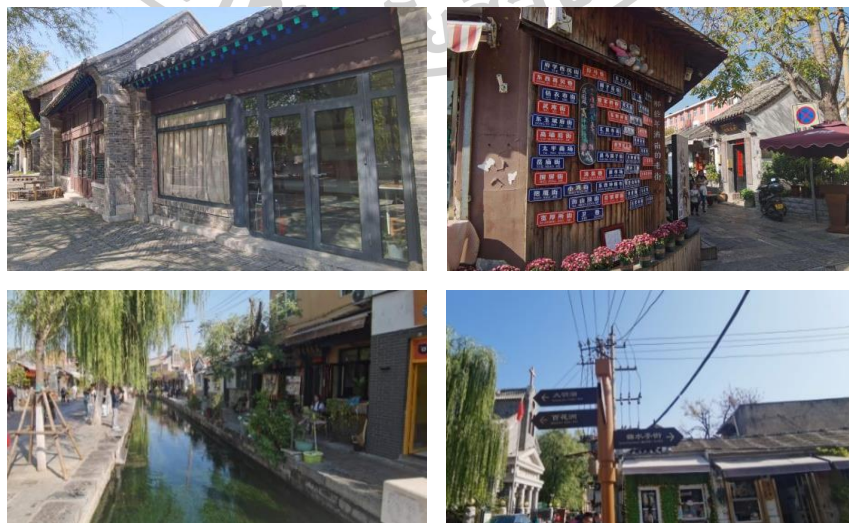
Figure 17 Architectural features of Baihuazhou. Source: photographed by the author.

Commercial buildings are mostly used for both commercial and residential purposes, adopting the layout mode of front shop and back yard, lower shop and upper residence. They exhibit diverse styles and forms, mainly continuing the urban character and layout that emerged after the opening of Jinan as a commercial port in modern times.

The residential buildings in the block generally preserve the traditional architectural scale and courtyard-oriented layout, with single-courtyard structures as the majority and a small number of two or three-courtyard structures. The buildings are mainly constructed with brick and wood, with gray bricks and white stones as the main materials for the main structure. The roofs are mostly covered with blue tiles and have a relatively large span. The overall environment is quaint and elegant. Due to the developed water system within the block and high humidity, stone slabs are commonly used at the bottom of the exterior walls as a moisture prevention measure (Yedong, 2020).

Based on the actual research, it was discovered that the newly constructed buildings along Daming Lake Road aim to promote traditional culture and feature various art forms such as paper cutting, inside painting, clay sculpture, Shandong embroidery, and guqin societies. The buildings along Xianxi Alley are primarily commercial, with secondary cultural promotion focused on traditional culture, but they typically have lower foot traffic compared to the inner part of the block. The area between Baihuazhou Street and Daizong Street within the block host a plethora of experimental cultural exhibitions, including the Christian Church, Quanshui Renjia Folk Museum, and Quanshui Tofu Museum. These exhibitions highlight ethnic culture, folk customs, and traditional local culture, promoting old Jinan's traditional culture to visitors and residents alike. In the south of Houzaimen Street, there are many existing historical traditional residential buildings, with a significant number of historic courtyard residences. During the research, 39 courtyards were surveyed in this area, including Numbers 60, 68, 70, 78, 88, 90, and 104. Seven of these courtyards are protected traditional northern residential buildings declared by the government. These historical structures, dating back to the Ming and Qing dynasties, remain intact and cannot be altered (Figure18).

Figure 18 Architectural features of Baihuazhou. Source: photographed by the author.

(3) Landscape space

The streets, buildings, and water system form an organic and dynamic landscape within the block, with a developed water system being an important element of Jinan's urban space. Within the secondary spatial system of the block, the diverse combinations of courtyards with surrounding springs, rivers, and canals serve as the primary expression of this spatial dimension. Even within small-scale spaces, the spatial forms created by the interaction between water features and courtyards are varied and unique. Some buildings are surrounded by water on all sides, creating an ideal location for appreciating and enjoying the springs. Other areas have intersecting and converging water features on either side of the buildings, providing convenient access to water resources (Figure 19).

Figure 19 Landscape space of Baihuazhou. Source: photographed by the author.

 (4) Cultural atmosphere

The cultural atmosphere is the social ambiance that has gradually formed through long-term historical changes and cultural accumulation. It is a widely accepted social atmosphere, and its continuity and development rely on stable and orderly living environments influenced by factors such as neighborly relationships, regional structures, and social division of labor. The intangible cultural heritage, including local customs, festive traditions, and traditional etiquette, is the most crucial cohesive force for organic development within a region. It is also a key factor that attracts external attention to a region or even a city (Figure 20).

Figure 20   Humanistic features of Baihuazhou Street. Source: photographed by the author.

2.5.2 Analysis of the development status of cultural heritage resources in the Baihuazhou Block

2.5.2.1 Analysis of cultural heritage resources

In September 2021, the state issued the "Opinions on Strengthening the Protection and Inheritance of Historical and Cultural Heritage in Urban and Rural Construction", emphasizing the systematic strengthening of its protection in urban and rural construction (Wenxing, 2012).

As a notable part of the cultural heritage of the "City of Springs", the ancient city of Jinan, including Furong Street - Baihuazhou and General's Temple, encompasses a total area of 41.78 hectares. The region is home to over 80 water features, including famous springs such as Furong Spring, Tengjiao Spring, and Zhuoying

Spring. Among them, 19 springs are historically renowned, making it the world's only living ecological sample of cold springs.

2.5.2.2 Analysis of intangible cultural resources

From 2016 to 2020, Baihuazhou Block introduced many intangible cultural heritage projects and carried out related activities, creating an essential intersection with the block. This increases public awareness, sets the stage for future events, and increases experiential growth. According to domestic classification standards and the current situation of Baihuazhou, the area's content can be summarized into nine categories, including traditional art, traditional medicine, traditional skills, and folk customs. Baihuazhou has become a centralized display place for intangible cultural heritage, an urban cultural gathering, and a tourist attraction (Table 3).

Table 3 Research status of Baihuazhou intangible cultural heritage project

百花洲非遗项目调研现状
Survey status of Baihuazhou Intangible Cultural Heritage Project

Serial No	Project category	code	Approval time	entry name	Inheritor	region
1		VII-5	2006	Yangjiabu woodcut New Year paintings	Yang Luoshu	Weifang City
2		VII-6	2006	Gaomi Puhui New Year picture	Lv Zhenli	Weifang City
3		VII-15	2006	Inside Paintings of Lu School	Yang Xu	Zibo City
4	Traditional Art 传统美术	VII-16	2006	paper-cut	Zhang Yunpeng	Zibo City
5		VII-47	2008	High density clay sculpture	Nie Xiwei	Weifang City
6		VII-52	2008	Caozhou clay figurine	Chen Sujing	Zibo City
7		VII-55	2008	wickerwork	＼	Zibo City
8		VII-129	2012	Lu embroidery	Wu Huiwen	Jinan City
9		IV-91	2006	Jinan Shadow Play	Li Xingshi	Jinan City
10		IV-91	2008	Taishan Shadow Play	Fan Zheng'an	Tai'an City
11	Traditional skills传统技艺	IV-116	2008	Lv Opera	Lin Jianhua	Jinan City
		IV-117	2012	Lu brocade	Liu Guiling	Jining City
12		IV-119	2008	Laiwu Opera	Li Changsheng	Jinan City
13		VIII-88	2006	Kite making skills	Zhang Xiaodong	Weifang City
14		IX-4	2006	Dong'e donkey hide gelatin production technique	Li Haikui	liaocheng City
15	Traditional medicine传统医药	IX-11	2008	Traditional Chinese Medicine Culture	＼	Jinan City
16		IX-4	2008	Erxian Paste Making Technique	Zhang Longxiang	Jinan City
17		IX-6	2014	TCM bone setting therapy	He Wenjie	Tai'an City
18		X-35	2006	Confucius Sacrifice Ceremony	＼	Jining City
19	folk custom民俗	X-53	2006	Taishan Custom	＼	Tai'an City
20		X-71	2014	Zibo Lantern Festival	＼	Zibo City
21		X-81	2008	Fishing Lantern Festival	＼	yantai City
22		IV-43	2006	Liuzi Opera	Feng Baoquan	Jinan City
23	Traditional Opera传统戏曲	IV-91	2006	Jinan Shadow Play	Li Xingshi	Jinan City
24		IV-66	2008	Wuyin Opera	Lv Fengqin	Zibo City
25		IV-67	2006	Maoqiang Opera	Xia Meihua	Weifang City
26		II-34	2008	Guqin art	Wang Zuozhen	Weifang City
27	Traditional music传统音乐	II-37	2008	suona horn	Ding Qinghua	Jining City
28		II-45	2006	Drum and Blow Music in Southwest Shandong	Yishuang comes	Jining City
29		II-120	2008	Shandong Guzheng Music	Zhao Dengshan	Zibo City
30		III-2	2006	yangko	Yang Kesheng	Jinan City
31	Traditional dance传统舞蹈	III-4	2011	Dragon Dance	＼	linyi City
32		III-9	2008	Stilt	Wang Zonglu	Tai'an City
33		VI-12	2021	a type of Chinese shadow boxing requiring training on thick wooden stakes	＼	Jining City
34	traditional sports传统体育	VI-17	2006	ancient game of kicking a ball	＼	Zibo City
35		VI-33	2007	mantis boxing	＼	haiyang City
36		I-7	2006	Legend of Liang Zhu	＼	Jining City
37		I-8	2006	The Legend of Meng Jiangnv	＼	Zibo City
38	Folk literature民间文学	I-36	2006	Legend of Cowherd and Weaver Girl	＼	zibo City
39		I-44	2008	The Legend of Luban	＼	tengzhou City
40		I-45	2008	The Legend of Eight Immortals	＼	penglai City

2.5.3 Development status of Blocks cultural heritage industry

Through research, the industry's development primarily revolves around intangible cultural heritage resources. In 2018, with the support of the Department of Intangible Cultural Heritage under the Ministry of Culture and Tourism, the first urban traditional craftsmanship workstation, known as the "Baihua Island Traditional Craftsmanship Workstation", was established and inaugurated. In addition to hosting the fifth China Intangible Cultural Heritage Expo branch venue, the 2019 National Folk Art Week Performance Theater and other activities, Baihuazhou Traditional Craft Workstation organized a national handicraft product exhibition, a sales event, and a 2019 employment seminar. This event marked the first concentrated sales and promotion of products from employment workshops across the nation, creating a successful pilot experience (Figure 21).

Apart from this, Baihuazhou holds large-scale expos annually, featuring various themes such as "Intangible Cultural Heritage + Poverty Alleviation", "Intangible Cultural Heritage + Technology", and "Intangible Cultural Heritage + Tourism". For instance, in 2019, distinctive products from poverty alleviation workshops in 15 provinces and regions across the country shone brightly in the exhibition and sales event of Baihuazhou's Intangible Cultural Heritage Poverty Alleviation Employment Workshops. These intangible heritage products, including ethnic clothing, textile dyeing and embroidery, ceramics production, weaving and needlework, tea crafting, and guqin making, have their dedicated sales galleries in Baihuazhou.
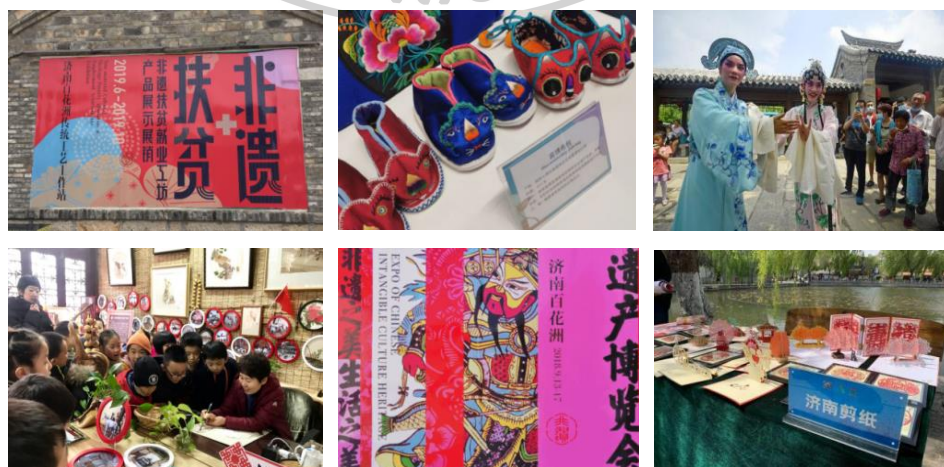
Figure 21 Intangible cultural heritage activities in Baihuazhou. Source: photographed by the author.

From the participation and performances of representative inheritors, the physical exhibition and sale of intangible cultural heritage projects, to the showcase of outstanding intangible heritage performances, integration of intangible heritage into schools, thematic exhibitions, traditional craft competitions, interactive heritage experiences, and a combination of online promotion and offline events, over the past decade, Baihuazhou has continuously innovated its approach to event management, actively exploring new models.

2.5.4 Analysis of the brand status in Baihuazhou Block

2.5.4.1 Overview of current plans

Through analyzing collected data and conducting multiple on-site surveys, the author has found that the visual development of Baihuazhou's historical and cultural district is divided into three parts in the current stage:

(1) Along the riverside area, a commercial cluster dominated by small-scale business economy is formed. In terms of visual identity, it mainly deploys external signs for businesses, but a systematic scale has not been established in terms of design.

(2) The traditional cultural workstations of intangible heritage serve as the core and radiate outwards.

(3) The visual wayfinding system is not well-established, with only a few directional signs present on the main roads of the district.

2.5.4.2 Analysis of current plans

During the on-site research conducted in the district, several issues were identified. For instance, there are commercial performances being conducted in the simple and rustic historical and cultural block, which disrupt the cultural atmosphere as they solely focus on short-term commercial benefits. Additionally, in an effort to expand the width of the historical and cultural block, some valuable cultural heritage sites have been damaged, resulting in the depletion of the block's historical and cultural resources. There is also a limited understanding of brand design for the historical and cultural district, with emphasis solely on creating a logo as the representation of the block's brand identity. The wayfinding system within the block is also lacking, providing visitors with a subpar experience. Despite this, Baihuazhou attracts a considerable flow of visitors on both weekdays and weekends, with a lively atmosphere and a continuation of commercial activities. However, there is no complete and

systematic design scheme for the overall brand image of the district. Currently, only the basic elements of the brand can be seen, with no specific logo design for the district, only typography, lacking other thematic elements, and featuring an inconsistent and disorganized wayfinding design. The neighborhood is conspicuously lacking any guide map, which would prevent visitors from obtaining useful neighborhood information while visiting. the district has a low level of historical association, which affects visitors' perception of the brand value of Baihuazhou's Historical and Cultural Block (Figure22).

Figure 22 The current visual situation of Baihuazhou. Source: photographed by the author.

In summary, the branding design of the historical and cultural district lacks a prominent representation of its regional culture. Currently, a complete set of brand design solutions has not been presented to the public, leaving significant room for exploration and extension.

A brand is a new design solution that promotes the harmonious development between a district and its traditional culture. In this design process, local history and culture usually serve as the foundation, integrating the spatial environment into the design. This integration allows the spatial environment to blend with the historical and cultural elements, including traditional architecture, craftsmanship, customs, and folk traditions, as well as highlighting the geographical, social, and cultural characteristics of the local area. Ultimately, the newly designed district brand is incorporated into the district's development, enhancing its uniqueness and recognizability in terms of historical and cultural aspects. This approach maximizes the promotion of the district's development and the harmonious development of traditional culture.

2.5.5 SWOT analysis of Baihuazhou Cultural Heritage brand in the Block

Conducting a SWOT analysis using data from previous research helps in identifying internal strengths and weaknesses, as well as external opportunities and threats. This analysis helps in understanding the current conditions and the market environment, facilitating the establishment of communication goals and the development of communication strategies. It also provides guidance for the integration of brand communication.

2.5.5.1 Strengths

Cultural Value of the Block: The district is rich in heritage resources, including both tangible and intangible cultural heritage. It serves as a dynamic space for people's daily lives and public activities. For example, traditional opera performances like Bangzi and Lvju regularly gather in this area for exchanges, which not only activate the overall space but also increase the visibility of intangible cultural heritage, leaving a lasting impression. The "live" nature of the district provides a supportive condition for its sustainable development. The influence of various brands attracts a larger crowd of consumers and tourists.

Furthermore, the integration of innovation into intangible cultural heritage on the basis of these brands enhances the quality of the brand while also contributing to the preservation of intangible cultural heritage (Figure23).

Figure 23 Baihuazhou traditional craft workstation activities. Source: photographed by the author.

Geographical Location and Transportation: Baihuazhou Historical Block is located in the center of Jinan's old town area. It is within the Quancheng Road commercial circle, bordered by Daming Lake Road and Beiyuan Elevated Road to the north, and Quancheng Road and Jingshi Road to the south – all important traffic arteries in Jinan. Additionally, there are multiple bus stops around the district on Quancheng Road and Daming Lake Road, and according to future plans, Line 3 of the Metro will be located near the historical block, providing convenient conditions for people to reach and evacuate from Baihuazhou Historical Block.

Established Tourism Industry in Jinan: In recent years, the Jinan Cultural and Tourism Bureau has actively promoted Jinan's inclusion as one of the first batch of National Cultural and Tourism Consumption Demonstration Cities, with Baihuazhou Historical and Cultural Block being named a national-level tourist leisure district. Jinan is deeply excavating its distinctive resources and enhancing the quality of cultural and tourism consumption. It has restored and upgraded 72 famous springs in batches, integrated water culture resources in areas such as Baihuazhou, Furong Street, and Qushuiting Street, and created the Dashun cultural tourism route and Longshan cultural performing arts projects. They have also carefully organized the Jinan Spring Festival, and planned and carried out series of events such as the Jinan Fashion Week, the Quyi Festival, and the Spring Water Food Festival (Qing et al., 2005).

Support for the Commercialization of Intangible Cultural Heritage: Baihuazhou Traditional Craftsmanship Workstation, established by the Ministry of Culture and Tourism, houses many intangible cultural heritage inheritors. It provides

online and offline teaching and showcases intangible heritage works through its studios. The workstation has a wealth of talent, abundant resources, and a profound heritage. In the 2021 National Intangible Cultural Heritage Vitality Ranking TOP 100 list, 13 districts in Jinan were selected, ranging from 16th to 62nd place.

2.5.5.2 Weaknesses

Challenges in Planning: Some buildings in the district, particularly those from the Republican era, have been neglected for a long time and suffer from severe deterioration. These buildings have not undergone any specialized preservation efforts since 2000. Many buildings have issues such as water leakage, insect infestation, and structural damage. While some buildings have been repaired, most of these repairs were not guided by relevant professionals, resulting in significant damage to the architectural appearance.

Lack of Brand Identification System: As the district is still in its early stages of development, many service facilities are relatively outdated. Based on current research, there is no systematic brand planning in place, making it challenging to effectively promote the district's brand image.

Lack of Representative Cultural and Creative Products: With the rise of the cultural industry, there has been a significant increase in demand for cultural tourism products among visitors of all age groups. People are seeking to experience history and culture, which motivates their travel choices. However, in terms of the development of tourism cultural products in the district and the overall development of tourism cultural products in Jinan, much more needs to be done. Currently, there is only one cultural and creative store in the intangible cultural heritage workstation selling a limited number of postcards and cultural products. Measures need to be taken to improve this aspect in future development.

Insufficient Marketing Efforts: The marketing and communication of the block lack overall coordination and a unified approach. There is no public service platform established, and a search for "Baihuazhou" online yields only a few articles. The district lacks public web pages that disseminate information about it, introduce its history, promote its activities, and provide services to tourists. Furthermore, there is no official public account on popular platforms like Sina Weibo or WeChat. Insufficient marketing efforts and limited brand recognition result in a relatively closed and less

efficient platform for communication. Most tourists who visit Jinan tend to go to well-established attractions such as Daming Lake, Baotu Spring, Qianfo Mountain, and Lingyan Temple. Please note that the statistical data provided in the following chart is for the years 2016-2019, as the data for 2020-2022 is not available due to the impact of the COVID-19 pandemic (Figure 24).
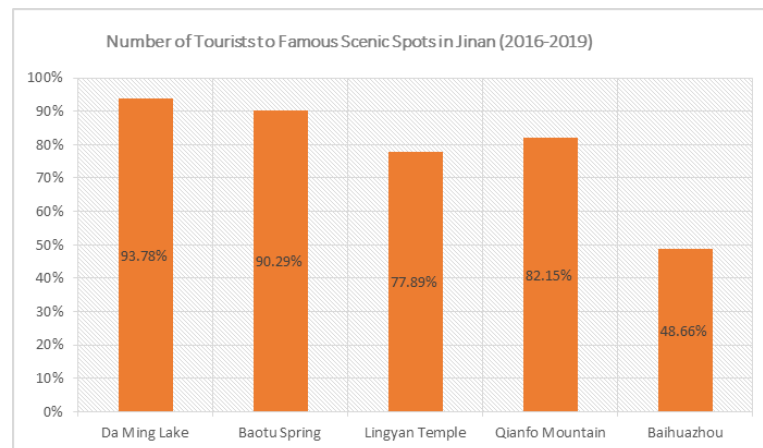
Figure 24 Passenger flow diagram of famous scenic spots in Jinan. Source: drawn by the author.

2.5.5.3 Opportunities and challenges

Supportive policies: On March 17, 2016, the "Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China" was released, placing emphasis on cultural development and positioning the cultural industry as a pillar industry of the national economy. This presents an opportunity for urban historical and cultural districts, as they possess unique and abundant cultural resources, including human landscapes, historical buildings, and cultural heritage. During the subsequent development, the construction of recreational facilities, cultural and creative product production and sales, and other related facilities and services will also follow suit, representing important aspects of cultural industry development.

Rapid growth of tourism industry: With the continuous development of China's social economy, people's material and spiritual levels are constantly improving, and there has been a significant shift in consumer behavior. With the implementation of various holiday policies, it has increased the opportunities for travel for the majority of the population and has led to an increase in the number of tourists.

Diversified consumer demands: As times change, people's mindset also evolves. Traveling has become a common choice for contemporary consumers. As the

consumer base continues to expand, the needs and preferences of travelers vary based on factors such as gender, age, educational background, and economic status. With diverse consumer demands, the more diversified forms of businesses in the cultural block, the more choices it can offer to visitors, resulting in a complete and varied tourism experience. Thus, cultural districts with numerous options are increasingly favored by tourists. It is an inevitable trend to develop the block into a comprehensive area that integrates leisure, entertainment, and cultural tourism.

Intensified competition for tourism resources in the block: Similar blocks across the country are developing rapidly, and many cultural blocks have started earlier than "Baihuazhou" and have relatively mature brand development. Examples include Chengdu's "Kuanzhai Alley", Shanghai's "Xintiandi", and Suzhou's "Pingjiang Road". The "Thirteenth Five-Year Plan" also emphasizes the need to "enrich cultural products and services". To enhance its brand competitiveness, Baihuazhou Historical and Cultural Block should utilize its existing advantages and opportunities.

The SWOT analysis of "Baihuazhou" can be summarized as follows, taking into account its strengths, weaknesses, opportunities, and threats, in order to analyze the strategic development directions for Baihuazhou:

1. Growth strategy: Leveraging its existing cultural heritage resources and strategic location to fully explore historical, cultural, and human resources.

2. Turnaround strategy: Utilizing government support to vigorously develop the cultural and creative industries, establishing district branding, standardizing brand development, and using the brand to promote business format upgrades.

3. Operational strategy: Leveraging its unique resources to attract high-end merchants, creating a high-end cultural area, and differentiating Baihuazhou from other blocks.

4. Defensive strategy: Strengthening the development of cultural and creative products, enhancing the cultural experience in the block, reinforcing its unique characteristics, and expanding marketing efforts to establish the district's brand.

2.6 Conclusion

This chapter primarily explores the dynamics of historical and cultural blocks in Jinan City. Based on this, an analysis is conducted on the current state of

Baihuazhou historical and cultural block, the types of cultural heritage within the block, the industrialization of cultural heritage, and branding. According to the SWOT analysis, the conclusion is that integrating Jinan's historical and cultural districts with a "living preservation" approach and branding is essential. The district's environment can foster dynamic cultural preservation, and cultural heritage can drive the improvement of the district's historical and cultural levels. For historical and cultural districts, branding is advantageous in establishing a cultural framework within the district. It aids in filling the district's intricate aspects, enriching the cultural ambiance, and subtly influencing the district's landscape. Within Baihuazhou's blocks, numerous springs abound. Treasures like Zhenzhu Spring and Houde Spring within the historical and cultural block are invaluable heritage resources. The spring culture within the block connects with its non-material cultural heritage, expanding cultural business formats and creating a unique visitor experience area within the block. This protection is crucial for spaces that carry cultural heritage and exceptional traditional culture.

CHAPTER 3   RESEARCH   METHODOLOGY

Chapter Three is divided into nine sections, primarily focusing on research methods, the research process, and data collection. It provides all the information regarding the methods employed in conducting this research, followed by a discussion of the methods and tools used for data collection. A mixed research approach (combining qualitative and quantitative research methods) is proposed in accordance with the research objectives to achieve the goals. The chapter describes the geographical region of the study, research design, sample population, and extraction of brand factors. It also outlines the tools used for subsequent data collection, explaining methods to maintain their effectiveness and reliability. The final section discusses ethical considerations and methodological limitations.

3.1 Research procedure

3.1.1 Preparation for research

The preparation phase involves the collection of general research information and lasts for a period of two months. During this period, literature materials

related to concepts and theories on urban renewal, cultural heritage, brand image, brand shaping, and historical cultural blocks are collected as extensively as possible.

3.1.2 Data collection

Data collection is the phase for collecting information using case studies and field investigation methods. The first step is to study and summarize excellent urban brand design cases from domestic and international sources, lasting for one month. The second step involves on-site investigations and data collection to gain a comprehensive understanding of the overall situation of the blocks and cultural heritage activities and to delve into the visual elements and cultural heritage characteristics of the districts under investigation and the challenges they face. During this phase, survey outlines are designed, field investigations are conducted, and contents are recorded, photographed, filmed, and then organized and collected. This phase lasts for two months. The entire stage takes a total of 3 months.

3.1.3 Data processing and analysis

Data processing and analysis take three months.

3.1.4 Research progress

The discussion of results and conclusions takes three months. After this phase, the research report is finalized. The schedule for the research investigation is depicted in the graph below (Table 4):

Table 4 Working schedule

	Contents of the research phase	Planning time
Stage 1	Collection and organization of general information	2 months
Stage 2	Collection of case analysis, field surveys, etc. Step One: develop a research plan Step Two: field survey and data collection	4 months
Stage 3	Data analysis stage	2 months
Stage 4	Discuss results and draw conclusions	4 months
Total		**12 months**

3.2 Participants' profile in the study

3.2.1 Introduction of experts

For this research, a total of seven industry experts were invited for interview and review. Among them, three are experts in brand design, two are senior

brand designers, and two are experts in traditional culture and cultural heritage research. Please refer to the table for more details (Table 5).

Table 5 List of review experts

No.	Name	Specific information
01	Miao Dengyu	Professor,Dean of Shandong Academy of Arts and Crafts
02	Qiu Zhaoshui	Former Deputy Director of Weifang Municipal Bureau of Culture and Tourism
03	Hou Liping	Ph.D., professor, Dean of the School of Visual Communication Design, Shandong Institute of Arts and Crafts.
04	Zhang Bo	Professor, Dean of the School of Design and Art, Shandong Youth University of Politics.
05	Zhou Liting	Professor at the School of Design and Art, Shandong Youth University of Politics.
06	Wu Qiangwei	Associate professor, director of the Visual Communication Design Department of Shandong Youth University for Political Science.
07	Tang Jialu	Ph.D., professor, director of scientific research department of Shandong Academy of Arts and Crafts, research direction is folk art and cultural heritage.

3.2.2 Target audience

Through preliminary research and observations, it has been found that the planning and development of historical cultural blocks' brands have gradually attracted a younger audience. Based on extensive observations, the primary target audience consists of university students who visit these blocks, followed by middle-aged individuals who travel with their children. Therefore, the researchers assume these two groups of people as potential users who benefit the most from them. The study reveals that brand shaping of historical cultural blocks is relevant and valuable to the target audience. It has the potential to influence and benefit their choices, decision-making processes, and understanding of specific issues.

3.2.3 Experimental sample objects

In this study, the experimental sample size is sufficiently large to ensure the reliability and validity of the research results. It is also representative enough to reflect the characteristics and behaviors of the target population. The experimental

sample mainly includes visitors and residents of Baihuazhou, as well as the selected target audience. In order to ensure the reliability of the experimental results, systematic sampling will be used to select the samples (Table 6).

Table 6 Experimental sample size table for participating in the research experiment

Sample objects	Sampling method	Sample size	Valid samples
Visitors and residents of Baihuazhou	Questionnaires will be distributed online through Wenjuanxing. Through the questionnaire survey, the demographic characteristics of the respondents, such as age, gender, and education level, will be collected. Additionally, a brand awareness survey will be conducted with the aim of selecting qualified respondents for sampling.	350	327
The selected target audience	The selected target audience will undergo in-depth surveys through both online questionnaires distributed via Wenjuanxing and street interviews. The purpose of these investigations is to identify the main elements for constructing the brand's cultural gene bank by screening the selected audience's preferences and perceptions of brand cultural resources.	150	146
The target audience	The initial selection of design proposals for the target audience will be carried out through offline interviews. The purpose is to identify the final design proposal suitable for the Baihuazhou brand.	50	50

3.3 Research methodology

This study adopts a mixed research method. According to the research, both qualitative and quantitative research data, techniques, and methods are utilized to assess the quality of evidence in this study. Qualitative research data selection relies on random sampling and structured data collection tools, which is suitable for predetermined response categories. The results are easily summarized, compared, and generalized (Kabir, S. M. S, 2016). On the other hand, using qualitative research plays a positive role in extracting adequate information, and we can observe changes in the subjects' opinions and evaluation processes during the research process. As pointed out by (Apuke, O. D, 2017), quantitative research methods involve the utilization and analysis of numerical data to quantify and analyze variables to obtain results. Specific

statistical techniques are used to answer research questions. The methods employed in data collection provide a thorough description (Licorish, S. A., et al,2018).

From the perspective of urban renewal, it is possible to discuss the forms in which historical cultural blocks and cultural heritage are manifested in a specific area. It is possible to combine the characteristics of the region and the traditional culture to select suitable cultural heritage and incorporate them in different forms. Since a proper brand planning has not been established in this area, the research adopts a progressive approach and sets three research hypotheses. Firstly, is the study feasible and does it have research value? Secondly, what is the basis for feasibility and how can it be confirmed? Can a brand cultural gene bank be formed, and how can it be achieved? Lastly, how can new research value be created for urban renewal?

To address the first question, qualitative research will be conducted. Firstly, through literature analysis, relevant literature materials on urban renewal, intangible cultural heritage, brand design, and historical cultural blocks will be systematically reviewed. Secondly, through case study methodology, in-depth investigations will be conducted on five cases to analyze the current trends in brand development for urban renewal both domestically and internationally. Lessons from successful cases will be learned, and the summarized brand development proposals will be confirmed through interviews with industry experts. A model for urban cultural heritage branding will be constructed based on this information.

To address the second question, quantitative research will be conducted. After obtaining the results of expert interviews, a questionnaire survey method will be used to collect data on the benchmark research points and to determine the range of the target audience.

This will help define the brand positioning and planning for the next phase of practical implementation. Experimental methods will be primarily used, including factor extraction and symbol transformation for brand factor indicators, as well as the establishment of a Baihuazhou brand database. Methods such as focus group interviews and cultural intention cognition experiments will be employed. In the design practice, a combination of rational and emotional approaches will be used, and computer-aided graphics processing methods will be used to extract design elements such as characteristic patterns from the symbols. These elements will be synthesized and

organized into linear patterns, providing a foundation for subsequent brand image development.

To address the third question, based on the preliminary research and relevant theories, brand image design and development experiments will be conducted. Finally, the assessment by the target audience and experts will confirm the benefits of cultural heritage branding in the city for sustainable development.

3.4 Research process

The research process is divided into four stages to facilitate data collection and design transformation in order to achieve the research objectives (Figure 25).
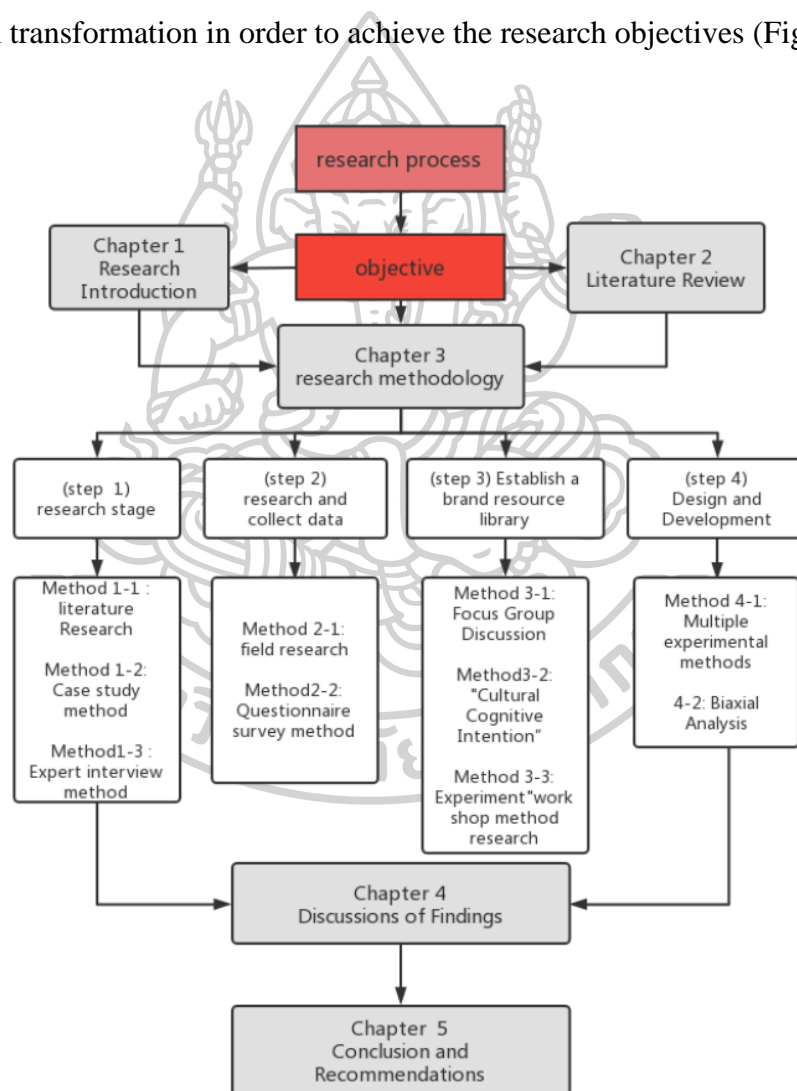
Figure 25 Research process structure diagram. Source : drawn by the author.

3.5 Research tools

This research employs multiple research tools to obtain comprehensive and accurate data and information. The specific research tools are as follows:

3.5.1 Literature research

A series of literature materials on concepts and theories which are related to urban renewal, cultural heritage, brand shaping, and historical and cultural blocks are systematically reviewed (Snyder, 2019). The literature types include journals, newspapers, websites, local chronicles, images, doctoral dissertations, and monographs. By analyzing and summarizing a large amount of literature information, the current research status is distilled domestically and internationally. This includes understanding the development path of urban renewal, the branding of cultural heritage, and the targeted case studies of historical and cultural blocks. Existing research scopes, academic viewpoints, shortcomings, breakthrough points, research focus areas, and research questions are identified through this process.

3.5.2 Case study

Case study method involves conducting investigation and in-depth analysis of individual cases to solve related research problems. Compared to other research methods, case studies delve deeper into the research content. Basic information and historical data of the case need to be tracked during the study process. As time goes on, the understanding and grasp of research data becomes more comprehensive. Case study is a research method widely used in the field of social sciences (Changji & Danping, 2011).

The role of case studies encompasses several aspects: Firstly, by seeking excellent cases of urban block brand image design from both domestic and international sources, the design direction for this research can be identified. Secondly, through in-depth research, the strengths and weaknesses of existing similar brand designs can be explored, patterns can be summarized, resources can be accumulated, and a foundation can be established for future design practices. Thirdly, through case studies, the alignment points in brand design can be considered to discover innovative and breakthrough design elements.

Case study research is an effective method for identifying excellent cases of brand construction in existing urban historical and cultural blocks both domestically

and internationally and summarizing and analyzing them to collect data. The steps to achieving effective case studies are as follows (Table 7):

Table 7 Case Information

No.	Name	Specific types
Case 1	Kuanzhai Alley "historical and cultural block	Brand design
Case 2	The historical and cultural block of "Nantou Ancient City"	Brand design
Case 3	The "Dashilan" historical and cultural block of Beijing	Brand design
Case 4	"Cao Wu System" brand of ecologically vibrant street block in Taizhong City	Brand design
Case 5	Poland's "Nikiszowiec" historical landmark block	Brand design

3.5.3 Field research

According to Priscilla in "Foundations of Survey Research Methodology," field research involves the sampling of research data using photography and sampling photo data within the survey area. It is categorized based on factors that promote local identity. This method aims to gain a comprehensive understanding of the overall situation of the block, cultural heritage activities, and delve deeper into the visual elements and cultural heritage characteristics of the block under investigation, as well as the challenges they face. This involves creating survey outlines, conducting records, taking photos, recording videos, and organizing collected content (Visser et al., 2000).

This method is to understand the neighborhood overview, cultural heritage activities, and an in-depth understanding of the characteristics and problems faced by the visual elements and cultural heritage of the neighborhood to be investigated. Making survey outlines, making records, taking photos and video recordings, and sorting out the collected contents (Figure 26).
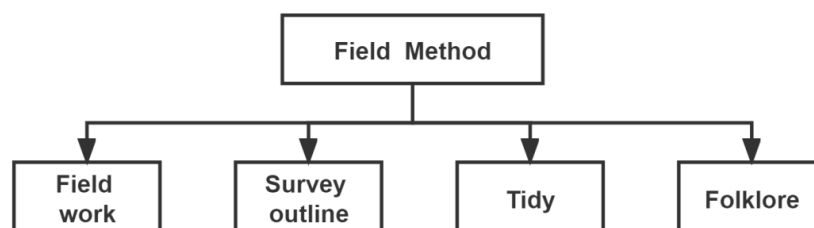
Figure 26 Step-by-step diagram of field investigation. Source: drawn by the author.

This research adopts a philosophical research approach from the particular to the general, using Jinan Baihuazhou Historical and Cultural Block as a typical case. The investigations and visits cover the layout of streets and alleys, spatial systems, cultural characteristics, brand recognition, and types of cultural heritage. General patterns of intangible cultural heritage block branding mechanisms are summarized. The research adheres to the principle of integrating theory and practice, providing guidance and reference for similar future studies. Data collection methods include recording, fieldwork, survey outlines, and organization. Through investigations at places where people often come into contact with brand information, the occasions for brand image transmission are understood to grasp the brand image. Photos have been taken of Jinan Baihuazhou Historical and Cultural Block, religious sites, communities, and local cuisines. These photos capture moments of interaction between locals and the area and they will be used in subsequent research.

3.5.4 Questionnaire survey

A questionnaire survey is a method of collecting data by formulating detailed and well-designed questionnaires for respondents to answer. Researchers use this tool to obtain accurate and specific measurements of social activities and apply statistical methods for quantitative description and analysis to obtain the necessary survey data (Boynton & Greenhalgh, 2004). This reseach includes three main questionnaires:

Questionnaire1: "Scale Questionnaire on the Brand Recognition of Baihuazhou Historical and Cultural Block Cultural Heritage"

Questionnaire 2: "Scale Questionnaire on the Selection of Regional Culture and Cultural Heritage Symbols in Baihuazhou"

Questionnaire 3: "Scale Questionnaire on the Design and Display Satisfaction of the Brand Image of Baihuazhou Historical and Cultural Block Cultural Heritage"

Questionnaire 4: "Questionnaire Survey on User Experience of Baihuazhou Navigation Map"

In empirical research, the effective data collected through a comprehensive survey method combining on-site investigations and online surveys are used for empirical analysis. They are respectively used to study the satisfaction and opinions of

tourists or residents who have visited the Baihuazhou Historical and Cultural Block in Jinan regarding the block's satisfaction and brand development and improvement. On-site investigations are conducted within the Baihuazhou block, focusing on a smaller sample size of visitors or residents currently exploring the area. Online surveys are conducted by generating links through platforms like Wenjuanxing. Finally, all survey data are statistically analyzed.

To ensure the accuracy of the research, the questionnaire survey is conducted in two steps:

(1) Pre-survey: In this step, 50 survey questionnaires are randomly selected and tested for initial reliability. Some text is modified and the language order is adjusted to form the final survey questionnaire.

(2) Formal survey: The formal survey is conducted by distributing the questionnaire links to a specific target group through mobile networks. Approximately 350 valid questionnaires are expected to be collected. The collected data are then analyzed using SPSS 27.0 software.

3.5.5 Focus group interviews

"Focus group interviews" are a research method used by researchers to collect materials through facilitated discussions among group members on specific topics (Merton, 2008). Based on Western interpretive theory and communication behavior theory, focus group interviews can be categorized as "member-focused" and "expert group" depending on the research purpose. The method emphasizes the relevant elements of successful interviews and the design of research questions.

The use of this method was proposed by American sociologists Robert Merton and Kendall, who published the article "Focused Interview" in the American Sociological Review. Merton believes that using this method can help identify the precise reasons why people accept specific thoughts or behaviors related to a particular thing. Morgan believes that a trained moderator leads a group of 6-10 people in an unstructured discussion format to gain a deep understanding of a specific topic. Typically, these discussions last for 60 to 90 minutes.

In some cases, this method is employed to observe, discover, discuss, and analyze participants' similar and different opinions on a specific topic, which leads to certain research conclusions. Researchers must study the group as a whole, rather than

focusing on individuals. Focus groups consist of homogeneous consumers or customers, and a trained moderator engages in unstructured and natural conversations with a representative group to gain in-depth insights into the relevant issues.

The steps for focus group interviews are as follows:

Step 1. Research design.

Step 2. Organize the interview by designing questions, arranging the interview, and collecting materials to gather information.

Step 3. Analyze and interpret the collected materials.

Step 4. Draw conclusions and submit a report.

The preliminary screening of participants is conducted. For this study, 8 participants are invited: 5 are professors and associate professors at the School of Art, and 3 brand designers from collaborating companies. They form the focus group and participate in the cultural image perception experiment. The main focus is discussing the "Regional Culture + Cultural Heritage" elements of Baihuazhou, aiming to identify cultural elements with low impression and difficulty in symbol conversion. The total duration of the discussion is 3 hours. Through the experiment, cultural symbols with the highest level of recognition will be selected and applied in later design practices (Table 8)：

Table 8 Focus group member information

S/N	Name	Age	Sex	Position	Research direction
1	Wu Qiangwei	42	Female	Shandong Youth University of Political Science, associate professor	Brand design
2	Liu Qing	40	Female	Shandong Youth University of Political Science, associate professor	Brand design /Folk art
3	Yao Yuan	37	Male	Shandong Youth University of Political Science, associate professor	Brand design Information design
4	Yang Xue	39	Female	Shandong Youth University of Political Science, associate professor	Brand design
5	Mao Keli	46	Female	Shandong Youth University of Political Science, associate professor	Cultural and creative Product design
6	Sun Qiang	47	Male	Design director of Shandong cultural tourism group	Brand design
7	Wang Yujing	42	Female	Jingguan Brand Design studio designer	Brand design
8	Qian Guoqing	35	Male	Blue whale media cultural design director	Comprehensive research on visual communication

3.5.6 Expert interviews and evaluation

3.5.6.1 Interview

As a scientific research method, "interviews" are different from ordinary conversations in daily life. It is generally regarded as a purposeful and individualized research conversation. It is a research method that collects first-hand information from the subject through oral conversations between the researcher and the subject. In this research, semi-structured interviews will be primarily used.

An interview guide for individuals should include at least nine aspects: the interviewee, the purpose of the interview, the interview schedule, background information, considerations, question design, interview method, interview content, and interview preparation (McLafferty, 2004).

The steps of this research are as follows:

(1) Selection of interview participants: 7 experts within the industry will be invited for interviews.

(2) Development of interview outline: The interviews will primarily focus on the feasibility of brand construction in the Baihuazhou Historical and Cultural Block. The interview outline will be constructed with an emphasis on factors affecting the feasibility of the brand.

(3) Formal interviews: The interviews will be conducted from April 15th to April 25th, 2023.

(4) Interview method: Tencent Video Conference will be used for the interviews. Expert opinions will be collected through the process of inquiry. Detailed records will be taken during the interviews via on-site notes, audio recordings, and photographs to document the content provided by each interviewee.

3.5.6.2 Evaluate

The expert evaluation in this research will primarily focus on the following aspects:

(1) Based on the case analysis and summaries, experts will provide opinions and suggestions on brand construction.

(2) The current status of the Baihuazhou Historical and Cultural Block will be summarized, brand positioning will be determined, and brand planning proposals will be developed. Experts will review and provide recommendations.

(3) A brand image construction model will be developed and incorporated into the subsequent research. The usability of the model will be evaluated by experts.

(4) Final evaluation of the design works, and exhibition effects will be conducted through voting methods.

3.5.7 Creating research tools

3.5.7.1 Cultural image perception experiment

(1) Development of questionnaire scales: The "Baihuazhou Regional Culture + Cultural Heritage Symbol Selection Scale" will be created. This scale consists of 54 regional cultural and intangible cultural heritage elements which are numbered sequentially. The scoring criteria for the questionnaire measure the level of recognition by respondents for Baihuazhou cultural image, which aims to ensures the accuracy of experimental data.

(2) Recruitment of participants: A total of 150 individuals will be invited to participate in this cultural image perception experiment. The participants will be representative of the Baihuazhou brand's target audience, primarily comprising young and middle-aged individuals between the ages of 20 and 45.

(3) Experimental procedure: Before the start of the experiment, participants will be introduced to the theoretical concept of cultural image. The questionnaire will be distributed via Wenjuanxing. All participants will rate each cultural element presented. Participants will use a Likert scale ranging from 1 to 5 to rate the level of recognition of Baihuazhou cultural image depicted in the selected regional cultural elements.

(4) Questionnaire analysis: The collected data from the valid questionnaires will be statistically analyzed. The final scores will represent the average level of recognition for each cultural element among the participants. After analysis, the results will be compiled to create the Baihuazhou Cultural Image Perception Scale.

3.5.7.2 Workshop experiment

The purpose of the workshop is to validate and evaluate the findings from the previous research. Based on the brand image shaping model, designers and student participants within a similar age range to the target audience will be engaged in design practice activities.

3.5.7.3 Saussure's two-axis analysis experiment

Semiotics is the science that studies symbol systems. Saussure's semiotics theory is considered as the foundation of semiotics. It is a binary opposition thought that treats the "signifier" and the "signified" as a pair of concepts describing the content and form of linguistic symbols (de Saussure, 2011). Saussure's two-axis analysis method can assist designers in clarifying the combination relationships between multiple symbols in a more rational manner.

It allows for a clearer exploration of the possibilities of different combinations within the two axes. This approach helps in selecting, combining, transforming, reconstructing, and metaphorically handling the cultural elements of the brand. It emphasizes the key features and information of the brand, leading to the deduction, combination, and arrangement of the brand's logo and providing it with a deeper cultural connotation and meaning in different combinations.

3.6 Data collection methods

Literature collection: Collect relevant literature materials from books, articles, research papers, electronic documents, and websites. Analyze them to form a conceptual framework.

Case analysis data collection: The collection of cases is the foundation. To gather comprehensive cases, various channels such as the internet, literature, and books will be utilized.

Basic data collection from the target audience: Collect data through methods such as questionnaire surveys and interviews. Questionnaire data will be analyzed using percentage analysis.

Data collection from the expert group: Utilize open-ended questions and recordings as the primary methods for data collection.

3.7 Data analysis and tools

3.7.1 Data analysis

Using appropriate statistical analysis methods, the collected data will be analyzed, summarized, understood, and digested to maximize the potential of the data and derive meaningful insights. Data analysis is the process of studying and summarizing data in detail to extract useful information and draw conclusions. The purpose of data analysis is to uncover underlying patterns and extract relevant information from a large volume of data (Wickham & Wickham, 2016) In practical

applications, data analysis helps researchers make informed judgments and take appropriate actions. Data analysis is the process of collecting and analyzing data in an organized and purposeful manner to turn it into information.

1.Utilize case analysis, field investigations, and expert interviews to develop a model which is applicable to brand construction in historical and cultural blocks and conduct research.

2.Qualitative analysis will be conducted for expert interviews and the target audience. Conclusions will be drawn based on interviews and discussions, providing a foundation for subsequent experimental research.

3.Quantitative analysis methods will be used to analyze the data from the group questionnaires.

4.In the design and development of experimental research, based on the preferences of the target audience, program proposals will be developed. The results will be evaluated through participant questionnaires and expert reviews, and the findings will be presented in descriptive conclusions.

3.7.2 Data analysis tools

For quantitative analysis (using Likert scale questionnaires), statistical analysis will be conducted using SPSS27 to analyze and summarize the data.

3.8 Data analysis results

In this study, various data analysis methods have been employed to draw conclusions about brand image shaping in urban renewal with respect to historical and cultural blocks. For case analysis data, content analysis is used to summarize and organize textual materials, which can draw conclusions about the development status, issues, and trends in the shaping of similar brands. Questionnaire surveys and expert evaluations will use descriptive statistics to process and analyze data. This will provide conclusions about design preferences, visual needs and brand experience related to branding. In terms of satisfaction evaluation, mean scores will be employed to analyze the data and draw conclusions on the satisfaction levels and variances of the Baihuazhou brand image among the target audience.

3.9 Conclusion

In this chapter, we presented the research methodology, process, data collection, and analysis procedures. We emphasized the importance of combining

qualitative and quantitative research. Building on qualitative research, we conducted a thorough feasibility analysis and utilized quantitative analysis for statistical data analysis, which enhances the persuasiveness of the research findings. The comprehensive results of the research methodology will be presented in Chapter 4, the research findings.

CHAPTER 4   RESEARCH   RESULT

4.1 Research strategies derived from the results of data analysis

The data is sourced from individual case studies, questionnaires, expert interviews, cultural cognitive intention experiments, workshop experiments, and visual design project experiments. In the first stage, the construction of the brand image model was completed through analysis of case studies and expert interviews. In the second stage, through focus group interviews and cultural cognitive intention experiments, the research keywords and dominant factors of the brand image were determined and extracted. In the third stage, the transformation of design symbols was conducted based on the extraction of brand factors, and a brand resource library was established. the fourth stage involved research on brand design and development projects (Figure 27).
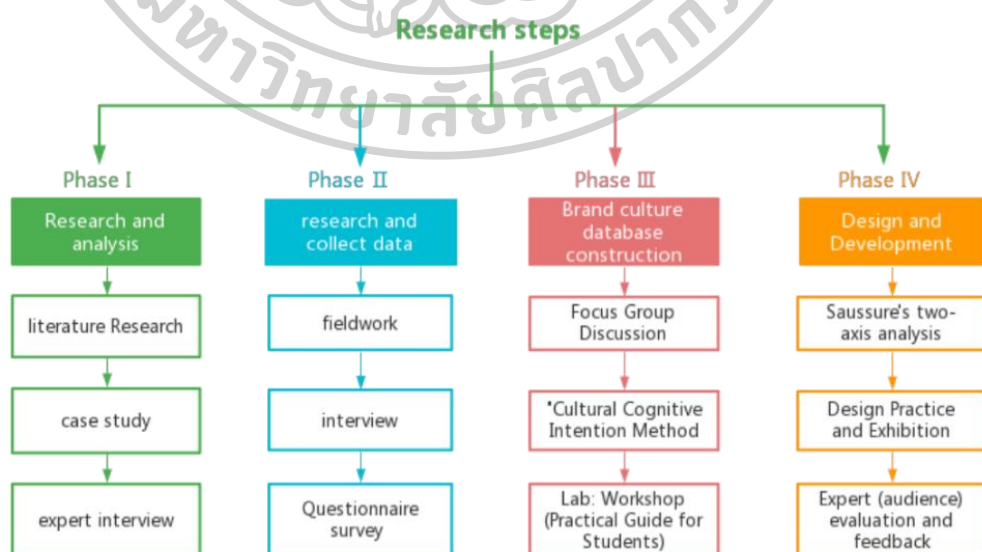
Figure 27 Research process structure diagram. Source: drawn by the author.

4.1.1 Case study results analysis

 4.1.1.1 Case study

The research aims to develop a methodology for shaping the brand of urban historic and cultural blocks and summarize the practical process. Focusing on brand image design, it analyzes the current research status both domestically and internationally, designs and promotes, and formulates a brand image strategic system. This study primarily analyzes five cases from both domestic and international contexts, all of which involve the development of brand images for established and sustainable historic and cultural blocks or ancient city heritage blocks.

4.1.1.1.1 Research object one: Brand design of Kuanzhai Alley historical and cultural district– Creating Sichuan's "Leisure Culture"

 (1) Basic introduction:

Chengdu, as a historical stronghold in Southwest China and a former capital of seven dynasties, boasts a rich history spanning two millennia, with countless historical landmarks and a profound cultural heritage. The Daci Temple, Wenshu Monastery, and Kuanzhai Alley are collectively known as Chengdu's three major historic and cultural heritage preservation blocks, with Kuanzhai Alley holding a prominent position (Long, 2006)(Figure 28).

Figure 28 Original buildings in Kuanzhai Alley. Source: local news website.

Overall development positioning: In the context of vigorously building the "Leisure Capital," the Chengdu government initiated the main transformation project of the Kuanzhai Alley historical and cultural block in 2003. The project aimed to preserve the original architecture of old Chengdu while creating a complex commercial block with a strong local character and cultural atmosphere, centered around humanistic leisure. Kuanzhai Alley consists of three parallel old-style streets: Wide Alley, Narrow

Alley, and Well Alley, along with a cluster of quadrangles They are commonly referred to as the last surviving urban layout of the "Millennium Shaocheng" of old Chengdu and the last remaining example of the authentic architecture from a century ago. It represents the northern Hutong culture and architectural style in the southern region, making it a unique cultural and architectural heritage. Located in the city center, Kuanzhai Alley is an integral part of Chengdu's "Overall Strategic Layout of Historical and Cultural City Display System" and "Historical and Cultural Heritage Protection System." (jie & Bo, 2011) (Table 9).

Table 9 Neighborhood layout

Street	Wide alley	Narrow alley	Well alley
Functional Positioning	Situational consumption rest area	Exquisite Lifestyle Zone	Ashion and dynamic entertainment area
Type of Business	With private restaurants, characteristic folk customs, leisure teahouses, characteristic inns,etc.	Western-style catering, art and leisure, characteristic cultural theme stores	Small retail specialty stores, creative fashion-themed dynamic entertainment areas, bars
Target Users	Casual nostalgic user	Fashion and exquisite users	Young users

In March 2013, Chengdu Culture and Tourism Group signed a cooperation agreement with Chengdu Meilianhui Advertising to entrust them with the unified design of the company's logo and overall, VI image for Kuanzhai Alley.

Analysis of historical and cultural block characteristics region: Located in Chengdu's old urban area (a special block for urban renewal)

Architecture: As distinctive structures, the narrow lanes and alleys reflect the characteristics of the ancient cities in the western Sichuan province (Figure 29).
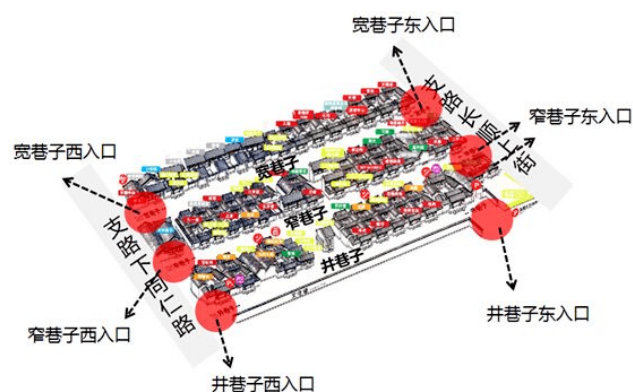
Figure 29 Block layout of Kuanzhai Alley. Source: local news website.

Architecture: The architecture of the narrow alley reflects the unique characteristics of the ancient city in western Sichuan Province (Figure 30).

Figure 30 Humanistic and architectural features. Source: local news website.

(2) Brand design analysis

Brand name: Kuanzhai Alley

Brand positioning: "Leisure Life," "Slow Life," "Fresh Life."

Representing Chengdu's leisure culture, the logo of Kuanzhai Alley, characterized by its "Teahouse Culture," cleverly combines the Chinese characters "宽" (wide) and "窄" (narrow), forming the symbol of the common "big bamboo joint armchair" found in Sichuan teahouses.

The logo is presented in a vertical square shape, with the characters "宽" (wide) and "窄" (narrow) interlaced and overlapped, creating a newly invented Chinese character that is not found in traditional dictionaries. In the empty space located in the middle and slightly to the right of the logo, there is an embedded seal-like design consisting of two red characters "巷子" (alley).

The strokes of the characters in the logo are evenly balanced, revealing the features of bamboo joints and tenon joints found on the armchair (Figure 31).

Figure 31 Kuanzhai Alley brand logo design. Source: local news website.

Brand colors: The overall color palette is predominantly gray, blending architectural details with traditional Chinese elements such as sculptures and painted decorations (Figure 32).

Figure 32 Brand color analysis of Kuanzhai Alley. Source: drawn by the author.

Brand visual guidance system: As a landmark of Chengdu, Kuanzhai Alley underwent a comprehensive renovation and upgrade of its guidance system in May 2015. Based on the concept of "simplifying traditional elements," the guidance system of Kuanzhai Alley was redesigned. The new system combines the elegance of oriental aesthetics with contemporary geometric elements, giving the block a fresh spatial expression and attention to detail (Figure 33).
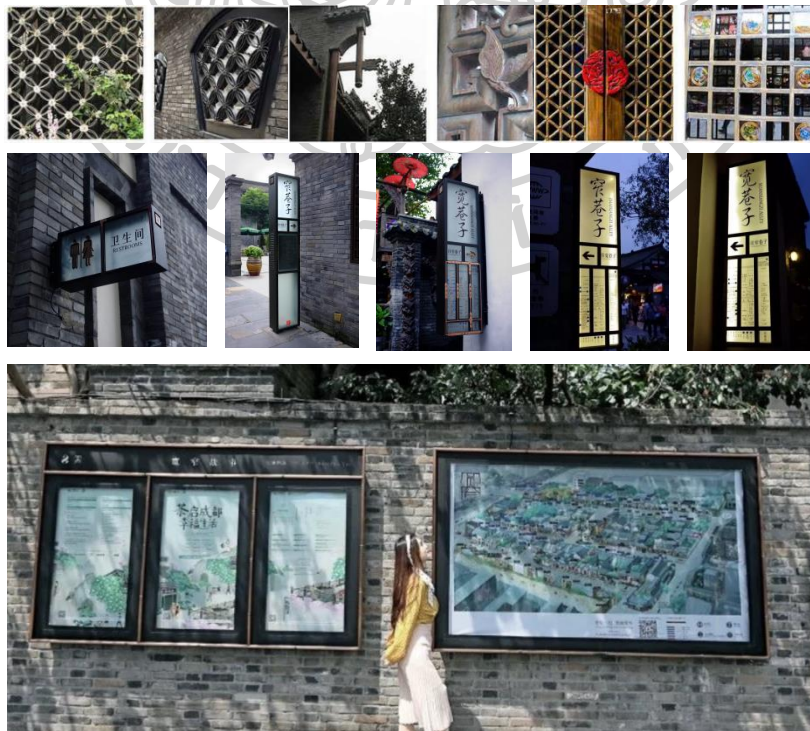
Figure 33 Guidance design of Kuanzhai Alley neighborhood. Source: local government website.

Block event displays (Figure 34):

Figure 34 Block activities in Kuanzhai Alley neighborhood. Source: local government website.

Summarize: Through the case analysis, we can observe that Kuanzhai Alley, as one of the earliest renovated historical and cultural blocks in China, has developed to a highly mature stage. The overall style of the block, including visual elements, spatial memory, and commercial formats, reflects the distinctive local cultural characteristics. Whether it is the design of clothing stores or dessert shops, they all continue the original features of the block's appearance. This is something worthy of learning and drawing inspiration from. In terms of brand image, it is crucial to not only preserve the overall image of the block, historical buildings, and shops but also enhance the landscape environment of the block and strengthen the use and communication of the visual identity design. These aspects should not be neglected as they play an important role in maintaining and promoting the brand image.

In the process of brand design, it is evident that regional cultural resources were given top priority. The distinctive elements that represent Kuanzhai Alley were accurately distilled. While this design approach may have some imperfections, it is clear that the core values of the district are commendable.

During the case analysis, a drawback was identified in the signage of Kuanzhai Alley Scenic Area, namely the translation of the place name into two different variations. Although the signage of Kuanzhai Alley has its own cultural significance and creativity, as a Class A scenic area, public signage should adhere to the unified planning outlined in the Chinese standard GB/T10001.1-2006 to minimize unnecessary confusion among visitors. However, the translation of the three Chinese characters "宽巷子" has resulted in two different variations: "Kuan Valley" and "Kuanxiangzi

Valley." This discrepancy may lead English-speaking foreign visitors to mistakenly perceive these as two separate place names.

4.1.1.1.2 Research object two: "Nantou Ancient Town" brand design - reshaping the "Capital of Eastern Guangdong"

(1) Basic introduction:

Nantou Ancient Town is a culturally diverse urban creative block rooted in history. The revitalization and redevelopment project of Nantou Ancient Town officially commenced in March 2019. Through the continuation of its historical heritage, the project has enhanced various cultural aspects, exhibitions, events, and residential upgrades, bringing forth a newfound vibrancy. During the transformation, great respect was given to Shenzhen's history, highlighting its historical elements with the goal of constructing a globally renowned cultural heritage town dedicated to coastal defense. The distinctive cultural block of the Maritime World has preserved the historical and cultural characteristics of the Hong Kong-Shenzhen region, as well as its natural charm, while actively incorporating new business formats.

Overall development positioning: The planning and utilization of Nantou Ancient Town are heavily focused on collecting and researching historical data related to the ancient town. Ultimately, the positioning of the ancient town preservation project is to "recreate the 'first county in eastern Guangdong, the origin of Hong Kong and Macau,' and deeply explore the 'common cultural heritage of Shenzhen, Hong Kong, and Macau,'. It uses urban history as the foundation, blend old and new, and position the core brand of Nantou Ancient Town as 'Innovative Encounters.' It is dedicated to becoming an inclusive urban block that embraces diverse cultures, functioning as a cultural exchange center for Shenzhen, Hong Kong, and Macau, as well as a creative design block (Nantou city, 2019).

In March 2019, Vanke Group and the Shenzhen Municipal Government signed a cooperation agreement to unify the design of the logo and overall visual identity of the historical and cultural block of Nantou Ancient Town.

(2) Analysis of historical and cultural block characteristics

Region: Located in the urban village redevelopment area of Shenzhen

Nantou Ancient Town, situated in the urban village redevelopment area of Shenzhen, is the predecessor of the Shenzhen Special Economic Zone and was once the

seat of the Bao'an County government. It holds great historical and cultural significance for both Shenzhen and Hong Kong, serving as the root and source of their history and culture. Distinct from the ubiquitous "ancient towns" scattered across the country, Nantou Ancient Town represents a unique symbiosis of a historical ancient town and a contemporary urban village. It is an ever-growing and evolving organic entity (Figure 35).

Figure 35 Real scene of Nantou Ancient Town. Source: https://www.nantoucity.com.

Architecture: Nantou Ancient Town, based on collaborative efforts with various groups such as villagers, tenants, merchants, and office workers, explores the core aspects of rebranding and revitalizing the community through "Innovative Encounters." Following the suggestions of local residents, it has optimized the town's infrastructure and layout while preserving its historical buildings and local customs. This transformation has led to a shift in the advantages and disadvantages of the urban village.

Cultural features: Hong Kong and Macau culture, fusion culture.

Business planning: Innovation of time-honored brands, incorporation of intangible cultural heritage content, and the introduction of new concept brands and concept stores.

(3) Brand analysis

Brand name: Nantou Ancient Town cultural block

Brand positioning: source, creation, art, and vibrancy

Brand characteristics: Free and vibrant, diverse and inclusive, authentic and original, organic and sustainable.

(4) Brand visual analysis

Brand logo analysis: The logo graphic represents "Source, Creation, Art, and Vibrancy," symbolizing the collision of creativity. It is inspired by the functional division of the four areas in the Nantou Ancient Town. The most representative visual elements from each area are extracted for the design. The font design is inspired by the architectural style of the old city gate in Nantou Ancient Town, and it consists of the Chinese characters "南头古城" (Nantou Ancient Town) and English typography (Figure 36).

Figure 36 Analysis of the logo of Nantou Ancient City. Source: https://www.nantoucity.com/.

The visual guidance system of Nantou Ancient Town is derived from a commonly used punctuation mark - the semicolon. The semicolon is used to condense the expression of the ancient city symbol. As a symbol that connects cause and effect in meaning and involves complex reconstruction in composition, the semicolon carries both the meaning of "unfinished" and the implication of complex reconstruction (Figure 37). Therefore, Vanke has combined various elements of Nantou Ancient Town to design a visual identity symbol that can be continuously recombined.
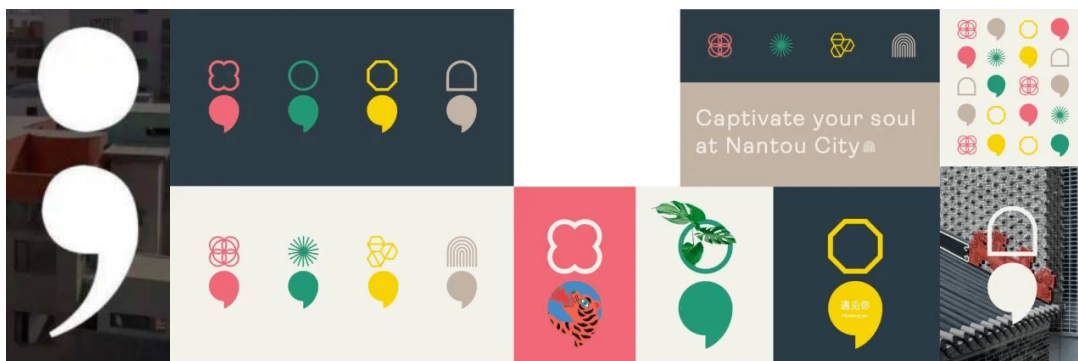
Figure 37 Deconstruction of glyphs. Source: https://www.nantoucity.com/.

Shenzhen Vanke Nantou Ancient Town project staff, Deng Aosai, states that they do not wish to limit the number of elements constituting this core logo graphic. They believe that the semicolon is just a foundation, and from it, they can deconstruct many different shapes, bringing infinite harmonious combinations and countless unexpected possibilities. In this way, it also resonates with the core of "colliding creativity" possessed by the Nantou Ancient Town brand (Figure 38).

Figure 38 Nantou Ancient Town Street Brand Visual Identity System. Source: https://www.nantoucity.com/.

Visual guidance system: In the details of the guidance system, starting from the culture of Guangdong and Hong Kong and the local customs, it incorporates natural textures of stone materials, brass plaque bases, and handmade details to express a contemporary design with a sense of history. By adopting traditional Chinese vertical text layout, it achieves a local cultural aesthetic (Figure 39).

Figure 39 Guidance system. Source: https://www.nantoucity.com/.

Block effect display, (Figure 40):

Figure 40 Brand promotion of Nantou Ancient City district. Source:
https://www.nantoucity.com/

Summarize: During the research process, contact was made with the deputy team leader of Shenzhen Vanke Group's project team, and a phone interview was conducted. He said, "Because it is an urban village, there were a large number of indigenous people who were unwilling to undergo redevelopment. The initial challenge was convincing the indigenous people. Therefore, during the public opinion collection phase, we mainly used methods such as field surveys and questionnaire surveys. Based on the positioning, the final focus was on young people. So, we also interviewed some young people or used measurement methods, so the workload was enormous."

Through the case analysis, it was found that the overall plan was very successful but had some shortcomings. For example, the visual identity symbol can be deconstructed into many different shapes, bringing infinite harmonious combinations and countless unexpected possibilities, which also resonates with the core of "colliding creativity" possessed by the Nantou Ancient Town brand. This reflects the sustainability of the design, but the excessive accumulation of elements may create some visual confusion. Nantou Ancient Town is still a very young brand, and there will certainly be endless possibilities in the future.

4.1.1.1.3 Research object three: Beijing "Dashilan" brand design-"Changes in Beijing Hutongs"

(1) Basic introduction:

The "Dashilan" Historical and Cultural Block is located in the heart of Beijing, and it is the area with the longest historical continuity, the most relics, the

strongest old Beijing flavor, and the largest traditional hutong cultural zone in the old city of Beijing, with a history dating back nearly 600 years. During the Ming and Qing dynasties, wooden fences were built at many street and alley intersections in Beijing for the convenience of curfews. Because the fences along the four corridors were taller and larger than elsewhere, people commonly referred to this alley as "Dashilan." (Weimin & Tingting, 2012). Therefore, the inheritance of historical culture is also the most vivid and authentic, and it is an unreplicable historical research area in Beijing— a classic example of the renovation and revitalization of Beijing's historical and cultural conservation areas.

Overall development positioning: The main aim is to emphasize the essence of combining traditional commerce, folk culture tourism, and residential areas. The hutongs, unique ancient alleys in Beijing, have become carriers of Beijing's culture. Based on the texture of the historical area, the goal is to gradually replace the old with the new, truly reflecting the core value of Dashilan as a commercial and cultural tourism hub. The objective is to maintain the original appearance of the old city while forming a historical and cultural block centered around hutong commerce and residential areas, showcasing the distinctive cultural characteristics and traditional block charm of Beijing (Figure 41).

Figure 41 Panoramic map of Dashilan Street. Source: local official website.

Since the launch of the Dashilan Renewal Plan in 2011, it has become China's first urban planning high-end cross-disciplinary platform that focuses on the organic renewal of historical and cultural blocks. The Dashilan Renewal Plan integrates

various fields such as urban planning, architecture, design, art, history, and culture. By harnessing the power of interdisciplinary collaboration, it explores the potential for revitalizing the old city and has become a new model for the protection and development of historical and cultural blocks.

The Dashilan Historical and Cultural Block entrusted Beijing Dashilan Liulichang Cultural Development Co., Ltd. to sign a cooperative agreement with NDC (Japan Design Center) in July 2017 for the unified design of the logo and overall visual identity (VI) of the Dashilan Historical and Cultural Block.

(2) Analysis of characteristics of historical and cultural blocks

Region: Located in the old city area of Beijing's city center (characteristic block of urban renewal). The architecture in this area is predominantly traditional in style, with various types of architectural styles coexisting, and the interior of the buildings preserving a relatively intact appearance.

Architecture: The buildings in the historical and cultural block exhibit a combination of various architectural styles that reflect the traditional residential architecture of Beijing. These architectural styles include Haitangjiao (bay windows), Bingpandian (hanging eaves), Shanjian (gables), Lou (gate towers), Guayanban (eaves boards), Chaotianlangan (attic railings), Menchuanglingtiao (lintels on doors and windows), and more (Figure 42).

Figure 42 Real scene of Dashilan Street. Source: local official website.

Cultural features: Market culture, Hutong culture, (Figure 43):

Figure 43 Humanistic activities in Dashilan Street. source: local official website.

Business planning: In terms of functionality, the historical and cultural block has transformed into a gathering place for tourism and a commercial retail area.

(3) Brand analysis

Brand name: Dashilan Historical and Cultural Block

Establishement year: 2017

Brand positioning: "Co-building, Co-sharing, Co-existing - The Confidence and Future of an Open Block."

Brand logo analysis: The brand logo adopts the form of a plaque that appears in classical Chinese-style architecture. The plaque is an artistic form with distinct characteristics of Chinese culture, combining with architectural, literary, and calligraphic art forms to display the level of the building owner's social status, moral cultivation, philosophy of life, and spiritual aspirations. The logo is rectangular in shape, with the overall use of Chinese red, symbolizing the color of China (Figure 44).

Figure 44 Analysis of Dashilan logo. Source: local official website.

Brand font: Modified Traditional Song Typeface.

Brand color extraction: The overall color tone is vermilion, reflecting the traditional colors of Chinese architecture.

Brand visual guidance system: The Dashilan Visual Guidance System project is an integral part of the Dashilan urban renewal plan, and NDC (Japan Design Center) represented by KENYA HARA played a role in this VI project by introducing advanced information design concepts. Approximately 1.3 square kilometers of courtyards in the Dashilan area were compiled into three-dimensional data. The unique feature of Dashilan is that the houses are only two or three stories high, all low-rise buildings without tall structures. This is particularly suitable for 3D representation, as

the overall appearance of the hutongs can be seen from an overhead view. Therefore, the perspective used in the application is a bird's-eye view, allowing for the observation of the shapes of each household's houses in a three-dimensional and intuitive manner. This system is widely used in printed maps, signage, mobile navigation applications, and other modes, enabling the historic streets to preserve their traditional appearance while integrating modern elements in an open manner, thus achieving the establishment of a complete overall image for the area, (Figure 45).
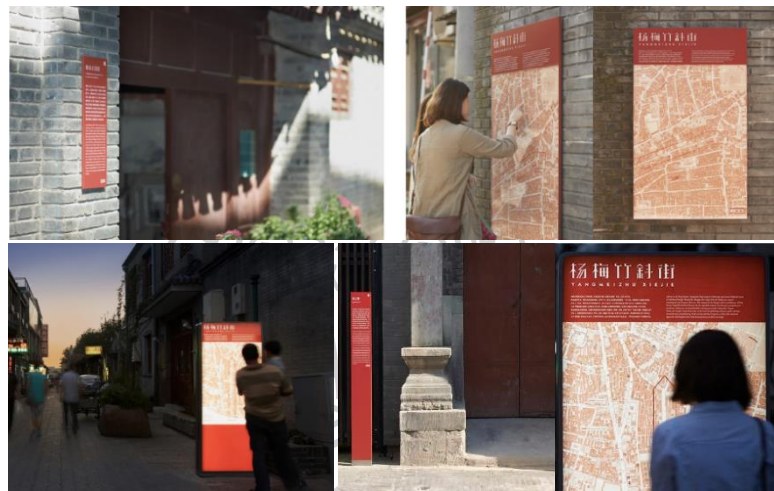
Figure 45 Actual scene of Dashilan Street guidance system. Source: https://www.ndc.co.jp/cn/about/company.

Peripheral design and online APP, (Figure 46):
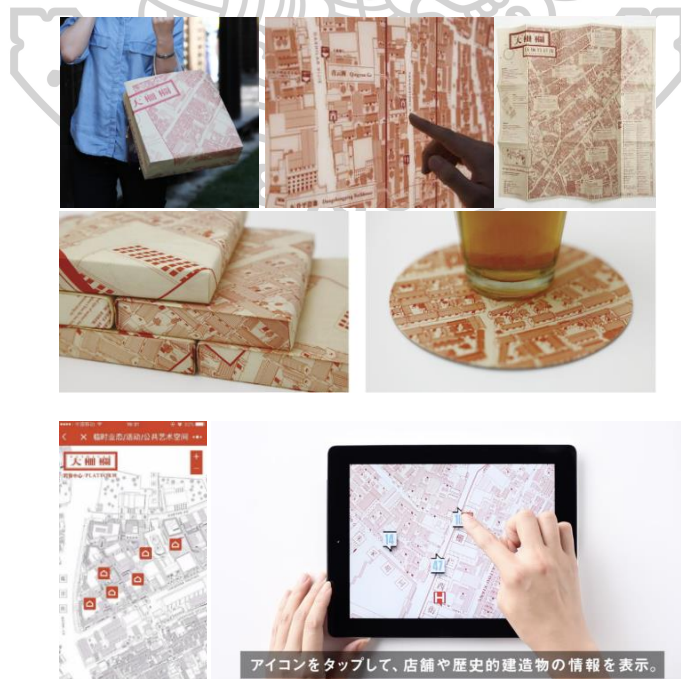
Figure 46 Design around the Dashilan neighborhood. Source: https://www.ndc.co.jp/cn/about/company.

Summarize: Through this case study, we can see that Dashilar, as one of the earliest historical and cultural blocks to undergo renewal in China, has developed into a highly mature and well-established destination. The overall style of the block, including visual elements, spatial memories, and business formats, embodies the local cultural characteristics. The design of the Dashilar visual system combines relevant knowledge and interesting spaces within the block, fostering visitors' interest in exploration while providing practical information. The integration of printed maps, tourist signage, and an app with GPS navigation features creates a seamless navigation service for tourists. Effective visual design is believed to continue promoting the protection and development of the Dashilar Historical and Cultural Block.

The main design scope of this case includes brand visual system design, block guidance system, map system, block events, and website development. With decorative elements and a fusion of retro and contemporary aesthetics, the design creates a playful and visually appealing atmosphere while maintaining a sense of diversity and compatibility.

4.1.1.1.4 Research object four: Taichung City's ecologically vibrant neighborhood "Calligraphy Greenway" brand

(1) Basic introduction:

"Calligraphy Greenway" is a new urban eco-block in Taizhong City, Taiwan province. With a total length of 2.2 kilometers, it gathers more than 300 creative vendors and belongs to the China Metal Products Group. Taking advantage of the "Calligraphy Greenway Lifestyle Circle," it combines digital tools with vendors to co-create diverse experiences, continuously enriching the street life and conveying the distinctive regional characteristics of Calligraphy Greenway, which integrates the old and the new and is full of creativity, to build a sustainable street ecological system.

In recent years, Taizhong City has made great efforts to develop an eco-civilization city, earning the reputation of a "garden city" and an "ecological city". Today, it has embraced a new image of intelligence, low-carbon, and energy-saving, aiming to create "low-carbon parks" and build ecological corridors, allowing people to experience the green pulse of the city.

Overall development positioning: Named after "a galaxy-like block life system," the institutions and shops within the Taizhong "Calligraphy Greenway" series

are shining stars, capable of shining and operating on their own, as well as shining together like a galaxy. The "Calligraphy Greenway" is an ecological vitality block brand initiated by the Taizhong City Calligraphy Greenway Block Center in May 2019, and it was designed by the famous Taiwan designer Song Zhengjie to create a new block brand visual system.

(2) Analysis of block characteristics (Figure 47).

Figure 47 "Grass Enlightenment" Taichung ecological vitality street brand. Source: https://www.xiaohongshu.com.

Region: Located in Taiwan Province, Taizhong City

Cultural features: Youthful and diverse culture, ecological culture.

(3) Brand analysis

Brand name: "Calligraphy Greenway" urban eco block

Brand positioning: "A block life system like a galaxy."

Brand logo analysis: The logo combines the Chinese character "草" (grass) with an aerial view of trees and streets (Figure 48).

Figure 48 Analysis of neighborhood brand logo. Source: https://www.xiaohongshu.com.

The concept behind the design of the Calligraphy Greenway brand logo is to transform the Chinese character "草" (grass) into a representation of streets and alleys. The elements of the logo are then developed into a series playful, approachable, and diverse graphic extensions that be applied to the block (Figure 49).

Figure 49 Neighborhood brand auxiliary graphic design. Source: https://www.xiaohongshu.com.

Brand font: A combination of Chinese characters and Latin fonts.

Brand color extraction: Fresh and lively green is used in the brand's color palette to highlight the healing aspect of nature and bring out the vivid imagery of "草" (grass) and streets.

Brand visual guidance system: Taking into account the uniqueness and ecological nature of the region's cultural characteristics, intricate details are incorporated into the design of the guidance system. Additionally, a unified color scheme is chosen as the primary design element, aligning with the characteristics of the area while blending harmoniously with the surrounding environment, emphasizing the ecological and culturally harmonious positioning with nature (Figure50).

Figure 50 Street brand guidance system design. Source: https://www.xiaohongshu.com

Surrounding Design, (Figure 51):

Figure 51 Neighborhood brand peripheral design. Source: https://www.sohu.com.

Summarize: Through the case analysis, we can see that the " Calligraphy Greenway " eco-cultural block embodies the concepts of green, nature, and harmony. The overall style of the block, from visual imagery to spatial memory to commercial formats, showcases the unique ecological and cultural characteristics of the local area.

The design of the " Calligraphy Greenway " brand breaks the traditional impression of cultural street logos and leaves a particularly strong impression through bold and abstract forms. From the logo to the extended graphics and publications, everything revolves around the brand's signature elements and color scheme, forming a highly unified brand visual identity.

4.1.1.1.5 Research object five: Poland's "Nikiszowiec" brand—"Energy District" transformed into "Creative District"

(1) Basic introduction:

Katowice is a city located in the Silesian Voivodeship of the Republic of Poland. Since 1999, it has been the administrative capital and seat of government for the Silesian Voivodeship, making it the largest city in Silesia and a center for heavy industry, transportation, and scientific culture.

Nikiszowiec is a historical landmark block in Katowice, Poland. It used to be a residential area for coal miners, with coal mining being the predominant industry due to the abundant coal resources in the region. Coal production accounted for over 98% of the national output, earning Katowice the nickname "Poland's Coal Capital".

While the coal mining and other industrial activities have gradually relocated, the legacy of the coal industry can still be seen in Katowice (Figure 52).
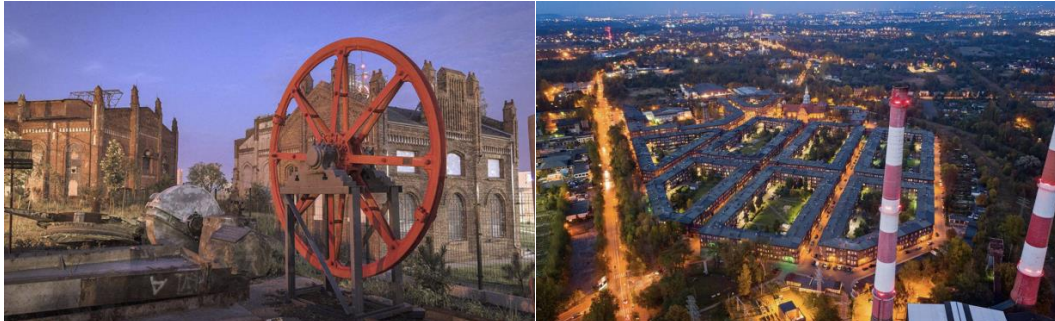
Figure 52 Real scene of Nikiszowiec historic district. Source: https://baijiahao.baidu.com.

Overall development positioning: The main focus is on emphasizing the synergy between artistic and cultural creative blocks and industrial tourism. Walking through the streets and alleys of Katowice, one can find music studios, cultural creative workshops, and e-sports training centers. Every year, a large number of young people from all over Europe come here to participate in various cultural activities. Today, Katowice is full of vibrancy and vitality, but it looked completely different just a decade ago.

The revitalization and transformation of the Nikiszowiec industrial heritage block started in July 2014, commissioned by the Katowice City Hall. It entrusted designers from Tukej and experts from the Katowice Academy of Fine Arts to create a unified logo and visual identity for the block.

(2) Block feature analysis

Regional Architecture: Old Towns (Special Districts for Urban Renewal) of Southern Polish Cities.

Constructed of red bricks, it draws inspiration from Romanticism and ancient Greek architecture (Figure 53).

Figure 53 Real scene of Nikiszowiec historic district. Source: https://baijiahao.baidu.com.

(3) Brand analysis

Brand name: Nikiszowiec industrial heritage district

Brand positioning: "Co-construction, sharing, and symbiosis - the confidence and future of open neighborhoods."

(4) Brand logo analysis:

The block continues to use the Katowice city logo, which incorporates seven colors, each representing a different meaning. Blue represents confidence, science, and education; purple represents tradition and history; yellow represents culture, art, and sports; green symbolizes the environment, ecology, and health; red represents business, companies, and the economy. Together, they form a heart shape, symbolizing the inclusiveness of the city (Figure 54).

Figure 54 Analysis of Nikiszowiec historic district sign. Source: https://baijiahao.baidu.com.

Brand font: A variation of Latin font with Polish language influence.

Brand color extraction: The overall color scheme consists of highly saturated colors, reflecting the diverse urban culture and human characteristics of Katowice.

Brand visual guidance system: Based on the fact that the Nikiszowiec block is composed of old brick buildings, with each resident having distinctive red windows, the design team incorporated this important architectural feature into the visual guidance system. The color palette uses red, brown, and white to harmonize with the historic buildings. The design of the signage draws inspiration from the red windows, using red panels that match the angle of the window sills in the vertical signposts, integrating the architectural feature. To enhance the recognizability of the tourist routes, a special three-dimensional plan was created to provide visitors with a

more intuitive understanding of the routes, The overall style is unified, the functionality is strong, and the visitor experience is high. It is a relatively successful case of old city renovation, bringing new vitality to this industrial city and embodying the harmonious coexistence of people and the city . By organically integrating these elements into the brand design, the brand can tell a story related to the Nikiszowiec neighbourhood through visual language (Figure 55).
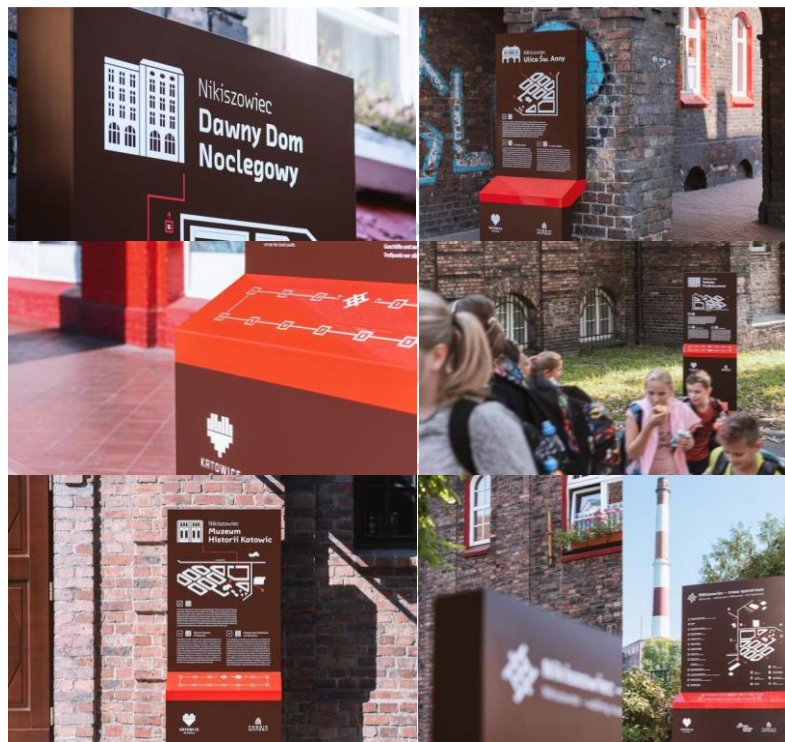
Figure 55 Actual guide to the Nikiszowiec historic district. Source: https://baijiahao.baidu.com.

Summary: Through this case analysis, we can see that the transformation of the "Nikiszowiec" block from an industrial powerhouse into a "Glamorous Creative Cultural Block" showcases the potential for sustainable development of such blocks. The strong industrial heritage background is effectively integrated into the overall visual design, aligning with the block's unique style. This is a valuable lesson to learn from. However, there are areas that could still be improved. For example, while preserving the overall image, historical architecture, and original appearance of the shops, there is a need to enhance the internal environment of the block, increase block activities, improve interactivity, and attract more people to experience it.

4.1.1.1.6 Diagnosis and hypothesis

In this study, we have selected five excellent design cases from both domestic and international contexts for analysis. The aim is to gain a deeper understanding of how historical blocks can transform and achieve sustainable survival in the context of urban renewal. Through the interpretation of existing case solutions, we analyze the problems and challenges encountered in block positioning, audience selection, and brand visual design. We also examine the strategies implemented and the resulting effectiveness, aiming to identify practices that can be applied as reference.

The case analysis research adopts various methods to analyze and compare each of the five cases in detail (Table 10).

Table 10 Case analysis

No.	Neighborhood characteristics	Brand positioning	Audience targeting	Visual style
Case 1	Chengdu Classic Cultural Landmark A mixed-use commercial street block with distinctive features and a cultural atmosphere of Sichuan region.	"Leisure life" "Slow life" "New life"	Leisure nostalgic group Fashionable and sophisticated consumer group Young leisure group	Traditional Chinese elegance and charm
Case 2	Representing the cultural heritage of Hong Kong and Shenzhen - Haifang Cultural Heritage Town	Free and vibrant Diverse and inclusive	Young leisure group Young entrepreneurial group	Recombining concrete architectural elements to express the essence of the ancient city's "collision and innovation"
Case 3	The traditional hutong cultural area in Beijing, characterized by the strongest Beijing-style flavor and the largest scope	Hutong culture	Young leisure group Leisure nostalgic group	The form of plaques or inscriptions on the gates of traditional Chinese classical Jing-style architecture
Case 4	"A galactic-like neighborhood living system" with a youthful and diverse multicultural ambiance, and an ecological culture	Ecologically diverse street block	Young leisure group Young entrepreneurial group	Based on local cultural characteristics and ecological sustainability
Case 5	Combining an artistic and cultural creative street block with industrial heritage tourism	Co-creation, sharing, and symbiosis	Leisure group	Historical and cultural heritage combined with regional characteristics

The researchers have summarized the advantages and areas for improvement of each case based on the above analysis, as shown in the table below (Table 11):

Table 11 Strengths of the case and areas for improvement

District name	Advantages	Aspects for improvement
Chengdu Kuanzhai Alley	Distinctive, unified in style, with a strong representation of regional cultural elements, the logo design is highly representative.	Visual development should be more diverse and detailed, with a careful attention to the design of surrounding products. The wayfinding design should be more standardized, ensuring clear navigation for visitors.
Shenzhen Nantou Ancient City	Diverse, youthful, with a strong focus on the experiential aspect for young people, enhancing the overall appeal and fun factor of the street block.	Due to the short construction time, the visual design may appear somewhat disorganized, especially the wayfinding system, which needs to be standardized and properly addressed.
Beijing Dashilan	The 3D panoramic map allows visitors to have a clear preview of the attractions. selection of special materials that match the characteristics of the street block excellently showcases the local cultural features of Beijing	Extensive map displays may potentially cause visual fatigue for visitors. It would be beneficial to develop more dynamic and interactive elements, and further development can be pursued in the future.
Taizhong City Caowu Series	Unified in style, it effectively conveys the urban ecological theme, with comprehensive surrounding design and strong interactive elements in the street block.	The wayfinding system lacks standardization, which can negatively impact visitors' experience.
Poland Nikiszowiec	Distinctive in features, unified in style, with a strong representation of regional cultural elements, and consistent color scheme. To enhance the recognizability of the scenic routes, designers have created special 3D floor plans for the scenic area, and the wayfinding system demonstrates strong standardization.	Visual development should be more diverse and detailed, with a focus on increasing the variety of design elements. It is also important to incorporate appropriate surrounding product designs to enhance the overall visual experience.

The five selected cases bear a high similarity to this research. Whether it is a traditional historical and cultural block, an industrial heritage landmark neighborhood, or an eco-district, they all undergo analysis and interpretation of the underlying urban cultural and human resources. Furthermore, they showcase a trend of brand development from abstract simplicity to diverse individuality, especially the trend of returning to local culture and presenting regional culture, establishing a sense of cultural

self-awareness. It can be observed that the use of regional culture, human factors, and cultural heritage as the most important indicators, reflected in the branding strategy, is a common practice. Another important aspect is the transformation of symbols, which needs to carefully balance heritage and innovation. Lastly, it is crucial to incorporate satisfying people's experiential needs into the service and product offerings. In this research, we will draw upon the successful practices of these classic cases to strive for better design solutions.

4.1.1.2 Expert interview feedback

Experts provided guiding suggestions for brand building based on case analysis. The feedback from these interviews highlighted the following key points (Table 12):

Table 12 Expert guidance and advice

Case name	Brand positioning	Visual presentation	Interactive experience form
宽窄巷子	"Recreational neighborhood"	①Sign ②Guide system ③Scenic Area Map	①Workshop ②Traditional theater (stage)
NAN TOU CITY 南头古城	"Free and fresh, complex and diverse"	①Sign ②Auxiliary elements ③Guide system	①Workshop ②Creative bazaar ③Mobile terminal ④Peripheral products
DASHILAR 大栅栏	"Hutong Culture"	①Sign ②Guide system ③Scenic Area Map	①Workshop ②Creative bazaar ③Mobile terminal ④Peripheral products
草悟系 GREEN RIPPLE LIFE	"Ecological diversity"	①Sign ②Guide system	①Creative bazaar ②PC side ③Peripheral design ④3D panoramic Map
KATOWICE for a change	"Confidence and the Future of Open Blocks"	①Guide system ②Neighborhood Map	Neighborhood events
Expert directional advice			
Suggestion 1: Cases are targeted. Although the effect presented in each case is different, the general direction is the same. This kind of brand image construction has more accurately extracted regional cultural elements, making it clear.			

Recommendation 2: In addition to the primary system and design of the brand, the focus of the case is more on the design of the space guidance system, so researchers should know more about people's visual experience in space, such as the visual experience of adults and children, ordinary people and sight distance studies for the visually impaired.

Suggestion 3: Most cases consider the sense of experience, so the final goal of the researcher in the design should be the visual experience of the block brand. We cannot simply design a set of brands but should conduct research from multiple angles. The visual development should be more diversified and refined, and the design of peripheral products should be appropriately increased.

The comprehensive comparison and the practice of the five cases are instructive for the researchers' following research and can be used as a reference.

Feedback from experts on historic district branding:

Feedback 1: The historic district type is a unique architectural form characterized by materials, designs, and construction techniques that were popular during a specific historical period. These blocks have been used to construct buildings for centuries and have become an essential part of our cultural heritage. Using historic district typologies can be a powerful tool for branding for several reasons.

Feedback 2: The historic district type can convey a sense of tradition and heritage. Many consumers are attracted to brands with a strong sense of history and tradition, and using a historic district typology can help create this impression.

Feedback 3: Historic district typology can be a powerful tool for brand building. It can create a unique visual identity, convey a sense of tradition and heritage, create a sense of belonging, and promote sustainability and environmental responsibility. Using historic district typologies in architecture, brands can stand out from their competitors and connect strongly with their target audience.

Feedback 4: Experts emphasized the importance of collaboration and partnerships with local stakeholders, cultural organizations, and communities. By involving these groups in brand-building, brands can gain valuable insights, access resources.

To sum up, historic districts, as important spatial components in the city, can be a powerful tool for brand building. It has a sense of heritage and belonging and can promote urban renewal and sustainable development.

4.1.1.3 Establishment of brand image building model

When a brand image model for urban historical and cultural blocks, it is essential to consider the brand's and its target audience's awareness of urban regional culture and historical cultural heritage.

This model emphasizes the coexistence of regional cultural elements, historical and cultural factors, and cultural heritage, It recognizes the importance of establishing meaningful and authentic connections with consumers by considering collective experiences, traditions, values, and symbols that represent a particular society or district. By doing so, a brand can shape its identity and resonate more effectively with the target market, thus establishing stronger connections and loyalty among the audience (Bo, 2011).

Overall, this model emphasizes the importance of the historical and cultural background on which brand building relies. It serves as the foundation for establishing a strong brand image and connecting with the target audience. Based on the case analysis and expert guidance, the established brand image building model can be represented as shown in the chart (Figure 56):
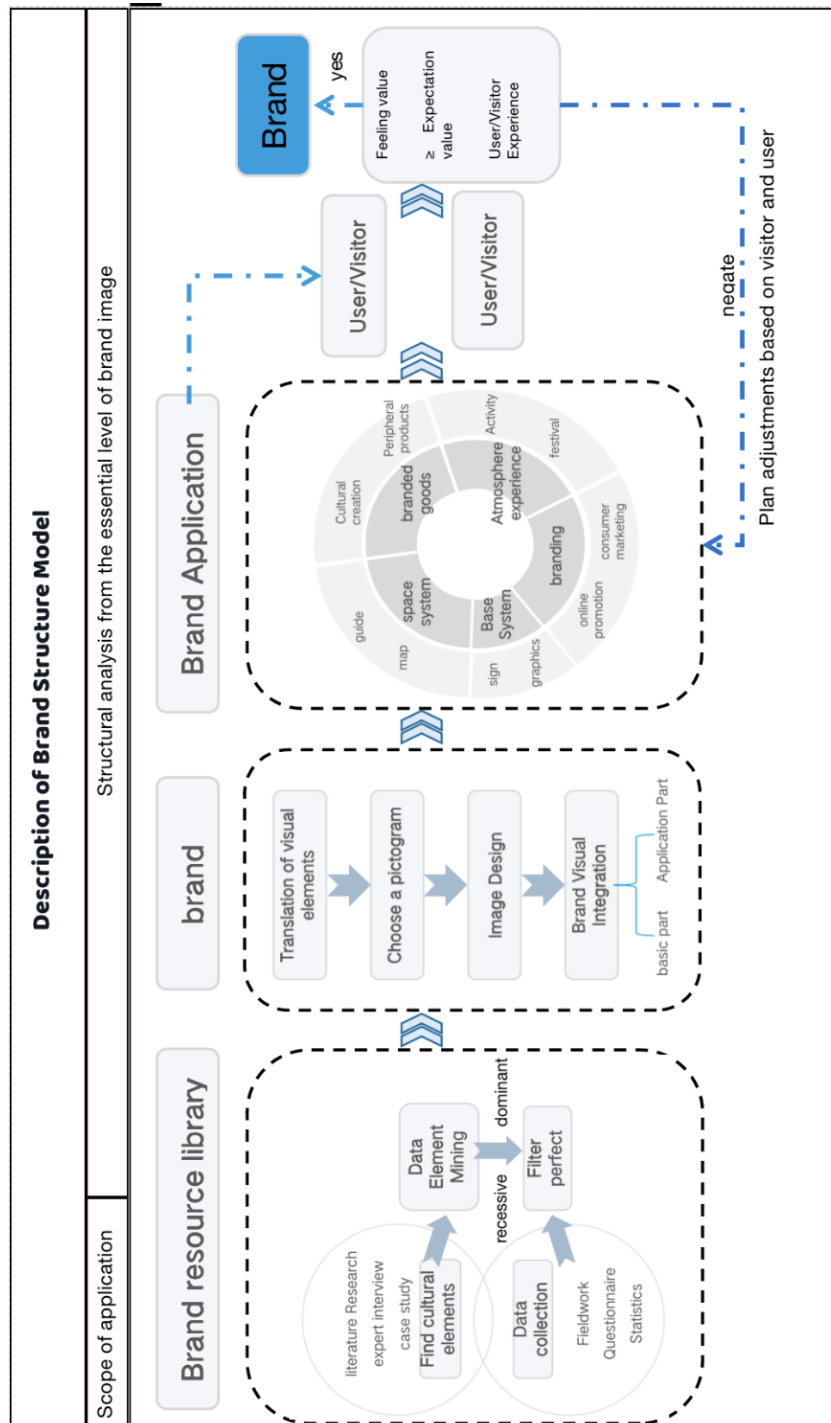
Figure 56 Brand image building model. Source: drawn by the author.

The diagram illustrates that the various elements are not isolated but interconnected. They mutually influence and support each other in the process of brand image building. The model aims to create a cohesive and compelling brand image that accurately reflects the cultural heritage of Jinan City, while also attracting stakeholders and visitors. The model is crucial for enhancing the city's uniqueness, preserving its rich historical legacy, and attracting interested tourists to experience it.

4.1.1.4 Summary

The case analysis and summary of brand image design for historical and cultural blocks in urban renewal involve leveraging historical and cultural elements to catalyze the revitalization and development of cities. This approach helps enhance the brand image of cities by leveraging their historical and cultural blocks, driving the tourism industry, and stimulating economic development.

In this analysis, the unique historical and cultural resources that serve as the foundation for brand image building in urban renewal are identified. These resources include city landmarks, cultural heritage, traditional arts and crafts, local festivals, and significant events. These elements can enhance the sense of place in the city's brand image and create brand uniqueness.

By integrating historical and cultural elements into the urban fabric, cities can attract tourists, foster community pride, and create a distinct identity that sets them apart from other destinations. This approach can promote economic growth by revitalizing the tourism industry, attracting investments, and supporting the development of local businesses rooted in the city's history and cultural heritage.

In conclusion, based on the case analysis and expert interviews, a brand image building model has been derived. This model serves as a guide for the design proposal in this research.

4.1.2 Analysis of field survey results in building a brand image model

In this study, various research methods were employed, including field visits, observational methods, data collection and analysis, and questionnaire surveys. A significant amount of research was conducted on the Baihuazhou Historical and Cultural block, comprehensively analyzing and comparing its current state, district positioning, visual design, and communication methods.

4.1.2.1 Research findings on the research object

In order to gain a deeper understanding of the Baihuazhou Historical and Cultural block, the researchers made multiple visits to the destination between July and August 2022. It was during these two months that Chinese students were on summer vacation, coinciding with the peak period for domestic tourism in China. Considering that interviews with local residents were necessary, as well as conducting questionnaire surveys with out-of-town tourists, subsequent experiments on cultural awareness intentions and user modeling were conducted to analyze the direction of brand design. Therefore, these two months were chosen for data collection, report writing, and analysis.

Period: July 10, 2022 - August 26, 2022

Location: Baihuazhou Historical and Cultural Block

Personnel: researchers and two research team members

Other interviewees: tourists, merchants, government workers, intangible cultural heritage inheritors, etc.

4.1.2.1.1 Background characteristics of the research scope

The establishment, growth, and present prosperity of Jinan are closely related to its springs. Springs and the city are interdependent, creating a unique urban landscape known as the "mountains, springs, lakes, rivers, and city" image, blending harmoniously together (Yanping, 1997), This deeply influences people's perception of Jinan as the "Spring City." The term "Spring City" itself is a symbol of Jinan, leaving a profound impression and creating a unique brand effect (Figure 57). The regional characteristics of "lotuses on four sides and willows on three, mountains outside and a lake within " and "every household has spring water, and every door is accompanied by willows" accurately reflect the urban branding positioning of the "Spring City" (Chongjiang, 2011). Furthermore, most state-owned enterprises, private enterprises, and government projects in Jinan use springs or lotuses as the main promotional symbols for display.

With the progress and development of society, springs have evolved from basic resources to meet production and living needs, becoming a prominent feature and brand of Jinan. Jinan is characterized by its personalized urban identity as a city known for its springs (Figure 58).

Figure 57 Hand-drawn draft of Jinan Mingcheng prefecture. Source: local official. website.

Figure 58 Jinan's urban characteristics and brands. Source: internet source.

In the context of urban renewal and accelerated urbanization, the significance of spring culture in urban development becomes more prominent, and it is crucial to handle the relationship between the two effectively. For a city, its natural environment is inherent and difficult to change, while the cultural aspect is more malleable. Therefore, historical and cultural elements play a particularly important role in urban development. The greater the cultural content and the higher the cultural taste

in urban construction, the more distinct its urban personality becomes. For Jinan, "springs" and "spring water" are not just natural elements, but they also embody profound historical and cultural connotations. They have become unique cultural phenomena that contribute to Jinan's distinct humanistic character (Figure 59).

Figure 59 Natural environment of the neighborhood. Source: photographed by the author.

Historical and cultural blocks are important condensed areas of regional cultural features. They represent the historical development and current witness of urban development, showcasing the deep historical and connotations of the city. They are precious symbols of urban cultural heritage (Mengjiao et al., 2022). Baihuazhou, as an important part of Jinan's ancient water system, has a history of more than 1,000 years. It is a concentrated area of ancient government offices, mansions, and residences, and has become the central business district of the ancient city of Jinan. The developed Quanjing culture, old courtyard houses with typical characteristics of the northern region, various political and cultural buildings, and traditional folk life make it the block with the most intact preservation of historical features in the process of Jinan's urban evolution and renewal.

At the same time, this block has rich cultural heritage and is the most complete and largest traditional characteristic block in Jinan. As the landmark of Jinan Quancheng's old city, Baihuazhou is undergoing renovation of the old city. Among the many structural dimensions that affect the renovation of the old city, historicity, locality, commercialization, and publicity are all important factors (Figure 60).
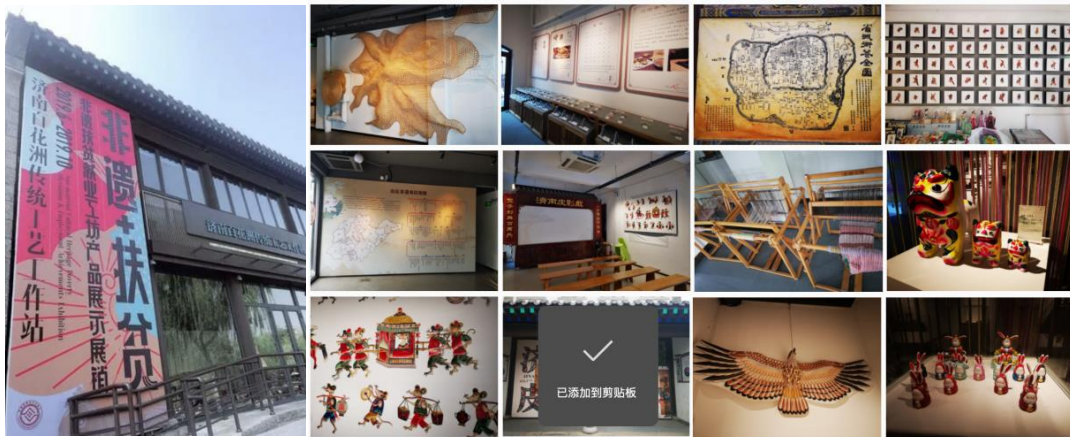
Figure 60 Rich intangible cultural heritage in the neighborhood. Source: photographed by the author.

The 2021 urban development plan of Jinan emphasizes: The development orientation of the historical blocks, with Baihuazhou as the focus, is to transform the traditional historical and cultural blocks into areas that create historical and cultural sceneries, interpret the characteristics of local customs and traditions, reproduce contemporary urban life, offer unique cultural tourism experiences, and highlight a distinctive brand effect. Based on maintaining the style of the old city and the historical and humanistic environment, implementing the protection plan for the historic district has restored to the maximum extent possible the historical characteristics of the ancient city of Jinan, where springs and human settlements live in harmony with each other. This is envisioned as "Jinan's urban renewal demonstration area, a distinctive historical and cultural block, and a renowned tourist destination in the north" (Jinan Municipal People's Government Website, 2022), (Figure 61).

Figure 61 Rich folk-art activities. Source: photographed by the author.

4.1.2.1.2 Analysis of the Baihuazhou historical and cultural block area

Located in the old and rundown area of Jinan city (the first urban renewal demonstration block in Jinan), this block has undergone optimization and transformation to breathe new life into many cultural relics, historic streets, and time-honored businesses. The block focuses on creating an atmosphere of traditional historic neighborhoods and is centered around the branding goal of becoming a "cultural and tourism-oriented commercial block." It fully taps into historical and cultural elements, attracting numerous unique businesses, and diversifying its offerings. Forming an innovative neighborhood integrating play, leisure, handicrafts, and shopping from an experience perspective (Figure 62).

Figure 62 Functional zoning of Baihuazhou Street. Source: drawn by the author.

4.1.2.2 Field inspection and analysis of user feedback results
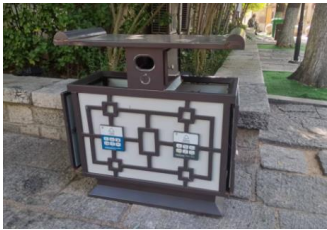
4.1.2.2.1 Field inspection

Based on the group survey, an on-site survey was conducted on the plot of land. At present, the overall visual appearance of the block needs to have unified planning. There are few signboards in the streets and alleys, and the guidance system needs to be standardized. In addition, the number of public facilities in the block needs to be increased, and the overall area needs to be cleaner. See the table below for details. At present, the overall visual appearance of the block needs to have unified planning. There are few signboards in the streets and alleys, and the guidance system needs to be standardized.

In addition, the number of public facilities in the block needs to be increased, and the overall area needs to be cleaner (Table 13):

Table 13 Pictures of Baihuazhou field research

Category	Capture photos	Analysis of existing programs
1.Signage		The block has no specific LOGO design, only three font designs, and no other major design elements have been added. The historical association of the block is not high, which affects the general public's association with the brand value of the Baihuazhou historical and cultural block, and lacks visual guidance.
2.Entrance		Traditional Chinese architecture is the main visual image; wood-like materials are used. Architectural elements, gatehouses, and sculptures are used to highlight a certain regional culture.
3. Navigation map system		The neighborhood map is still a hand-drawn draft, and the visual perception is relatively blurry. There are no functional features, and the text and pictures lack standardization. The language is single and the writing is inaccurate.
4.Identification guide system		There is no formal beauty, lack of interest and innovation, inconsistent style, aging structural style, and inconsistent block image.
5.Direction guide system		Using wooden materials with Chinese scenic spots and direction signs, lacking the use of English characters, is not comprehensive enough in actual functional use, and lacks the aesthetic feeling of form.
6.Space guidance system		The recognition is weak, making it impossible for tourists to quickly and accurately locate the target location, and the aesthetic feeling of the form is insufficient.
7.Block public rest area		The combined structure of wood and stainless steel becomes the rest seat of the block, which lacks the personality of the block, and the facilities of the public rest area in the entire block are not uniform.

8.Neighborhood public health facilities		The design lacks aesthetics, the design style is not uniform, the local cultural characteristics are not obvious, and the explanatory text is too small.
9.Street Sculpture		Generally speaking, the sculpture better presents the culture of the block, enriches the humanistic characteristics of the block, and becomes a unique background wall for tourists to take pictures of scenic spots, deepening the impression of tourists. The disadvantage is that it is relatively old-fashioned and traditional, and the form is simple.
10.Cultural and creative products		It cannot be called a tourist cultural and creative souvenir in the actual sense, and it does not have the significance of collecting and representing scenic spots. The tourist cultural and creative souvenirs of Baihuazhou are still blank, which needs to be considered in the overall visual image design.

4.1.2.2.2 Survey results on target audience awareness

In response to the current visual image of Baihuazhou, the research team conducted a questionnaire survey to gauge the perception and awareness of the Baihuazhou block among visitors and residents of the area.

Research objective: To understand the level of awareness of Baihuazhou's image among tourists and residents in the block.

(1) Survey participants: The field research primarily took place in the Baihuazhou block in Jinan. Three members of the research team distributed questionnaires within the block.The online survey was mainly conducted by sharing a questionnaire link via Wenjuanxing (An online survey platform).

(2) Key survey content: Respondents' basic information (including gender, age, education background, occupation, etc.); respondents' level of knowledge about Baihuazhou, how they came to know about it, and their preferences for the design of Baihuazhou's brand visual image.

Survey results analysis: The statistical data from the survey on Baihuazhou's brand visual image revealed that 77% of respondents were in the 21-45 age range, with relatively high professional qualifications and educational levels. They

showed a strong interest in various tourist attractions and projects in Baihuazhou. Color preferences mostly leaned towards colors that reflect regional or traditional culture, and the overall design style tended to blend elements of Chinese traditional culture with modern (Table 14).

Table 14 Awareness statistics table

No.	Survey category	Conditions	Percentage
01	Ratio of interviewed men and women	Men	39%
		Women	61%
02	Respondents' age range	Under 20 years old	11%
		21-35 years old	44%
		36-45 years old	33%
		Over 46 years old	16%
03	Type of jobs	Staff	12%
		Government staff	21%
		Student	26%
		Other	9%
04	Respondents' education	Junior high school	8%
		High school	20%
		College and above	43%
		Other	18%
05	Depth of knowledge	Do not understand	15%
		Less	47%
		More	28%
		know very well	10%
06	Ways to understand	Television	9%
		Network	45%
		Understand after travel	37%
		Other	9%
07	Tour time	Within 30 minutes	16%
		30 minutes - 1 hour	22%
		1-2 hours	41%
		More than 2 hours	7%
08	Initial impression	Natural	38%
		Traditionally	27%
		Historical	12%
		Innovative	18%
		Special	9%
09	Visibility satisfaction	Satisfied dissatisfied	16%
		Dissatisfied	32%
		Basically satisfied	19%
		Satisfied	10%
		Satisfied Satisfied	13%

When incorporating brand image into urban historical and cultural blocks, the most appealing visual elements, according to the survey results, can be categorized

into three main options. Among them, city landmarks or symbols account for 29%, the regional cultural characteristics of the block account for 26%, and both traditional folk customs/arts and local color account for 17% (Figure 63).

VISUAL ELEMENT SELECTION
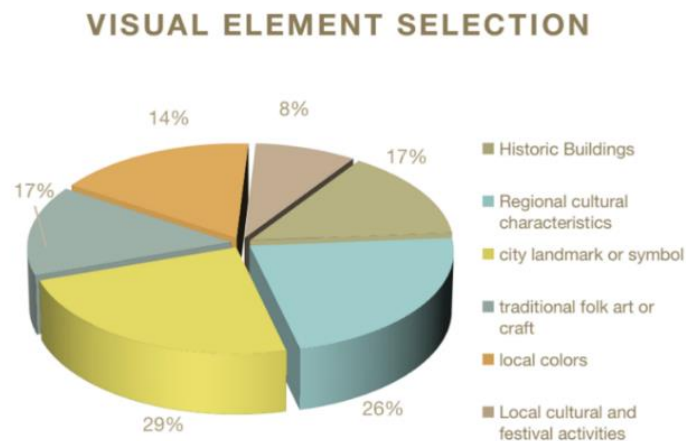
Figure 63 Statistics on brand visual design tendencies of audience groups. Source: drawn by the author.

The research results for the perception of visual symbols and colors in Baihuazhou are shown in the following figure. In terms of the presentation of visual symbols, the combination of graphic and text has the highest proportion, reaching 64%. Regarding color perception, there is a preference for regional cultural colors and traditional cultural colors, accounting for 36% and 32% respectively. The overall style tends to combine traditional and modern elements (Figure 64).
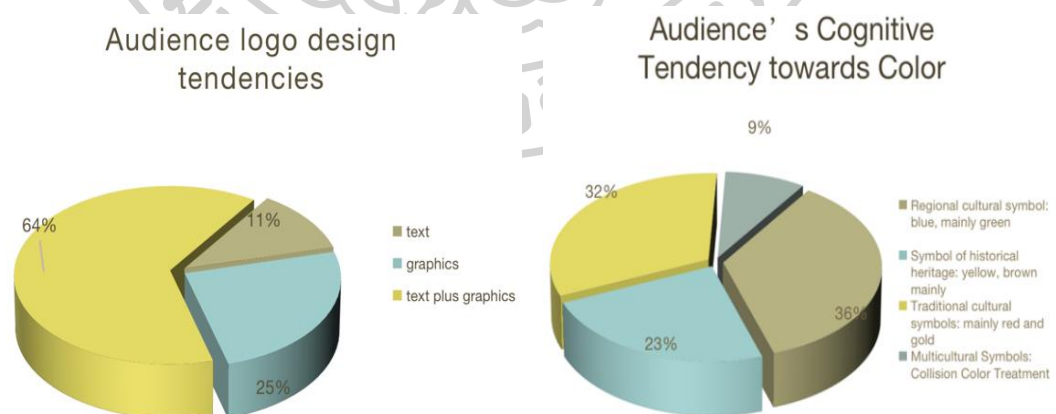
Figure 64 Audience brand visual symbols and color tendencies. Source: drawn by the author.

Based on the research data on whether signage and wayfinding information contribute to understanding the historic block and serve as practical guides, the visual

signage in the block did not lead to a significantly higher level of awareness among the participants. Regarding the overall experiential perception of the block from the participant's perspective, 41% of the respondents rated it as average. This indicates that people are still concerned about whether the block can provide them a good experience during their visit (Figure 65).
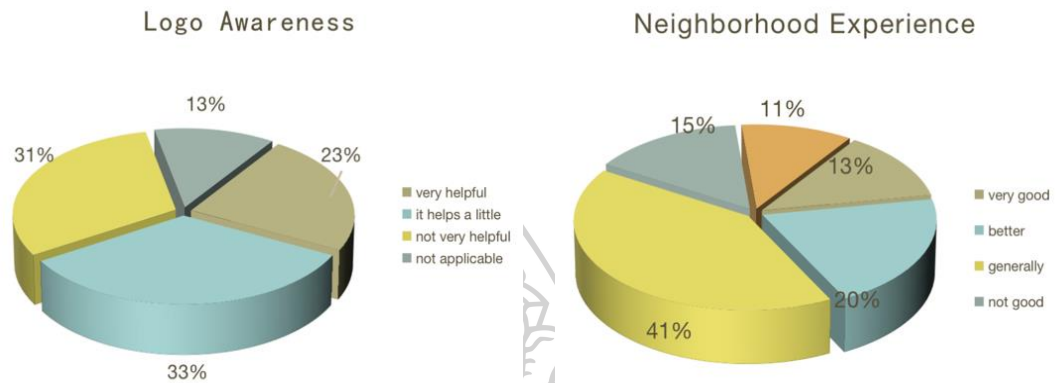
Figure 65 Audience brand visual identity and satisfaction statistics. Source: drawn by the author.

Based on the research data on how consumers can enhance the positive experience brought by the brand in the historic and cultural block through improvements or changes, we can clearly see that the majority of consumers' experiential satisfaction in the block is mainly related to effective visual communication (information dissemination), interactive experiences, and feedback and evaluation. Consumers also exhibit a strong interest in wayfinding guidance, the development of peripheral products, and cultural exchanges (Figure 66).
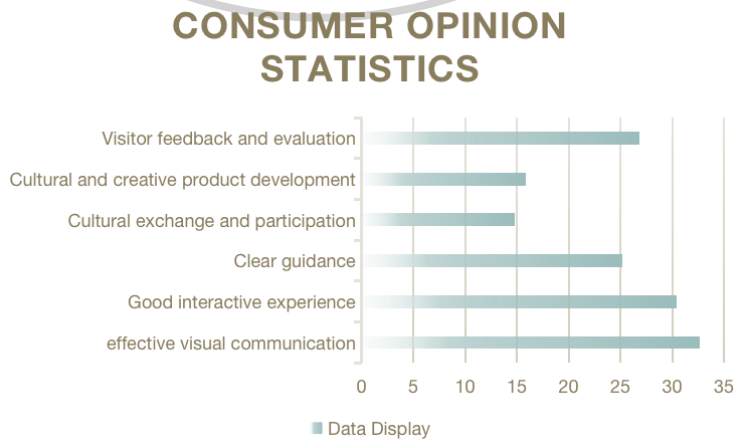
Figure 66 Feedback and suggestions from neighborhood consumers. Source: drawn by the author.

Based on the analysis of the survey, it is important to consider the needs and preferences of the target audience when designing a brand for a historical block. Understanding the target audience's requirements for the brand design of the historical block is crucial. The following summarization and conclusions can be made based on the research data (Table 15):

Table 15 The specific needs of the target audience for the brand design of Baihuazhou's history and culture

| Needs	Description
Authenticity	Visitors to historical landmarks are typically seeking authentic and immersive experiences. They want to travel through time and immerse themselves in the local history and culture. The brand design should reflect this authenticity and create a sense of history and heritage.
Accessibility	Provide clear and comprehensive signage, maps, and information boards that highlight the historical and cultural significance of the area. Visitors to the site are often interested in learning about the region's geography and culture. The brand design should offer clear and concise information about the historical significance of the location and any important events or figures associated with it, along with clear signage and way finding systems to help visitors navigate the area easily.
Experience	Visitors are typically looking for interactive and engaging experiences. The brand design should incorporate elements that encourage visitors to explore the site and interact with it, such as interactive exhibitions, guided tours, or hands-on activities. Consider unique experiential activities like workshops, demonstrations, or interactive exhibits that actively involve visitors in local cultural activities.
Innovation	The visual design of the historical and cultural block can attract visitors in a fresh and captivating way, fostering a deeper appreciation of the past and creating memorable experiences that bridge the gap between tradition and innovation. It should also pay attention to styles that appeal to younger audiences.
Products	Visitors to historical landmarks often want to take their experiences home with them. The brand design should include elements that make it easy visitors to purchase souvenirs or other memorabilia, such as gift shops or online stores.
Feedback and evaluation	Regularly collect feedback from visitors to understand their experiences and identify areas for improvement. Implement an assessment mechanism to facilitate necessary enhancements based on evaluations.

4.1.2.2.3 Summary of Baihuazhou brand visual image design status

(1) Low awareness of brand visual image

Field inspections and user research have shown that Baihuazhou lacks a distinct and unique visual image in its external promotion. Audience in the block have expressed a lack of understanding or any concept of the brand visual image, and there hasn't been a complete symbolic system or even a branded visual image. The reason for this is that most of the planning and development activities were carried out by

professional researchers and designers, with little involvement from local residents. As a result, the development and construction process has led to a passive state for the brand visual image in terms of design, expression, and display.

(2) Lack of basic guidelines for brand visual image

In the process of development, Baihuazhou lacks compelling cultural visual symbols. It has not distilled graphic or textual elements that can represent its regional characteristics, nor has it established basic specifications and standards for auxiliary graphics and application guidelines that reflect the overall image. As a result, the current state of the block fails to showcase its distinctive features. The promotion of a brand's visual image involves presenting the unity of core and application elements to the audience. However, achieving this unity requires standardization and guidelines for the block's basic elements, ensuring coherence and consistency in the visual image design process. During the field research in Baihuazhou, there was a lack of observed standardization and auxiliary graphic design for the overall image of the block. This is an urgent issue that needs to be addressed in Baihuazhou.

(3) Disarray in the application system of the brand visual image

During the field research in Baihuazhou, it was discovered that there was insufficient emphasis on the brand's visual image. In the development process, there was a lack of attention to brand construction, especially in the initial stages. Some basic public identification systems and visual wayfinding systems were simply modified and directly applied to the block. While they served their basic functions, their unique characteristics and advantages were overshadowed. This not only resulted in a traditional and outdated appearance, but also wasted an opportunity to effectively showcase the regional cultural context.

(4) Lack of distinctive personality charm in the brand visual image

Although Baihuazhou is rich in resources, its business format shares many similarities with other historical and cultural blocks in China. While it can attract tourists through its connection to major cities, it may give them a feeling of familiarity and lack of uniqueness. Therefore, the design of the brand's visual image should not be based on a standard template but should place particular emphasis on the distinctive characteristics of the block's brand construction. Establishing a branded visual image for Baihuazhou requires highlighting local cultural context and creating a distinct

personality image that permeates the design with differentiation and uniqueness. Additionally, it is important to accurately position the brand image, closely aligning it with the core elements and key factors of Baihuazhou.

4.1.2.3 Brand positioning and planning proposal

Based on the recommendations of the experts mentioned above, the researchers propose the brand positioning and preliminary plan for Jinan Baihuazhou Historical and Cultural Block:

4.1.2.3.1 Brand image positioning

Through preliminary analysis, establishing the core values of the block brand, creating identification symbols based on these core values, and capturing the regional cultural characteristics, the block will gradually establish its brand image. It is important to define its distinctive positioning to avoid brand homogeneity. Based on the local context, a "brand support - urban experience folk culture block revitalization model interconnected by springs" is proposed. Keeping in mind the rich local cultural heritage, spring culture, and heritage culture, the concept of "organic revitalization" is introduced, gradually forming a strategy that is relatively comprehensive and adaptable for protecting and developing intangible cultural heritage brands in the block (Figure 67).

Brand name: Baihuazhou Historical and Cultural Block

Brand positioning: "An Experiential Folk Historical and Cultural Block Interconnected by Springs"
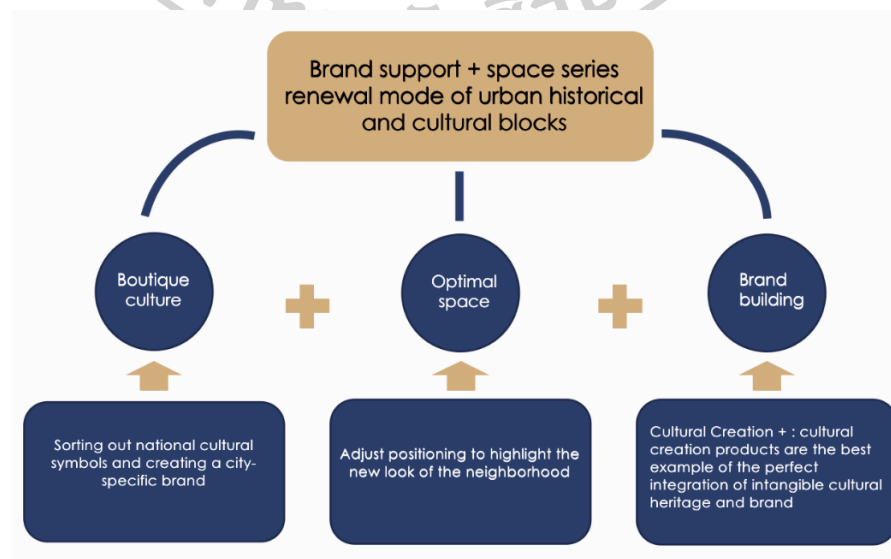
Figure 67 Historical district renewal model. Source: drawn by the author.

4.1.2.3.2 Brand image construction strategy

Based on preliminary field research, expert interviews, and the brand image model, the researchers have formulated a strategy for the visual image construction of the intangible cultural heritage brand of Baihuazhou. This strategy encompasses several key aspects:

First, the preliminary establishment of a brand resource repository. This involves searching for cultural elements, collecting data, and refining the selection process to identify representative graphical symbols, original graphical symbols of the block, cultural heritage categories and quantities, and the most frequently used graphical elements in the current visual design of the block.

Second, the refinement of essential design elements. Through field surveys, questionnaires, expert interviews and other methods, and based on a comprehensive understanding of the block's situation, the main design elements that represent the visual image of the block are determined through repeated comparisons. The main design elements identified in this study include urban, cultural heritage, block, and spring elements. Determine the exact composition of the brand identity, including the logo, colour matching, shape, font, etc. Refine the purpose and specifications of the brand identity and clarify how it will be used across different media and platforms.

Third, the exploration of the rules governing its brand visual image design. By employing a case analysis approach, the research examines the process of establishing community brand image design, summarizes the construction process and methods of historical and cultural block brand visual design, and explores the general rules governing brand visual image design for historical and cultural blocks. This serves as a reference for this study. Using visual image design techniques to create connections and increase public participation, using appropriate colors and standard text to establish content standards, and presenting a systematic representation of the brand's visual image, thereby achieving a transition from disarray to standardization. establish a complete and comprehensive branding system for the neighborhood, including a foundation system, environmental guide system, tourist navigation map, and neighborhood cultural and creative products.

the study concludes with a systematic brand image design strategy, as shown in the diagram, The general rules of brand visual image design for historical and

cultural blocks are drawn, including the basic principles of design, the impact of community participation, the integration of artistic elements, etc. These laws will guide future community brand image design and promote the sustainable development of historical and cultural blocks (Table 16).

Table 16 Baihuazhou historical and cultural district brand image building plan

Block Name	Brand positioning	Logo design	Color preference	Key visual display components	Interactive experiential formats in the block
Brand Design for "Baihuazhou" Historical and Cultural Block	"An experiential folk culture street intertwined with springs."	Text and graphics	Regional cultural symbolic colors and traditional cultural symbolic colors	①Logo/Supplementary graphics ②Well-developed spatial wayfinding system ③ Scenic panoramic map	① Culture experience activities centered around workshops ② Mobile/PC platforms ③ Arge-scale exhibitions ④ Creative product design in the surrounding area.
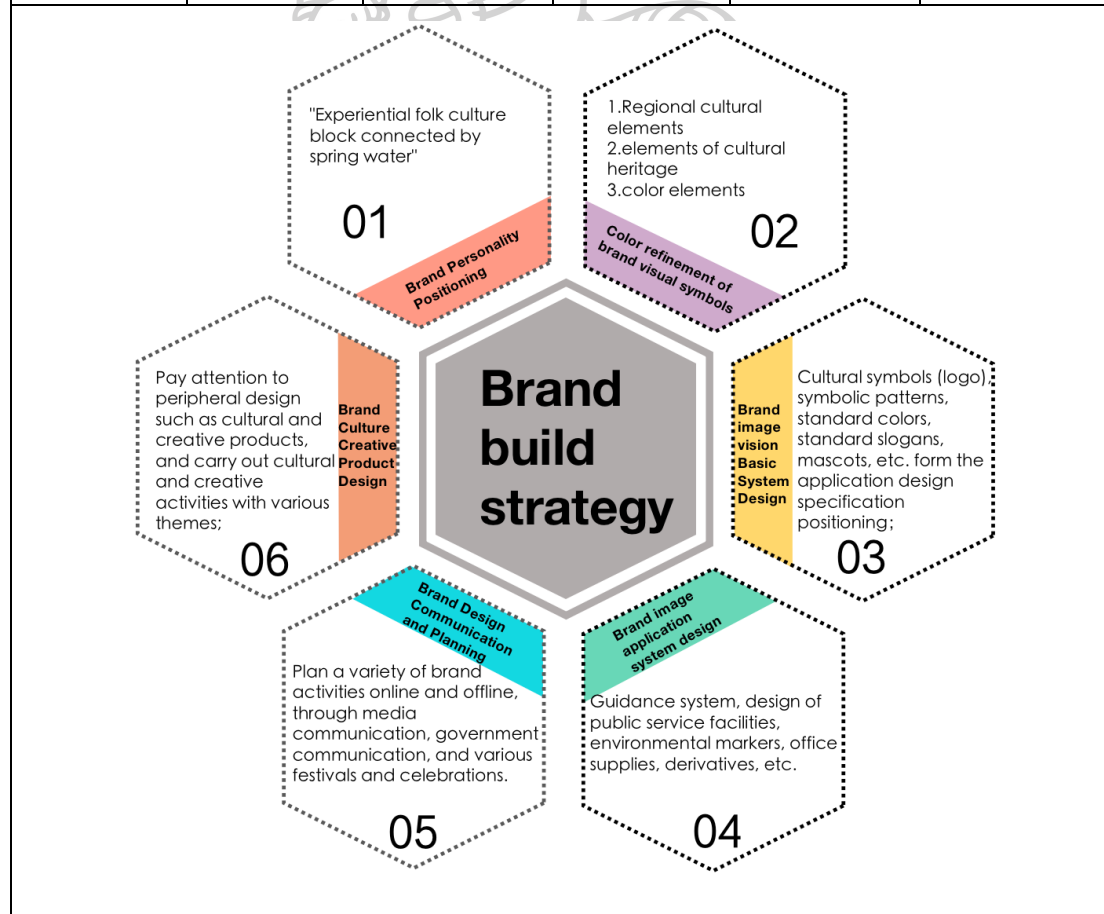
4.1.3 Expert interview results analysis

Based on the brand image construction strategy developed by the researchers, the opinions and feedback provided by the expert panel are as follows, as shown in the table (Table 17):

Table 17 Expert interview results

Number	Content	Expert recommendations and feedback
Feedback 1	Preserving authenticity	Experts emphasized the importance of preserving the authenticity of historic and cultural blocks. They recommended that extra care be taken in any renovation or development to maintain the original architectural style, materials and layout of the area. This includes preserving historic buildings, facades and streetscapes to retain the charm and character of the neighborhood.
Feedback 2	Visual symbol selection	Regional cultural elements: Spring culture, Qilu culture, Intangible cultural heritage, Literati culture, Architectural culture
		Material cultural heritage Intangible cultural heritage
Feedback 3	Brand visual design	Expert advice suggests understanding the preferences and expectations of the target audience to create a design that resonates with them. For example, if the block is targeting young students, their common characteristic is an affinity for novelty, a desire for cross-cultural experiences that blend traditional culture with contemporary trends, and a quest for a unique brand tone in traditional culture. The design can incorporate playful illustrations or vibrant colors to create a fun and engaging atmosphere.
Feedback 4	Environmental functional factors	Expert advice recommends creating well-designed signs, plaques, and interactive displays that provide historical and cultural information related to the block. Guiding visitors to understand the area's background and historical evolution adds educational value to the visitor experience. 1) In terms of design planning, the structural relationship between the block and the environmental spaces is clearly defined, creating a distinct signage system for the tourist block with clear zoning and thoughtful organization. 2) In terms of concept, respect for the region, respect for life, and a focus on the uniqueness and humanity of regional cultural characteristics are emphasized. Additionally, appropriate colors are chosen as the primary design elements, aligning with the block's characteristics while harmonizing with the surrounding environment, highlighting a cultural positioning that blends with nature and the surroundings. 3) In terms of user-friendliness, block signage should be placed in easily found and convenient locations for visitors. If there are multiple suitable locations, the one that requires the most explanation and is most attractive to tourists should be chosen.

Through analysis, the current direction of brand development for historical urban blocks in China has been clarified. The preservation of historical blocks is crucial for urban renewal, so it is necessary to protect and reasonably utilize and develop blocks with historical characteristics during the renewal process. Several cases have described this type of brand development approach from the same perspective and are representative. Achieving urban sustainable renewal from historical context, tourism, and ecology can provide some reference value for the researchers' future studies.

By following expert recommendations, the brand visual design for historical and cultural blocks can successfully capture the essence of the block, create a cohesive brand identity, attract the target audience, and emphasize the visitor experience. A well-designed brand can increase the block's visibility, attract more tourists, and provide people with memorable and enjoyable experiences.

The final brand positioning for Baihuazhou in Jinan City is as follows: to optimize the layout of businesses, positioning is demand-driven, addressing shortcomings, adding facilities, and improving the environment continually. This aims to increase the sense of acquisition, experience, and satisfaction for both residents and tourists. It also comprehensively protects and enhances the overall appearance and artistic taste of the block, showcasing Jinan's urban and cultural characteristics. This effort is intended to promote the development of tourism and cultural industries, transforming Baihuazhou into a vibrant cultural and leisure area, a vacation destination, a nationally renowned historical and cultural block, and a well-known cultural tourism destination in China. It will be developed as a demonstration area for urban renewal that integrates heritage culture, folk customs, local life, and cultural tourism, making it one of Jinan City's cultural, educational, and tourism windows.

4.1.4 Element extraction of brand culture elements

According to the brand image model, in order to plan a brand for the intangible cultural heritage district with regional cultural characteristics, it is necessary to identify cultural elements that can support the brand connotation and establish a dedicated database for brand design. The brand of Baihuazhou originates from the urban renewal project of Baihuazhou Historical and Cultural District in Jinan City, Shandong Province. In addition to its own brand personality elements, it also needs to reflect the regional characteristics and the cultural heritage of Jinan City, which are the

two major cultural elements. In this section, through focused group interviews and cultural image cognition experiments, the cultural elements that are most strongly perceived by the audience are selected. Based on this, a dedicated database for brand-specific cultural elements and colors is established, providing a foundation for the subsequent brand construction.

4.1.4.1 Regional cultural elements of Baihuazhou

4.1.4.1.1 Analysis and initial selection of regional cultural elements

(1) Overview of regional cultural elements

Regional culture includes both visible aspects such as distinctive architecture and natural landscapes, as well as cultural forms with regional characteristics such as traditional handicrafts，lifestyle habits, written language, and social customs (Hui & Xin, 2017). Regional culture is the product of the joint interaction of people, environment, and society under a long-term historical environment. It is also essential in shaping a brand image with regional cultural elements. Scholars have different levels of distinction in the composition of regional cultural elements. Foreign scholars divide regional culture into two levels: explicit and implicit (Kroeber, 2000), and it can also be divided into two levels: objective and subjective, it can also be divided into material form and ideology (Picard, 1997); domestic scholars divide it into surface, middle, and deep layers, including material culture, behavioral culture, social culture, and psychological culture (Yan et al., 2009).

The cultural regional elements are that establish a branded historical and cultural district with regional cultural characteristics, which is necessary to first seek cultural elements that can support the brand's connotation and establish an exclusive database. The Baihuazhou intangible cultural heritage brand originates from the old city district of Jinan, Shandong Province. In addition to its own brand personality elements, it also needs to embody two cultural elements: regional humanistic characteristics and cultural heritage resources of Baihuazhou. Based on this, an exclusive symbol database is established to provide a foundation for brand construction in the future. This article divides the regional cultural elements of Baihuazhou into five categories, namely: street style, distinctive architecture, plants, folk customs and festival celebrations according to the division method of explicit and implicit levels proposed by experts. The table is as follows (Table 18).

Table 18 The dominant and negative genes of Baihuazhou regional culture

Dominant	Recessive
Street style	Folk customs
Characteristic building	Festival celebration
Plant	百花洲

(2) Classification of regional cultural elements

Through on-the-spot investigation, interviews and the collection of publicly available information on the local government website, the author has gathered and organized the explicit regional cultural elements of Baihuazhou. Preliminary selection has been made for elements that possess relatively distinctive regional cultural characteristics, and their names are listed in the table (Table 19).

Table 19 Baihuazhou regional cultural element

	Category	Name
Dominant element	Street style	Liujiequan lane, County west lane, Qushuiting street, Yuhe lane, etc.
	Characteristic building	Fuxue confucian temple, Ming and Qing houses, Baihuazhou theater, Dabindi, Baixuelou, Christian church, Yuheju, Zhilandi, etc.
	Plant	Lotus, bamboo, yew, chrysanthemum, chrysanthemum, special-shaped jade leaf golden flower, scorpion three-pointed fir, magnolia officinalis, camphor, bald fir, eucommia, gastrodia elata, notoginseng, bellflower, wild camellia oleifera, etc.
	Spring water element	Houde spring, Pearl springs, Wangfu pool, Zhuoying spring, Zhongyi spring, Jiujiao spring, Yudai river, Liubei pool, etc.
Invisible elements	Folk customs	Intangible cultural heritage group, Calligraphy and painting studio, Iron pen and porcelain rhyme, Lotus rhythm and spring fragrance, Plant dyeing han workshop, Hundred flower art store, Danqing inner painting, Sea nuclei sculpture, intangible cultural heritage exhibition hall, Crossword puzzles, River lanterns, Stilt walking, etc.
	Festival celebration	Intangible cultural heritage New Year's goods collection, "Shandong Spring Festival Gala" Baihuazhou branch venue, "Qushui Liushang" wine cup competition, "Ingenuity Intangible Cultural Heritage · Exploring Qilu" Shandong intangible cultural heritage food selection activity, "Street Corner Theater" intangible cultural heritage performance activity wait,etc.

(3) Focus group discussion - Cultural cognition intention experiment - discussion on cultural elements

Steps of the focus group discussion:

Step 1: Research on design.

Step 2: Design questions, organize interviews, collect materials and gather information.

Step 3: Analyze and interpret the collected materials.

Step 4: Draw conclusions and submit a report.

This study invited eight people (5 are professors and associate professors of Arts and Crafts 3 are brand designers from school-enterprise cooperation units) to form a focus group to conduct cultural image cognition experiments, They conducted a cultural imagery cognition experiment, primarily discussing the "Regional Culture + Cultural Heritage Elements" of Baihuazhou. During this discussion, elements with low impression and those that were not easily symbolized were preliminarily eliminated. The total duration of the discussion was 3 hours.

Based on the conclusions drawn from the table, this experiment primarily focused on the selection of elements from three aspects: regional culture, material cultural heritage and intangible cultural heritage.

Based on the classification of Baihuazhou regional cultural elements in the table, not all elements are suitable for subsequent brand design. Therefore, on this basis, a focus group discussion was conducted to preliminarily eliminate element names with low regional cultural imagery and those that were not easily symbolized. The discussion lasted for 1-2 hours, and the author documented the relevant information. The cultural symbols with the highest cognitive recognition in the experiment were selected for application in later design practices (Figure 68).

Figure 68 Focus group discussion. Source: photographed by the author.

According to the discussion results, experts in the field of brand design believe that most of the hidden elements of Baihuazhou regional culture are events that are not suitable for the transformation of graphic symbols and are not suitable for design and use in later brand construction; the familiarity of the three brand audiences with the hidden elements It is low. Except for the local folk customs, it is difficult for other elements to generate the recognition of Baihuazhou's regional cultural image. Brand founder Li Qian believes that although "Baihuazhou" needs to reflect local culture, the brand's positioning is to let the world understand the beauty of China.

Its promotion scope is more comprehensive than Jinan, so brands should choose regional cultural elements familiar to audiences outside of Baihuazhou. The result of the focus group discussion is that the brand regional cultural elements database should mainly focus on the neighborhood style, characteristic buildings, and plants among the explicit elements. These elements are suitable for symbol transformation and later brand construction and have relatively regional solid cultural imagery cognition (Table 20).

Table 20 The regional cultural elements of Baihuazhou selected by the focus group

Ategory	S/N	Name	Image	Ategory	S/N	Name	Image
Street style	01	Qushui ting street		Plant elements	12	Lotus	
	02	Yuhe lane			13	Bamboo	
	03	County west lane			14	Yew	
	04	Fuxue confucian temple			15	Celebrity culture	
	05	Ming and Qing houses			16	Dyeing workshop	

Architectural style	06	Church			17	Intangible heritage theater	
	07	Yuheju		Cultural and folk customs	18	Chinese medicine exhibition hall	
Spring water element	08	Pearl Springs			19	Lantern festival	
	09	Houde quan			20	Baihua station	
	10	Wangfu pond		Festival celebration	21	Collection intangible cultural heritage new year goods	
	11	Yudai river			22	Baihuazhou performances	

4.1.4.1.2 Analysis and screening of regional cultural symbols in Baihuazhou for cultural cognitive cntention

1. Introduction to cultural cognitive intention experiment

For brand positioning in regional cultural elements, the core content is how to effectively convey the imagery of regional culture to the target consumers. In words, it is about aligning the imagery of regional culture with the needs of the target consumers, thereby empowering the brand to the maximum extent (Yuwei, 2018). Cultural imagery refers to specific images that are formed by the creator's emotional processing and become artistic representations (Wensheng, 2004). Empowering brand imagery means that the brand can connect the regional cultural essence and spirit of a place with the needs of the target consumers, find one or more points of resonance, utilize the unique cultural imagery of the place to endow the brand with cultural connotations and spirituality, shape the brand image, enhance the brand value, and

generate curiosity and emotional resonance among consumers towards the place, ultimately forming a sense of identification with the brand.

Cognitive intention refers to the subjective perception that an individual has towards objective things. In the case of the Baihuazhou brand, it targets both domestic and international customers. Therefore, the regional cultural elements it uses must evoke a strong cognitive intention of Baihuazhou culture among wider customers. In this research on cultural cognitive intention experiment, it refers to the associations and psychological feelings evoked by the images of regional culture listed in the table, specifically among non-local customers (primarily tourists).

In the study, the Likert's 5-point scale method is employed to invite participants to rate the 22 selected regional cultural element images of Baihuazhou, as listed in the table. The participants will subjectively evaluate the level of acceptance of Baihuazhou cultural imagery depicted in these images. The rating scale used consists of 5 response levels: A higher score indicates a stronger cognitive recognition of Baihuazhou cultural imagery generated by the respective regional element.

2. Experimental procedure

(1) Create a questionnaire and PPT presentation. Number the 54 "Regional Culture + Cultural Heritage" elements sequentially, and incorporate them into the PPT as images. The rating criteria in the questionnaire should reflect the participants' level of acceptance of the "Regional Culture and Cultural Heritage Resources" cultural imagery associated with each element. The numbering of the elements in the PPT corresponds accurately to the numbering in the experimental questionnaire to ensure the accuracy of data (Figure 69).

Figure 69 Cultural intention cognition experimental scale. Source: produced by the author.

(2) Invite participants to participate in the experiment. A total of 150 participants were invited to participate in this cultural cognitive intention experiment. The age range of the participants, from 21 to 45 years old, matches the target customer group of the Baihuazhou brand.

(3) Experimental procedure. Before the start of the experiment, the researcher introduced the theoretical concept of cultural imagery to the participants. Then, the PPT with the imported cultural elements was played, and each element was presented one by one. Each participant was required to rate the cultural imagery displayed by each element. The duration for each cultural element image to be displayed was approximately 10 seconds.

(4) The entire process lasted approximately 7 working days and took place in the lobby of the Baihuazhou Traditional Craft Workshop. The researcher, along with two team members, conducted the experiment on-site, asking questions and recording responses.

(5) Analyze questionnaire. The experiment was conducted smoothly, with a total of 150 questionnaires distributed. Out of these, 146 valid questionnaires were collected. The data from these valid questionnaires were statistically analyzed, and the final scores represent the average level of acceptance of each cultural element by the participants. After organizing and analyzing the data, a cultural cognitive intention questionnaire for Baihuazhou in Jinan was compiled (Table 21).

Table 21 Cultural intention cognition scale

S/N	Regional cultural elements	Score	S/N	Regional cultural elements	Score
01	Qushuiting street	2.54	12	Lotus	2.99
02	Yuhe lane	2.78	13	Bamboo	1.22
03	County west lane	1.21	14	Yew	1.23
04	Fuxue confucian temple	1.98	15	Intangible heritage group	2.51
05	Ming and Qing houses	1.96	16	Celebrity culture	2.33
06	Church	1.32	17	Baihuazhou theater	2.44
07	Yuheju	2.10	18	Chinese medicine exhibition hall	1.76
08	Pearl springs	1.98	19	Lantern festival	1.92
09	Spring	3.01	20	Baihua station	1.56
10	Wangfu pond	1.66	21	Collection intangible cultural heritage new year goods	1.34
11	Yudai river	1.86	22	Baihuazhou performances	1.90

4.1.4.1.3 Experimental results

Based on the results of the cultural cognitive intention experiment, the level of acceptance of Baihuazhou cultural imagery was statistically ranked for the 22 regional elements. The analysis revealed that spring water ranked the highest, followed by lotus, Curved Water Pavilion Street, intangible cultural heritage cluster, Yu He Ju, and Baihua Theater among other street features. Traditional architecture and plant categories ranked relatively low, with many elements in these categories scoring below the average value of 2.0. Therefore, the lotus and spring water elements, as well as street cultural elements, received the highest level of acceptance in terms of cultural imagery. The top ten regional elements in terms of acceptance of Baihuazhou cultural imagery are ranked and listed in the table, which will be included in the exclusive cultural element database for the Baihuazhou intangible cultural heritage brand (Table 22).

Table 22 Regional cultural elements cultural image recognition ranking

S/N	Regional cultural elements	Score	S/N	Regional cultural elements	Score
01	Spring	3.01	06	Baihuazhou theater	2.44
02	Lotus	2.99	07	Celebrity culture	2.33
03	Qushuiting street	2.54	08	Fuxue confucian temple	1.98
04	Fuxue confucian temple	2.51	09	Ming and Qing houses	1.96
05	Yuheju	2.10	10	Lantern festival	1.92

4.1.4.2 Baihuazhou intangible cultural heritage elements

4.1.4.2.1 Analysis and preliminary selection of intangible cultural heritage elements

The same as above, the author conducted on-the-spot investigation, in-depth interviews and combined publicly available information from the local government website to conduct a preliminary analysis based on the current development status and categories of Baihuazhou intangible cultural heritage. Learn more about its cultural background and historical origins. Explore the origin and development of this heritage in social, religious, economic and other aspects, and

understand its profound cultural connotation. The statistics were undertaken considering the proportions of various categories, including arts and crafts, traditional opera, traditional skills, traditional medicine, folklore, traditional dance, traditional sports and folk literature. Through an in-depth analysis of these elements, the core elements crucial to the protection and inheritance of intangible cultural heritage can be initially screened out, providing strong support for formulating protection and inheritance plans. The author preliminarily selected elements that demonstrated relatively distinctive features of intangible cultural heritage. These symbols are often important media for inheritance and have special cultural significance (Table 23).

Table 23 Elements of intangible cultural heritage resources in Baihuazhou

S/N	Category	Name
01	Art and craft	Jinan micro-carving, Jinan dough sculpture, clay rabbit king, Jinan paper-cut, Shehuo facial makeup, Jinan carved porcelain, gourd carving, Tang brocade color, mahogany carving, Jinan clay sculpture, tin carving, Laiwu wooden New Year pictures, iron art, embroidery, batik, etc.
02	Traditional opera	Liuzi Opera, Wuyin Opera, Shandong Bangzi, Mixi, Wangpi Opera, Pingyin Puppet Show, Jinan Lv Opera, Jinan Nanjing Opera, Puppet Show,etc.
03	Traditional skills	Lu embroidery, Zhangqiu black pottery making technology, willow weaving technology, Lu brocade, Baimaiquan traditional wine making technology, Zhangqiu iron pot forging technology, paste fragrant peanut oil making technology, old Jinan tempeh, grass weaving technology, etc.
04	Traditional medicine	Hongjitang traditional Chinese medicine culture, Zhang's bone setting, Dong'e donkey-hide gelatin production technology, jade-style burn therapy, etc.
05	Folklore	Qianfo Mountain Temple Fair, River Lantern Festival, Lantern Festival, Ghost Festival Customs, Wenfeng Mountain Fair, Qishan Temple Fair, etc.
06	Traditional dance	Zhangqiu Dragon Dance, Zhangqiu Yangko, Qiaojia Stilts, Front Street Dragon Dance, Guzi Yangko, Huagu Gongzi, etc.
07	Traditional sports	Jinan Bagua Taijiquan, Jinan Bajiquan, Xingyiquan, Taiji Tanglangquan, etc.
08	Folk literature	Legend of Daming Lake, Legend of Shun, Legend of Jinniu, Legend of Qin Qiong, Legend of Min Ziqian, etc;

4.1.4.2.2 Discussion on intangible cultural heritage elements

Based on the classification of Baihuazhou intangible cultural heritage resources as shown in the table, not all elements are suitable for the later stages of brand design. Therefore, building upon the previous section, a focus group discussion on the Baihuazhou intangible cultural heritage elements was conducted to preliminarily eliminate element names with low imagery and those that were not easily symbolized. The discussion lasted for 1-2 hours, and the researcher kept thorough records of the discussion points. When exploring these intangible cultural heritage elements, it is necessary to consider their role and status in community life, as well as the challenges and protection needs. Adequate protection and inheritance must comprehensively consider these factors and formulate corresponding policies and action plans to ensure they can be effectively preserved and inherited.

According to the discussion results, experts in the field of brand design pointed out that Baihuazhou has numerous intangible cultural heritage resources, with approximately over 100 different types. The preliminary selection criteria were based on the following three points:

① Scales and sessions of events or cultural exchange activities.

② Target customer and the feasibility of replication or implementation.

③ Maturity of the products or practices associated with the heritage.

During the meeting, participants shared their knowledge of these histories, the elements involved and their views on the importance of these elements. Gather diverse perspectives through free discussion. Based on these criteria, 22 images were selected, which also possess certain advantages in terms of their visual representation. They are suitable for symbol transformation and can be used in the later stages of brand construction. The focus group discussion concluded that the database of intangible cultural heritage elements for the brand should primarily consider a wide range of target customers. The reason for this is that people have a more direct understanding and reception of visual symbols in the cognitive process.

These selected elements are suitable for symbol transformation and have a strong awareness of the elements. The intangible cultural heritage resource elements selected by the focus group are shown in the table (Table 24).

Table 24 Selected intangible cultural heritage resources

Ategory	S/N	Name	Image	Ategory	S/N	Name	Image
Art and craft	01	Jinan paper cutting		Traditional medicine	12	Hongjitang traditional chinese medicine culture	
	02	Cloth tiger			13	Dong'e donkey-hide gelatin craft	
	03	Jinan dough figurines			14	Zhang's bone setting	
	04	Jinan shadow play		Folklore	15	Thousand buddha mountain temple Fair	
Traditional opera	05	Liuzi opera			16	Hungry ghost festival customs	
	06	Wuyin opera		Traditional dance	17	Drum yangko	
	07	Shandong clapper			18	Joe's stilts	
Traditional skills	08	Lu embroidery		Traditional sports	19	Eight diagrams tai chi	
	09	Wicker			20	Praying mantis fist	
	10	Black pottery making process		Folk literature	21	Legend of daming lake	
	11	Shandong cuisine cooking skills			22	Legend of shun	

4.1.4.2.3 Analysis and screening of intangible cultural heritage symbols in Baihuazhou for cultural cognitive intention

(1) Questionnaire analysis

The experiment was conducted successfully with a total of 150 questionnaires distributed. Ultimately, 146 valid questionnaires were collected. The data from these valid questionnaires were statistically analyzed, and the final scores represent the average level of acceptance of each cultural element by the participants.

In the study, the Likert's 5-point scale method is employed to invite participants to rate the 22 selected regional cultural element images of Baihuazhou, as listed in the table. The rating scale used consists of 5 response levels: A higher score indicates a stronger cognitive recognition of Baihuazhou cultural imagery generated by the respective regional element (Table 25).

Table 25 Intangible cultural heritage resource scores

S/N	Regional cultural elements	Score	S/N	Regional cultural elements	Score
01	Jinan paper cutting	2.87	12	Hongjitang traditional chinese medicine culture	2.59
02	Rabbit king	2.63	13	Dong'e donkey-hide gelatin craft	1.66
03	Jinan dough figurines	1.91	14	Zhang's bone setting	1.71
04	Jinan shadow play	2.98	15	Thousand buddha mountain temple fair	2.51
05	Liuzi opera	2.22	16	Hungry ghost festival customs	1.32
06	Wuyin opera	1.68	17	Drum yangko	2.02
07	Shandong clapper	2.10	18	Joe's stilts	1.89
08	Lu embroidery	2.18	19	Eight diagrams tai chi	1.35
09	Jinan wicker	2.06	20	Praying mantis fist	1.18
10	Black pottery making process	2.12	21	Legend of daming lake	1.66
11	Lu cuisine production	2.00	22	Legend of shun	1.68

Experimental results of cultural cognitive intention

Based on the results of the cultural cognitive intention experiment, the level of acceptance of Baihuazhou cultural imagery was statistically ranked for the 22 intangible cultural heritage elements. The analysis revealed that Jinan Shadow Puppetry ranked the highest, followed by Jinan Leather Tiger, Hongji Tang Traditional Chinese Medicine Culture, Lu Embroidery, and other distinctive resources. The top ten intangible cultural heritage resources in terms of acceptance of Baihuazhou cultural

imagery are ranked and listed in the table, which will be included in the exclusive cultural element database for the Baihuazhou intangible cultural heritage (Table 26).

Table 26 Intangible cultural heritage image recognition ranking

S/N	Regional cultural elements	Score	S/N	Regional cultural elements	Score
01	Jinan shadow play	2.98	06	Lu embroidery	2.18
02	Jinan paper cutting	2.87	07	Black pottery making process	2.12
03	Rabbit king	2.63	08	Jinan wicker	2.06
04	Traditional medicine culture	2.59	09	Drum yangko	2.02
05	Liuzi opera	2.22	10	Lu cuisine production	2.00

4.1.4.3 Baihuazhou's material cultural heritage elements

4.1.4.3.1 Analysis and preliminary selection of material cultural heritage elements

Similar to the previous sections, the author conducted field research, in-depth interviews, and combined publicly available information from the local government website to conduct a preliminary analysis of Baihuazhou's material cultural heritage based on its current development status and categories. The main material cultural heritage of Baihuazhou is concentrated in the aspects of cultural sites and traditional buildings.

Therefore, through on-site investigations, the author collected and organized 20 non-moveable cultural heritage architectural elements (Table 27).

Table 27 Baihuazhou material cultural heritage resources

S/N	Category	Name
01	Historical relics, cultural relics	Governor's Yamen in Shandong Province in the Qing Dynasty, Tibitang Theater Tower in the Qing Dynasty, Taoist buildings, General Temple, Chen Mian Zhuangyuan Mansion, Folk Museum of Quanshui Renjia, Fuxue Confucian Temple, Lingguan Temple, Shuangzhong Temple, Sun Family Mansion, Ming City Wall, Ming Dynasty Ruins of Bixia Palace, No. 17, 19, and 21 Furong Street and other traditional houses, No. 162 Furong Street, modern buildings, Fuhui Zen Forest, Christian Church on Houzamen Street, Tongyuanlou Hotel and Houzhai traditional houses on Houzamen Street, Wanjia on Houzamen Street The courtyard.

4.1.4.3.2 Discussion on material cultural heritage elements

Based on the information presented in the table, Baihuazhou's material cultural heritage resources mainly consist of architectural elements, and the quantity is limited, allowing for a comprehensive statistical analysis.

On this basis, the researcher utilized the 20 cultural heritage items as the focus of the group discussion, which lasted for 1 hour while ensuring relevant records were made.

Based on these three standards, 10 images were selected, which also have certain advantages in appearance and are more suitable for the transformation of graphic symbols. They can be designed and used in later brand construction. The material cultural heritage resource elements selected by the focus group are shown in the table (Table 28).

Table 28 Elements of Baihuazhou tangible cultural heritage resources

S/N	Name	Image	S/N	Name	Image
01	Governor's yamen in shandong province in the Qing Dynasty		06	Ming city wall	
02	Tibitang theater building of Qing Dynasty		07	Ruins of bixia palace in Ming Dynasty	
03	Taoist buildings		08	Houzaimen street christian church	
04	Fuxue confucian temple		09	Lu dahuang former residence	
05	Chen mian zhuangyuan mansion		10	Sun family mansion	

4.1.4.3.3 Selecting of material cultural heritage symbols

1. Questionnaire analysis:

The experiment was conducted successfully, with a total of 150 questionnaires distributed. Ultimately, 146 valid questionnaires were collected. The data from these valid questionnaires were statistically analyzed, and the final scores represent the average level of acceptance of each cultural element by the participants. After organizing and analyzing the data, a material cultural heritage imagery cognition questionnaire for Baihuazhou in Jinan was compiled. These symbols are related to the origins, important events or cultural traditions of the community and can truly reflect the uniqueness of the community. Please refer to the table for details (Table 29).

Table 29 Cultural heritage image cognition

S/N	Regional cultural elements	Test score	S/N	Regional cultural elements	Test score
01	Governor's yamen in Shandong province in the Qing Dynasty	2.50	06	Ming city wall	2.34
02	Tibitang theater building of Qing Dynasty	2.13	07	Ruins of bixia palace in Ming Dynasty	2.10
03	Taoist buildings	2.77	08	Houzaimen street christian church	2.92
04	Fuxue confucian temple	2.98	09	Lu dahuang former residence	1.81
05	ChenMian zhuangyuan mansion	2.90	10	Sun family mansion	1.94

2. Experimental results of cultural image cognition

Based on the results of the cultural intention cognition experiment, the level of acceptance of Baihuazhou's cultural imagery for the 10 material cultural heritage resources was statistically ranked. The analysis revealed that "Fuxue Confucian Temple" ranked the highest, followed by "Zhuangyuan Mansion," "Christian Church," "Taoist architectural complexes," and other distinctive resources. Through the research, it was found that four architectural relics had relatively weak touristic and representative characteristics, resulting in lower scores. Therefore, these four items were excluded. The top six material cultural heritage resources, in terms of acceptance of their cultural imagery, are ranked and listed in the table. They were included in the exclusive cultural element database for the "Baihuazhou" brand (Table 30).

Table 30 Experimental results on cultural image cognition

S/N	Regional cultural elements	Test score	S/N	Regional cultural elements	Test score
01	Fuxue confucian temple	2.98	04	Taoist buildings	2.77
02	Houzaimen street christian church	2.92	05	Governor's yamen in shandong province in the Qing Dynasty	2.50
03	Chen Mian zhuangyuan mansion	2.90	06	Ming city wall	2.34

4.1.4.4 Experimental results of cultural image cognition

Experimental results of 26 cultural intention cognitions, (Table 31).

Table 31 Final results

S/N	Regional cultural elements	S/N	Regional cultural elements
01	Jinan paper cutting	14	Hongjitang traditional Chinese medicine culture
02	Rabbit king	15	Dong'e donkey-hide gelatin craft
03	Jinan dough figurines	16	Zhang's bone setting
04	Jinan shadow play	17	Thousand buddha mountain temple fair
05	Liuzi opera	18	Celebrity culture
06	Wuyin opera	19	Drum yangko
07	Shandong clapper	20	Joe's stilts
08	Lu Embroidery	21	Eight diagrams tai chi
09	Jinan wicker	22	Praying mantis fist
10	Black pottery making process	23	Legend of daming lake
11	Lu cuisine production process	24	Legend of shun
12	Chen Mian zhuangyuan mansion	25	Governor's yamen in Shandong Province in the Qing Dynasty
13	Houzaimen street christian church	26	Ming city wall

4.1.4.5 Summary

Based on the literature review, focus group discussions, and the results of cultural image cognition experiments, the following analysis of branding elements for the Baihuazhou historical and cultural block can be summarized:

A total of 26 elements were extracted, all representing the essential characteristics of Jinan Baihuazhou. From on-site research and interview findings, it is

evident that elements of urban cultural heritage need to be innovated and integrated into the modern urban renewal process to meet the needs and aesthetic preferences of modern consumers. Specifically, the branding elements include:Historical sites: Jinan boasts numerous historical sites and landmarks, such as Baotu Spring, Daming Lake, and Qianfo Mountain.

Traditional customs: Practices like calligraphy and martial arts have been passed down for generations in Jinan. These customs demonstrate the city's cultural continuity and artistic expression.

Intangible cultural heritage: Including folk music, traditional dances, local cuisine, handicrafts, etc. Protecting and celebrating these intangible elements is vital to maintaining the city's cultural identity.

Festivals: Jinan celebrates Mid-Autumn Festival, Lantern Festival, Dragon Boat Festival and various cultural festivals deeply rooted in local customs and traditions. These festive events are integral to the culture of Jinan.

During the experimental process, researchers can measure participants' emotional connection, understanding, and associations with the presented cultural elements and assess the effectiveness of these elements in conveying the desired brand image and cultural characteristics of Jinan.

By analyzing the experimental results, brand strategists and cultural experts can gain valuable insights into which elements resonate most with the target audience and effectively convey the city's cultural heritage.

4.1.5 Workshop experimental research results

The purpose of the workshop was to validate and evaluate the research findings based on the brand image development model (Na, 2013). Participants in the workshop included designers and students within the age range of the target audience (20-45 years old).

4.1.5.1 Activity format

A workshop will be organized, inviting relevant experts, scholars, industry professionals, and business mentors to participate and engage in discussions on the distinctive features of Baihuazhou's historical and cultural block, design elements, brand market demands, and user experience requirements. Practical exercises will be conducted through group collaborations. With the guidance and feedback from experts,

three sets of well-refined design proposals will be developed and presented for further communication and presentation.

Activity duration: June 28, 2023 - July 4, 2023

Exhibition duration: July 10, 2023 - July 16, 2023

4.1.5.2 Participants in the workshop (Table 32-33).

Table 32 Designers, corporate mentor member

Designer members	Age	Expert	Work unit	Professional field
Sun qiang	44	Designer/Corporate mentor	Jinan Lingjia brand design studio	Brand image design, cultural and creative product design
Wang yujing	38	Designer/Corporate mentor	Jinan Fujia design Co., Ltd	Brand image design
Qian guoqing	35	Designer	Jinan Qianmo cultural media	Brand image design guide design

Table 33 Student group members

Number	Name	Age	Affiliated unit	Event information
First group	Li yongyang	22		
	Yang kaihua	20		
	Liu ying	22		
	Lv heng	23		
	Chang kaixin	21		
Second group	Zhu haiyan	20		
	Zhang shanyi	19		
	Nie fangrong	19	Shandong youth political college	Visual communication design
	Wang yanjing	21		
	Zhang nan	22		
Third group	Wang kexin	21		
	Shi lili	22		
	Lv hongjian	20		
	An qi	20		
	Zhao yazhou	21		

4.1.5.3 Activity steps

Step 1: The workshop is divided into four segments: lectures, practical exercises, field visits, and discussions. The workshop aims to recruit 15 students. The

researchers will introduce the overall design plan to the students through teaching sessions, guiding them to analyze and summarize the most suitable case studies, and develop their own design proposals (Figure 70).

Figure 70 Design plan of corporate tutors guiding students. Source: photographed by the author.

Step 2: The workshop will span two weeks, with three professional designers invited as guest lecturers. They will provide insights on the history, folk customs, cultural heritage, and primary communication methods of the Baihuazhou historical and cultural block to the participants.

Step 3: Organize participants for design practice. According to the scheduled timeline, during the first week, participants will conduct field surveys and research analysis. They are required to complete initial design drafts and undergo evaluations by experts and designers.

Design requirements: According to the brand positioning, participants are required to incorporate symbols extracted from the brand resource database into their designs. The brand design style should not only reflect the regional cultural elements but also demonstrate a certain level of innovation. The activity program is designed to be organized in a structured manner, simulating the real workflow of design projects. Participants will experience a complete set of processes encountered during actual design work through their participation in the activity.

Step 4: Organize a presentation of the participants' works where experts and designers provide feedback and suggestions on the three sets of designs. On-site feedback will be given to guide participants in making improvements, with one day dedicated to implementing the suggested changes. The design works collected from

participants will be curated and showcased in the exhibition hall at Shandong Youth Political College, aiming to further promote the recognition of the Baihuazhou historical and cultural block.

Step 5: The last session of the workshop will be a seminar, inviting all participants and students for a discussion. All students consider this design practice to be meaningful and believe it should be promoted and shared with more people. Many students shared their experiences participating in the workshop during the seminar.

4.1.5.4 Results achieved by activities

The exhibition aimed to evaluate the progress of the graduation design projects and provide feedback from students, teachers, and industry professionals. It guided students to make timely adjustments, revisions, and further improvements to their design proposals. The following is a selection of images from the exhibition (Figure 71):

Figure 71 Design plans of three groups of students. Source: photographed by the author.

4.1.5.5 Summary

The workshop, combined with the guidance of industry mentors, has demonstrated that using the historical and cultural block as a platform for brand design is a viable and effective means to revitalize and preserve the city. The student participants have developed a strong interest in historical neighborhoods, cultural heritage, and local customs, achieving the goal of broad acceptance and wider public awareness. The workshop involved third-year university students who possess a solid foundation in design theory and are familiar with the various steps of brand design. As

the younger generation of designers, they have successfully bridged traditional culture and heritage with contemporary cultural languages. Their works reflect a more youthful and diverse approach, catering to the cognition and popularization among the general public.

4.1.6 Research methods and data results

4.1.6.1 Data results

Based on the data collection methods mentioned above, we conducted data analysis and drew the following conclusions:

(1) Acceptance of branding in historic blocks in urban organic renewal

Through case studies, field surveys, expert interviews, and questionnaires, it was found that the public generally has a high level of acceptance for brand development in historic blocks. However, their satisfaction levels tend to be relatively low. Some members of the public perceive historic blocks as merely tourist attractions and do not pay much attention to the visual elements of these blocks. As a result, their awareness of brand development in these areas is limited. Another group of the public has a higher level of awareness and interest in historic blocks, particularly in the case of Baihuazhou, due to its long-standing history and unique regional characteristics. However, they express dissatisfaction with the overall visual planning of the block. The main problem lies in the lack of unity and failure to reflect the distinctive regional characteristics of Baihuazhou, making the block less appealing to them.

(2) Awareness of cultural heritage in historic blocks

Through field surveys and questionnaire feedback, we have learned that the public has a high level of awareness regarding the cultural heritage in the Baihuazhou historical and cultural block. This indicates that there has been continuous effort to emphasize and promote the cultural heritage of the block. Therefore, it confirms that selecting Baihuazhou as a case study for urban renewal design is an effective approach, as it reflects the significant attention and promotion of the block's cultural heritage.

(3) Brand visual identity trend

Based on on-site interviews and questionnaire surveys, the target audience is primarily divided into two age groups: 36-45 years old (33%) and 21-35 years old (32%). Therefore, the overall trend is mainly towards the young and middle-aged

audience group, which also confirms that historic blocks should gradually "discard" their historical connotations, gradually accept new elements, and gradually shift towards diversified and structured development, which will pique the interest of and sustain the engagement of younger generations. The results show that the preferred approach for the visual presentation of the brand in terms of street signage design tends towards a combination of text and graphics. In terms of color expression, there is a preference for combining regional cultural color schemes with diverse palettes to better showcase the vibrant character of the urban block. It should not be overly traditional, but rather dynamic and energetic.

In terms of design style, there is a need for greater inclusivity, favoring a flat and minimalist style. The essence of simplicity lies in conveying the most profound meaning and rich connotations through the fewest elements, representing a triumph of less over more, substituting complexity with simplicity, and replacing mediocrity with individuality. The tension in design should be achieved by balancing clarity and depth of interpretation.

(4) User experience needs of the target audience

The user experience in historic blocks primarily relies on providing the public with effective and accurate information. The design of information hierarchy and information flow navigation is crucial in the spatial visual design of historic blocks as it guides the audience in capturing the target information accurately. Based on the research results, the public is particularly concerned about the completeness of the signage system, the rationality of panoramic maps, and the coherence of spatial visual design in the block. Therefore, attention should be paid to design specifications, user-friendliness, and aesthetics. Respecting the locality and people's lives is essential, taking into account the uniqueness and humanistic quality of the regional cultural characteristics. Additionally, appropriate colors should be chosen as key design elements that not only match the characteristics of the block but also harmonize with the surrounding environment, highlighting the cultural positioning that blends seamlessly with nature.

(5) Brand spreading channels in the block

Creating platforms for the creation, exhibition, transaction, promotion, and experience of distinctive cultural heritage helps to build a higher-quality cultural output

environment. The spreading channels can be established through both online and offline methods. Additionally, maintaining and strengthening online platforms is also crucial in brand communication.

4.1.6.2 Identified issues

Through data analysis, we have identified the following issues in the branding and development of the Baihuazhou Historical and Cultural Block:

(1) Lack of market competitiveness: Some industry practitioners lack a sufficient understanding of market demand and modern design concepts, resulting in products that lack market competitiveness.

(2) Insufficient expression of cultural significance: In the design and production process of some Taoyuan embroidery products, there is inadequate expression of cultural significance, leading to a lack of cultural value in the products.

(3) Challenges in cultural heritage preservation: The preservation of Taoyuan embroidery culture faces challenges such as aging inheritors and a limited number of successors, requiring more innovation and exploration in the methods of cultural heritage transmission.

4.1.7 Innovation

Under the backdrop of urban renewal, the brand image building of Jinan Baihuazhou reflects three major innovations:

(1) Fusion of traditional elements and modern design: To create a unique and recognizable brand image, the Baihuazhou Historical and Cultural Block in Jinan combines traditional elements with modern design. For example, the fonts and color schemes used in the logo are contemporary and minimalist. This fusion of old and new design elements reflects the block's history and culture while still appealing to a contemporary audience.

(2) Heritage-Centric urban renewal approach: The brand image-building strategy emphasizes the preservation of Jinan's cultural heritage and its integration into urban renewal projects. By prioritizing heritage preservation, the city showcases its rich history while revitalizing old neighborhoods and creating a distinctive sense of the place.

(3) Storytelling and immersive experiences: The brand image-building leverages storytelling and immersive experiences to engage locals and tourists alike.

Interactive exhibitions, cultural performances, and guided tours allow visitors to gain a deeper understanding of Jinan's cultural heritage, strengthening their emotional connection to the city.

Incorporating environmental sustainability: In recent years, urban renewal projects have placed increasing importance on environmental sustainability. Jinan Baihuazhou integrates sustainable development into brand image construction. For instance, the block has implemented waste reduction, energy-saving, and the use of renewable resources. These efforts not only benefit the environment but also contribute to shaping the block's image as a responsible and forward-thinking destination. Additionally, the block organizes eco-themed events to raise awareness among visitors about environmental issues.

4.1.8 Conclusion

In the opening section of Chapter 4, the research outcomes of a multifaceted approach, including field surveys, questionnaire surveys, expert interviews, focus groups, and cultural intention experiments, are presented. These methods collectively provide a comprehensive understanding of Jinan's urban cultural heritage branding. Field surveys cataloged heritage elements, questionnaires gauged public perception, expert interviews enriched insights, focus groups facilitated discussions, and the cultural intention experiment measured subconscious impact. These findings contribute to a holistic assessment of visual symbols in Jinan's urban renewal and branding efforts, forming a basis for further recommendations to enhance the city's brand image and cultural identity preservation.

4.2 Design experiment development process and results

4.2.1 Translation of brand cultural elements

4.2.1.1 Overview of semiotics

Semiotics is the scientific study of symbol systems, and Saussure's semiotic theory is considered the origin of semiotics. It is a binary oppositional concept that employs "signifier" and "signified" as a pair of concepts to describe the content and form of language symbols. Signifier represents the signifier, while signified represents the signified.

To achieve the symbolic transformation of graphics, it is necessary to understand the signified and signifier of the regional culture and intangible cultural

elements that we have selected through previous experiments. Symbolic extraction should not be too one-sided and should analyze the signifiers categorically in the context of the signified. The process of symbolic refinement is lengthy and meticulous, involving the following steps: material collection, classification and organization, induction and selection, decomposition and extraction, image analysis, and structural line extraction.

4.2.1.2 Methods of symbolic extraction

Symbolic extraction is a process of summarizing the unique local style and characteristics exhibited by local, ethnic, and folk history and culture. It is an encoding process in the mode of symbol communication, which plays a decisive role in the process of symbolic communication(Khan et al., 2020). If the results of symbolic extraction are incorrect, the subsequent quality of symbolic communication will be fundamentally affected.

From the previous classification and analysis of regional symbols, it can be seen that factors related to local, ethnic, and folk history and culture primarily include local geography, natural conditions, local materials, historical traditions, ancestral teachings, and ways of life, as well as folklore, local culture, and customs. The extraction of regional symbols does not simply involve the imitation and restoration of local traditional culture, but the recombination of their specific forms or meanings according to the requirements of modern society. It is important to incorporate modern civilization and technology and participate in our urban development to create new landscapes with a strong local atmosphere.

For the extraction of regional symbols, this study follows a three-step approach:

Step 1: Extracting symbol typicals

Selecting symbol typicals involves extracting the most representative, prominent, and typical symbols from the images, with a focus on the form of the symbols. The extraction of typicals does not simply involve preserving the original prototype of the symbols. Instead, it involves summarizing and refining the typicals that have the highest cultural value and significance in the local context. The use of these symbols is not meant to replicate specific buildings or objects, but rather to integrate them as modern design elements into the design work. This approach allows the design

work to emanate a strong local cultural atmosphere, meet the needs of modern society, and enhance its symbolic nature, thereby reinforcing its symbolic meaning. While the application of typicals does not necessarily have to follow traditional methods, the extraction of their forms must adhere to the syntactic structure of symbols in order to maintain their typicality. Examples of extracted symbol typicals can be seen in Figure (Li, 2010)(Figure 72).
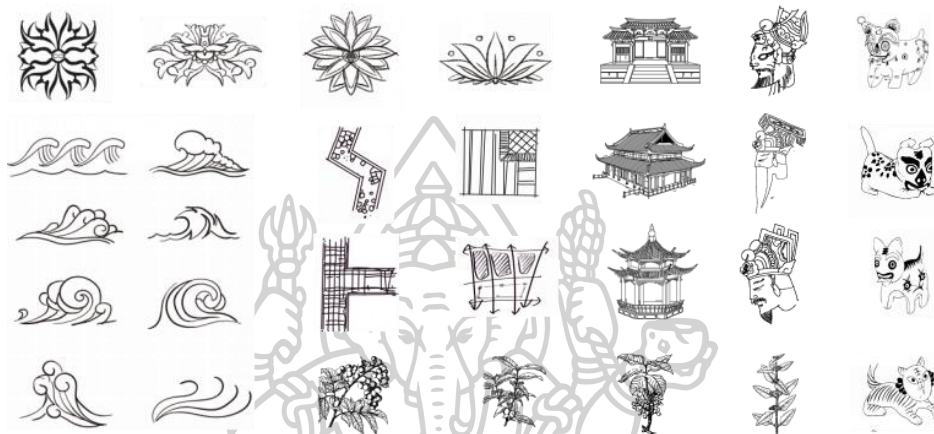
Figure 72 Extraction of symbol typicals (partial). Source: drawn by the author.

Step 2: Pattern processing using computer-aided graphics

Building upon the first step, the graphics are subjected to standardized design using computer-aided graphics processing software. During the process of extracting pattern factors, computer-aided graphics processing methods are applied, with the assistance of appropriate graphics processing software, to extract characteristic shapes, patterns, and other design elements from the graphics. The application of this method offers numerous advantages in the extraction of pattern factors (Figure 73).
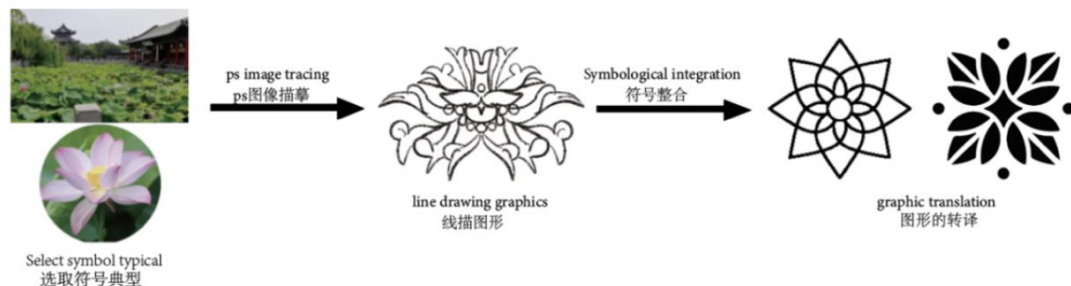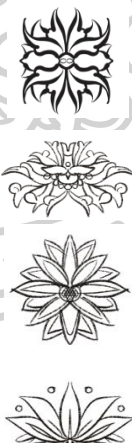
Figure 73 Pattern extraction using computer-aided graphics processing methods (Example). Source: drawn by the author.

Step 3: Integration of abstract symbolic forms

Abstract symbolic forms refer to the processing of traditional symbols of a region using abstract techniques to simplify and refine them, typically not directly or entirely using the forms of traditional symbol prototypes or typical symbols (Shanjin, L., & Shuling, H, 2008). If an abstracted symbol conveys a certain meaning, then the symbol becomes metaphorical, serving as a design method for expressing meaning through imagery. Metaphor mainly involves two factors: meaning and imagery, both of which are indispensable.

As a method of symbolic extraction, abstract symbolic forms establish a connection between symbols (information) and meaning (code) by selecting or replacing components of a symbol (information). It can also link various components together through meaning (code), thus creating a connection between the parts that appear and those that do not appear in the symbol (information). This allows the recipient of the symbol (information) to better understand the meaning of the symbol and acquire information about objective things (Table 34).
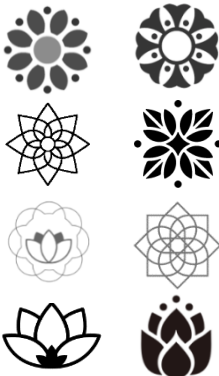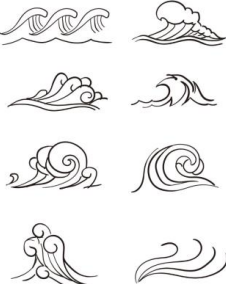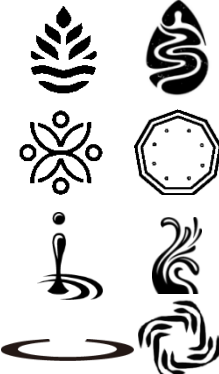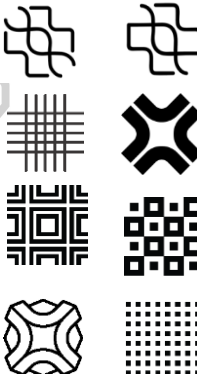
Table 34 Pattern extraction of auxiliary graphics

No.	Picture	Extract symbol typical	Symbological integration
01			

4.2.1.3 Translation results of symbols

In order to form more accurate and representative symbolic representations, expert suggestions were taken into account to extract the top three scores of regional cultural elements, the top three intangible cultural heritage resources, and the first-ranked tangible cultural heritage resource. A total of 7 sets of symbols were translated (Table35).

Table 35 Translation results of patterns based on computer-aided graphics processing methods

No.	Picture	Extract symbol typical	Symbological integration
01			
02			
03			
04			

05			
06			
07			
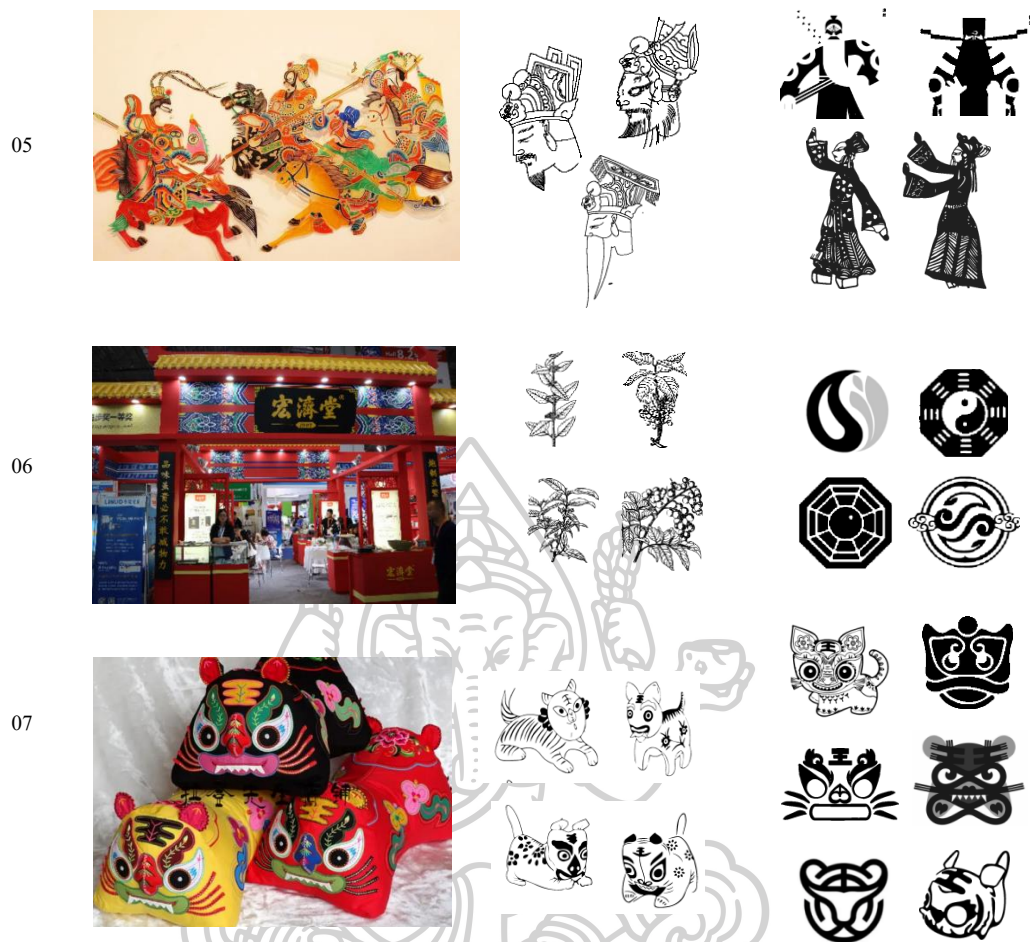
4.2.2 Analysis of elements in the visual identity design of Baihuazhou brand

Before embarking on visual identity design, it is essential to thoroughly understand the design subject, the purpose of the design, and the intended message to ensure that every component of the visual system accurately conveys the desired information. This ensures that the information perceived by the audience aligns with the message intended to be conveyed. To prevent discrepancies in information transmission and reception, the construction of design elements should ensure that the visual identity design accurately showcases its distinctive image.

4.2.2.1 User research

The purpose of this study is to establish a visual identity for the Baihuazhou Cultural Block brand in urban sustainable renewal, in order to better convey the cultural connotations and values of the brand to the target audience. Before conducting the

design experiments, we conducted in-depth research and analysis of the district and its corresponding culture, identifying the core values of the brand and its target audience.

4.2.2.1.1 Core values

To conduct innovative research and transform urban cultural heritage by integrating traditional cultural elements with urban development, allowing people to better understand, appreciate, and inherit Chinese traditional culture. The core values center around the protection of cultural heritage, promoting cultural diversity, fostering community engagement, and stimulating sustainable growth. Building upon these core values, the design incorporates modern design elements to meet the needs of young users.

4.2.2.1.2 Target audience

Based on preliminary research, the target audience is between the ages of 20 and 45, representing a diverse group with wide-ranging interests, needs, and preferences. This group is often passionate about society and culture, seeking experiences that blend tradition and modernity. The target audience includes, but is not limited to, culture enthusiasts, higher education students, history enthusiasts, social media users, and local residents. By incorporating elements that resonate with their interests, the design aims to realize the unique integration of history and modernity in Baihuazhou.

4.2.2.2 Baihuazhou logo design experiment

During the design experiment, a combination of qualitative and quantitative methods was employed. Firstly, based on the translation schemes from the previous section, a series of design sketches and prototypes of the logo were created using the two-axis analysis method. Experts were invited to evaluate and select the designs with higher scores. Through multiple iterations and improvements, the visual identity of the Baihuazhou Island Historical and Cultural District brand was finalized, including the brand logo, typography design, color schemes, and other elements.

4.2.2.2.1 Logo symbol experiment based on the two-axis analysis method

The design experiment for the brand logo was conducted using Saussure's two-axis analysis method, incorporating Saussure's theory of linguistic symbols along with the brand's personality elements. By interpreting the relationship between this theory and design practice, the arbitrariness of symbols was explored. The method

involved the breakdown and combination of symbols through the relationships of "combination" and "association". Deductions were made within Saussure's two axes, and through rational design practice, the deepening of the brand image's ideology was achieved. This ultimately allowed for the accurate transmission of brand information, culture, and spirit(Huafeng & Linxin, 2020).

(1) The origin and significance of the two-axis analysis method

Saussure proposed that symbols have two unfolding dimensions, namely the paradigmatic axis and the syntagmatic axis. The imagery activity of any symbol inevitably unfolds within the relationship between these two axes. The paradigmatic axis is a vertical symbol chain composed of a group of symbols with similar traits. Symbols on the paradigmatic axis must have certain similarities but also exhibit differences. The paradigmatic axis represents a vertical thinking mode, where each creative idea is interconnected and can be extended infinitely, inspired by the previous design.

The syntagmatic axis is a horizontal symbol chain, which represents the collection of various elements of the design subject. To determine the identity and meaning of a symbol, one must consider the relationship between the two axes.

The brand logo is formed by the splitting and combination of symbols that can reflect the cultural imagery of the design subject. It should include both the brand's unique elements and common elements. Saussure's two-axis analysis method can help designers more rationally clarify the combination relationships between multiple symbols. Within the two axes, the possibilities of different symbol combinations can be explored more clearly. Through different combinations, the brand logo can be endowed with a deeper cultural connotation and significance.

(2) Analysis of brand logo elements

The brand design of "Baihuazhou" aims to reestablish the visual identity of the city's historical and cultural block by leveraging cultural heritage elements. The visual identity of the historical and cultural block is created through the recreation and design of the shapable parts while maximizing the protection of cultural heritage. The primary goal is to promote a combination of spring water culture, heritage culture, and tourism to enhance the city's reputation. In the brand image design of Baihuazhou Historical and Cultural Block, visual symbols are formed by extracting elements based

on regional cultural prototypes. It is necessary to fully absorb and refine the essence of the culture while integrating it with the deep cultural heritage and modern design trends. The design should reflect the regional culture and humanistic culture of the block, as well as the depth, context, and spirit of its historical culture (Table 36) (Figure 74).

Table 36 Personality elements of Baihuazhou brand logo

Brand name	Brand type	Brand culture
Baihuazhou (historical and cultural block)	Urban historical and cultural district brand	Spring water series block
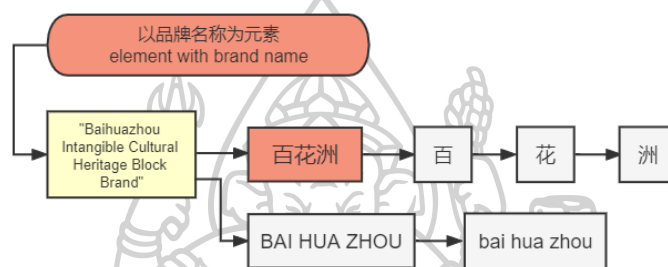
Figure 74 Schematic diagram of logo elements. Source, drawn by the author.

(3) Brand logo design practice

The construction of the brand logo was based on Saussure's two-axis analysis method. Elements that can be used in the brand were analyzed on the syntagmatic axis, while the visual symbolization of brand elements was done on the paradigmatic axis (Figure 75).
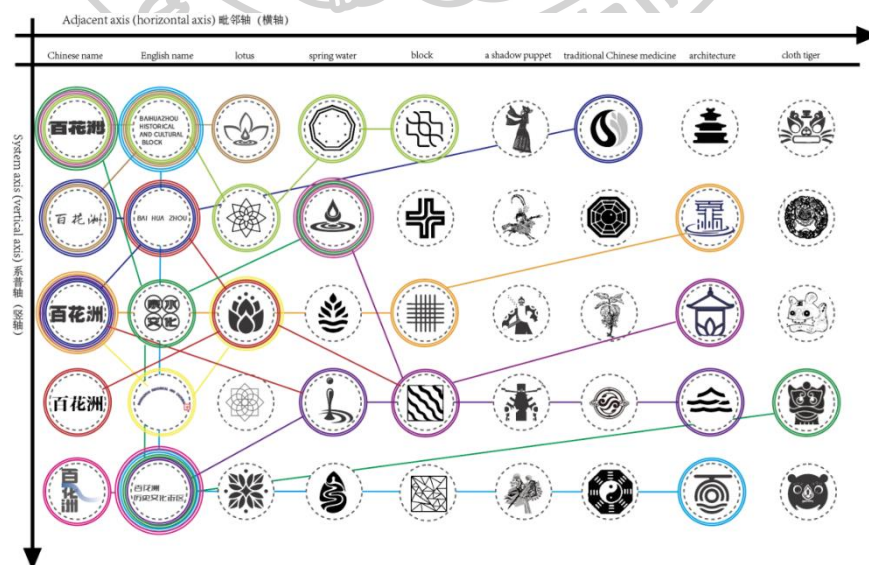
Figure 75 Experimental analysis of individual element on two axes. Source: drawn by the author.

Based on the combination of the two-axis elements, a total of 10 logo designs were created. After the combination and selection process, the final selection includes 10 monochromatic "Baihuazhou" logo graphics labeled A to J (Figure 76).
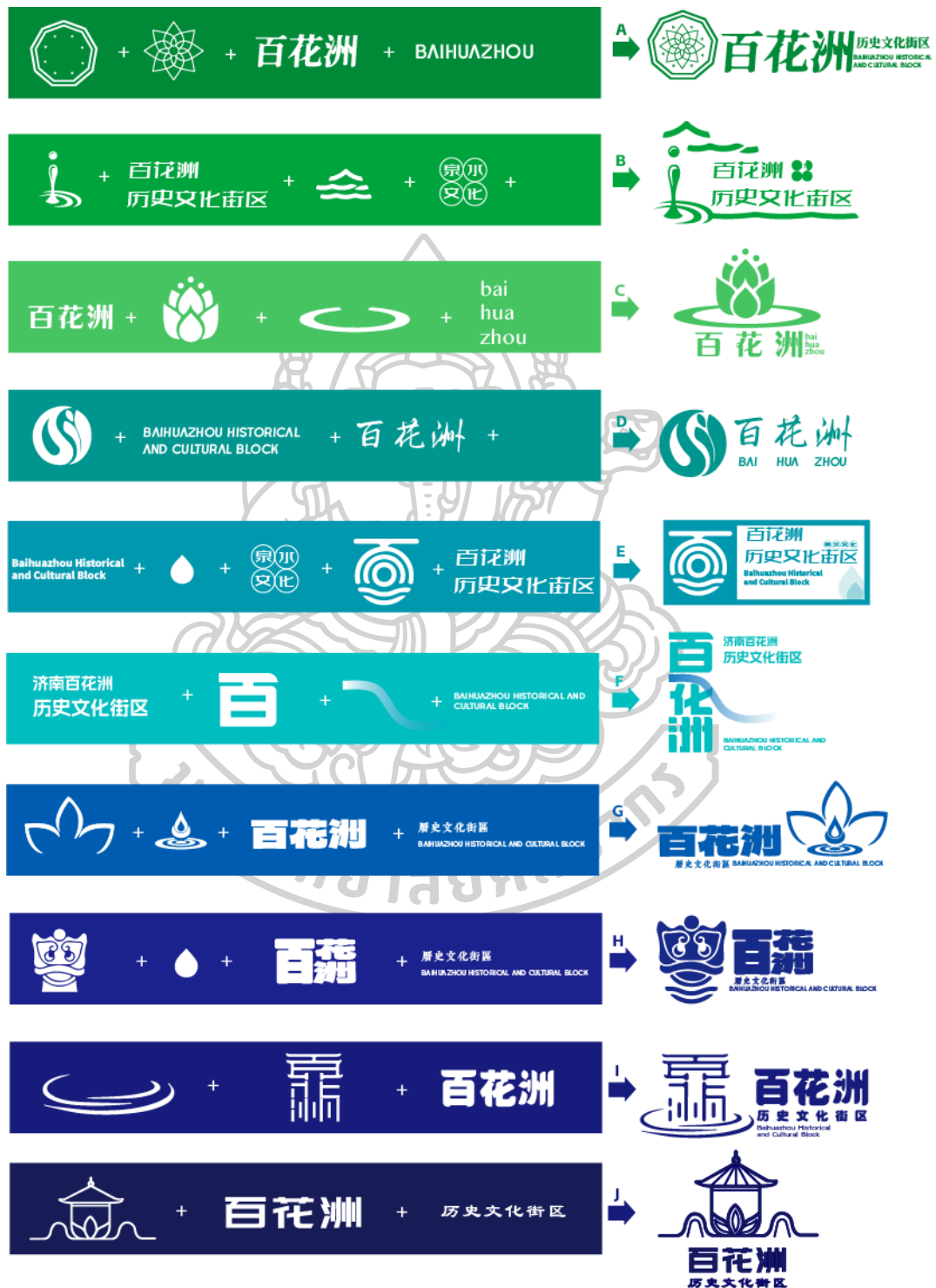
Figure 76 Specific visualization of design element combinations (monochrome).
Source: drawn by the author.

(4) Design proposal evaluation experiment

50 participants from the target audience group were invited to participate in a perceptual evaluation experiment. The research process is as follows:

A perceptual evaluation questionnaire was designed, using a Likert scale method, to establish a perceptual evaluation cognitive scale for the 10 logo samples. Participants were asked to rate the 10 logo designs in the form on a scale of 1 to 5, indicating their level of agreement. The 5 response levels were as follows: A higher score indicates a stronger perception generated by the logo (Table 37).

The participants in the experiment were selected from the main target audience group of the Baihuazhou Historical and Cultural Block, including local residents and tourists, with an age range of 20 to 45 years. The participants were required to have good physical health, normal vision, and perceptual abilities toward graphics. They were asked to evaluate the design proposals of the 10 logo samples.

Table 37 Emotional evaluation scale (Example)

No.	Design plan	Strongly disagree	Disagree	Generally	Agree	Very much agree
OptionA		1	2	3	4	5
Option B		1	2	3	4	5

(5) Data analysis of evaluation results

The statistical results of the survey questionnaire were entered into Excel software for analysis. The evaluation scores given by the participants for each sample were accumulated and divided by the number evaluations to obtain the evaluation scores for the 10 logos (Table 38).

Table 38 Perceptual evaluation score results

S/N	Design plan	Score	S/N	Design plan	Score
01	Option A	2.75	06	Option F	2.66
02	Option B	2.67	07	Option G	2.61
03	Option C	2.93	08	Option H	2.13
04	Option D	2.03	09	Option I	2.55
05	Option E	2.12	10	Option J	2.08

According to the evaluation of the target audience, the highest score is obtained by Proposal C. The common characteristics that rank high are reflected in the elements of spring water and lotus flowers. The four designs with lower scores due to less prominent elements, Proposal D, Proposal E, Proposal H, and Proposal J, are excluded. Therefore, it can be seen that the logo design proposals with regional cultural elements have received positive feedback and performed well among the target audience, indicating a generally good response among consumers.

4.2.2.2.2 Focus group and expert review

(1) After collecting the questionnaire results, 8 members were invited to the focus group for preliminary voting. They discussed six sample proposals based on criteria such as identification, transmission, memory, extensibility, modeling and artistry（Table 39）. Each participant had 6 votes. The discussion lasted for 2 hours, and the author kept records and summarized the discussions, The meeting was held through the Tencent Online Meeting (Figure 77).

Table 39 Focus group poll results

No.	Identification	Transmission	Memory	Extensibility	Modeling	Artistry	Total
OptionA	4	4	3	5	5	3	24
OptionB	3	4	3	4	2	2	18
OptionC	4	5	5	4	6	7	31
Option F	4	3	3	4	6	4	25
OptionG	3	4	4	3	3	4	21
Option I	2	2	2	3	5	4	18

Figure 77 Selection of graphic elements. Source: produced by the author.

Based on the scores, three samples with higher votes will be selected for further explanation. Experts will be invited to participate in an online video conference for review. Based on the style preferences of the target audience identified in the preliminary research, the following style definitions will be applied to the three selected proposals (Table 40):

Table 40 Style definition of the three schemes with higher

Option1	Option 2	Option 3
Traditional chinese style	**Simple style**	**Combining traditional style with modern style**
Onveying a sense of tradition, elegance and sophistication, reflecting the core principles of Chinese philosophy and aesthetics.	Unnecessary details and decorative elements were eliminated, focusing on the essential form. This intentional simplicity helps create a timeless design that will not go out of style and ensures its longevity representing the city for years to come.	Represents the harmonious relationship between nature and humans, emphasizing the importance of balance, renewal and growth. It can not only arouse the love of young people, but also convey the culture of the neighborhood. captures the progressive, dynamic spirit of the city while respecting its deep-rooted cultural heritage.

(2) Detailed explanation of the schemes

Scheme 1: Extraction and representation of graphic elements: The outline of the logo design is based on the polygon shape of the Houde Spring. The spring water holds significant meaning for Jinan, as it evolves from lotus flowers and water droplets. The lotus flowers are adorned with small water droplets, symbolizing the gushing spring water. This circular arrangement represents "Baihua" (meaning hundreds of flowers) and resembles the shape of water droplets, echoing the circular interior of the Houde Spring and connecting all elements. The design is composed of linear elements, simple yet aesthetically pleasing (Figure 78).

Figure 78 Selection of graphic elements. Source: drawn by the author.

Chinese standard font: The font is based on the traditional Song typeface, with an added italic effect to showcase a traditional style. It allows the audience to fully understand the information and artistic value of Baihuazhou. The design is systematic and complete.

English standard font: The design utilizes Source Han Sans as the prototype, with modifications made to the English font. The design style is sleek, easy to recognize and read, and has good expandability and legibility.

Standard colors of the logo: The colors are mainly derived from the traditional colors in the regional and cultural heritage. Combining the local environmental features, the street appearance, and the elements of cultural heritage, two standard colors are extracted. They appeal to the preferences of the current youth while still maintaining the beauty of classical colors (Figure 79).

The color values are as follows:

RGB: 177138, Color code: #114726

RGB: 1332734, Color code: #851B22

Figure 79 Composition of logo image in scheme 1. Source: drawn by the author.

Expert evaluation and feedback on scheme 1(Table 41):

Table 41 Option 1 expert opinion

No.	Question feedback
1	Colors should be more youthful.
2	The graphic summary of Houde Spring is not easy for non-local people (tourists) to understand.
3	The spring water element is not obvious and should be strengthened.

Scheme 2: Extraction and representation of graphic elements: The design primarily focuses on font design, utilizing stroke deformation as a means of expression. The transformation of the character "花" (flower) symbolizes the extensive water system in the historical block of Baihuazhou. With clean lines and minimalistic elements, the logo embodies the modern characteristics of this city while conveying an elegant and refined sensation.

The minimalist design approach eliminates unnecessary details and decorative elements, concentrating on fundamental forms. This intentional simplicity helps create a timeless design that is not easily outdated and represents the youthful state of this city for the upcoming years.

Chinese standard font: The font is based on Blackletter font, with a rounded treatment applied to the right side of all characters, emphasizing a minimalist style. It enables the audience to fully understand the regional information and artistic value, unifying the expressive features.

English standard font: The design uses Source Han Sans as the prototype and is based on it for English font design. Its design style is simple, easy to read, and has good scalability and readability.

Standard colors of the logo: The color scheme commonly used in minimalist designs is predominantly blue and green, representing the natural state and modernity of Jinan city. These colors enhance the visual impact of the logo and ensure its versatility, allowing it to easily integrate into various applications (Figure 80).

The color values are as follows:

RGB: 0185191, Color Code: #00BDBF

RGB: 46167224, Color Code: #2EA7E0

Figure 80 Composition of logo image in scheme 2. Source: drawn by the author.

Expert evaluation and feedback on scheme two (Table 42):

Table 42 Option 2 expert opinion

No.	Question feedback
1	Regional elements are not obvious enough.
2	The overall coherence of the logo is not strong.
3	The expression of water cannot be understood at a glance.

Scheme 3: Extraction and representation of graphic elements: This logo features the graceful combination of spring water and lotus flowers. The spring water elements elegantly cascade, with a blooming lotus flower at the center of the logo. Above it, three water droplets symbolize the perfect fusion of the "Spring City" and Jinan's city flower, the lotus. This design exudes elegance and resilience, representing the harmonious relationship between nature and humanity while emphasizing the importance of balance, renewal, and growth.

Additionally, the historical and cultural heritage of this block is rich, so the logo also incorporates elements of traditional Chinese culture in the style of "Guochao" to resonate with young people and convey the block's cultural significance. This design captures the dynamic spirit of urban progress while respecting its deep-rooted cultural traditions.

Chinese standard font: The font is based on Blackletter font, with a rounded stroke treatment in a traditional style. It allows the audience to fully understand the information and artistic value of Baihuazhou, unifying the expressive features.

English standard font: The design uses Blackletter font as the prototype and builds upon it for English font design. Its design style is simple, easy to distinguish, and readable, with good scalability and readability.

Standard colors of the logo: The chosen color tones are the blue of spring water and the green of lotus flowers. The overall design is diverse, and visually impactful, attracting attention and evoking a sense of national pride (Figure 81).

The color values are as follows:

RGB：2932135, Color Code：#1D2087

RGB：72176175, Color Code：#48B0AF

Figure 81 Composition of logo image in scheme 3. Source: drawn by the author.

Expert evaluation and feedback on scheme three (Table 43)：

Table 43 Option 3 expert opinion

No.	Question feedback
1	The plan is too simple and the interaction between spring water and lotus elements should be highlighted.
2	The colors are relatively single, and no less than three colors are recommended.
3	The design of the font is a bit complicated; it is recommended to simplify it.

According to the feedback from the experts, it is recommended that all three schemes be adjusted before deciding on the final design for the branding logo of Baihuazhou Historical and Cultural Block. After discussing in a meeting, Scheme Three has been deemed more feasible. Researchers are required to make modifications to Scheme Three and conduct another online discussion and review.

Modifications to scheme three based on expert feedback:

Optimizations have been made while retaining the original design elements of spring water and lotus flowers. To cater to the target audience and highlight the traditional cultural block, the addition of traditional Chinese auspicious colors, such as Ruijin gold, has been made. The Chinese and English fonts have been redesigned to create a more harmonious combination (Figure 82).

The updated color values are as follows:

RGB: 2932135, Color Code: #1D2087

RGB: 72176175, Color Code: #48B0AF

RGB: 21015567, Color Code: #D29B43

Figure 82 Composition of modified logo image in scheme three. Source: drawn by the author.

Expert evaluation and feedback after the modification of Plan 3 (Table 44):

Table 44 Expert evaluation and feedback on modified scheme three

No.	Question feedback
1	The urban characteristics and neighborhood characteristics are both obvious.
2	The design style is more interesting, not rigid, and the overall format is more standardized.
3	Bright colors and unique style.
4	Chinese elements are well used.

A brand logo design exploration for Baihuazhou Historical and Cultural Block was conducted through various research methods and evaluated. Throughout the process, multiple design schemes were proposed through research, interviews,

workshops, and expert evaluations. Three design schemes with high scores were selected and evaluated by 7 experts in terms of innovation, feasibility, and extensibility through a video conference (Table 45).

Table 45 Scoring result

No.	Evaluation criteria	5A	4A	3A	2A	A
Option1	Innovative	3	1	1	1	1
	Feasibility	2	1	2	2	0
	Extensibility	2	0	2	2	1
Option2	Innovative	1	3	0	2	1
	Feasibility	2	1	1	1	2
	Extensibility	2	1	2	2	0
Option3	Innovative	4	2	1	0	0
	Feasibility	3	1	3	0	0
	Extensibility	3	2	2	0	0

Based on the voting results, Scheme Three has been selected as the final choice for the branding and design development project of Baihuazhou Historical and Cultural Block. It will be further developed and implemented in the design practice.

4.2.2.2.3 Evaluation and feedback on the schemes

A. Scheme evaluation:

We conducted an objective evaluation of the logo design schemes to ensure that the final design can fully express the brand's core values and meet the needs of the target audience. The evaluation process involved several methods (Table 46).

Table 46 Program evaluation methods

Assessment method	Assessment montent
Target group research and evaluation	Select 50 subjects to conduct questionnaires, interviews and other methods to understand the feedback and evaluation of the audience on the design scheme.
Focus group internal evaluation	The design proposal will be further voted and reviewed by a professional professor and designer team.
Expert assessment	Understand the feedback and evaluation of experts on the design plan, so as to adjust and optimize the plan, and finally determine the final plan of brand design.

B. Feedback on the schemes

Building upon the scheme evaluation, we also collected feedback and opinions from the target audience. The feedback has been summarized into five points for further improvement and optimization of the branding design scheme (Table 47).

Table 47 Program feedback and opinions

Evaluation method	Conten	Very satisfied	Satisfy	Generally	Dissatisfied	Very dissatisfied
	Identification	44%	25%	19%	9%	3%
User research and online feedback	Artistry	38%	30%	21%	8%	3%
	Dissemination	42%	21%	23%	11%	3%
	Memory	36%	21%	21%	15%	6%
	Extensibility	40%	28%	19%	11%	2%

Through the aforementioned scheme evaluation and feedback methods, we are able to gain a clearer understanding of the objective thoughts from the target audience regarding the branding development of Baihuazhou. We can continuously improve and optimize the design schemes to ensure that the final design fully reflects the core values of the brand, while meeting the needs and expectations of the target user group.

4.2.3 Final brand visual identity

 4.2.3.1 Brand foundation

After discussions and refinements with the experts, the selected logo graphic has been finalized as the brand logo. Please refer to Figure 10 for the finalized brand logo (Figure 83).

Figure 83 The final draft of the brand logo (vertical and horizontal versions).
Source: drawn by the author.

The design concept of the brand logo aims to convey the distinctive cultural heritage of the district itself and Chinese traditional heritage. The main visual symbol extracts the outline shapes of the highest-ranked elements, "spring water" and "lotus flower," and deconstructs their forms to create geometric representations. This approach enhances the brand's recognition and memorability. The simplified forms possess the characteristics of a super symbol, allowing for strong brand extension and communication capabilities.

4.2.3.1.1 Logo symbol guidelines

The logo is a core element of the brand's visual identity system, and incorrect usage can lead to public confusion and weaken or damage the brand's image. To ensure the proper use of the logo, the following visual guidelines have been established, and strict adherence should be followed during implementation.

(1) Standardization of logo graphical representation and grid coordinates

The logo should have precise proportional representations and grid coordinates for application purposes. These are typically used in design layouts to accurately position the symbols and should not be altered arbitrarily. Note: "A" represents a basic unit of measurement. It can be scaled up or down proportionally based on specific needs (Figure 84).

Figure 84 Standardized representation of the brand logo. Source: drawn by the author.

(2) Logo ink and reverse effects examples

Logo ink and reverse effects examples are primarily developed to meet the requirements of media publication and establish consistency in visual representation of the logo. The usage guidelines are mainly applicable to printed materials that require

the logo to be displayed in reverse black. Strict adherence to these guidelines is necessary for proper usage.

The color mode for the examples is CMYK, with black (C0 M0 Y0 K100) and white (C0 M0 Y0 K0) (Figure 85).

Figure 85 Black and white draft of logo and reverse example. Source: drawn by the author.

(3) Brand logo clear space and minimum size limitation

To avoid any visual distortion or degradation in the application of the logo, it is important to ensure effective and clear communication of the brand image. Therefore, specific guidelines are established for the minimum size of the logo in different usage scenarios. The minimum size for the brand logo is set at a height of 15mm, and it should not be used at a size smaller than this minimum. The permissible usage range is from the minimum size of 15mm in height proportionally to an infinite scale (Figure 86).
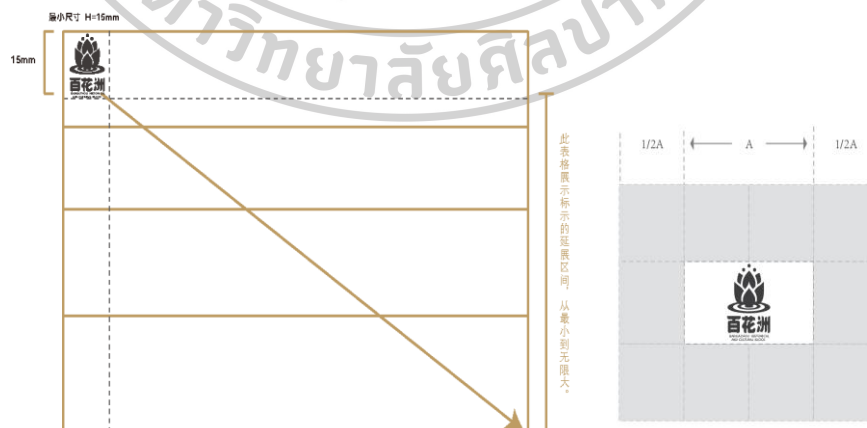
Figure 86 Brand logo clear space and minimum size limitation. Source: drawn by the author.

(4) Standard typography guidelines

Standard typography is an important element of the brand identity, which can reflect the brand most intuitively. It should be maintained rigorously without arbitrary alterations. Note: "A" represents a basic unit of measurement. It can be scaled up or down proportionally based on specific needs (Figure 87).
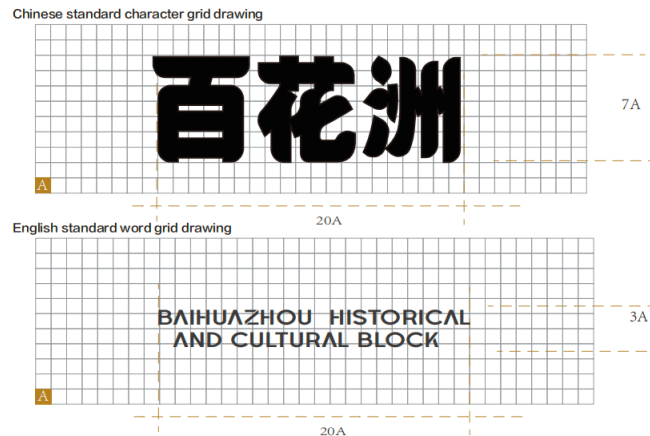
Figure 87 Standard typography guidelines. Source: drawn by the author.

(5) Standard typography ink and reverse effects examples

To meet the requirements of media publication, examples of standard typography in ink and reverse effects are provided (Figure 88). The color mode for the examples is CMYK, with black (C0 M0 Y0 K100) and white (C0 M0 Y0 K0).

Figure 88 Standard typography ink and reverse examples. Source: drawn by the author.

(6) Logo symbol and standard typography combination guidelines

The corporate logo is composed of a logo symbol and standard typography. It is widely used in various corporate applications. To ensure the authority and integrity of the corporate image, specific design requirements are established for both horizontal and vertical combinations of the logo symbol and standard typography (refer to the figures). These guidelines should be strictly followed to avoid any negative impact caused by improper usage. Note: "A" represents a basic unit of measurement. It can be scaled up or down proportionally based on specific needs (Figure 89).
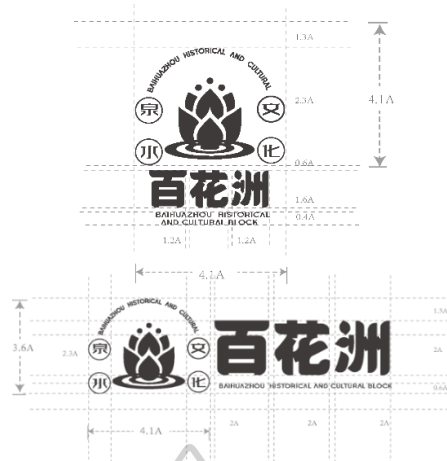
Figure 89 Standards for horizontal (vertical) combination of brand logos. Source: drawn by the author.

4.2.3.1.2 Logo color guidelines

Standard colors are essential elements of the brand image. The establishment of standard colors and complementary colors aims to strengthen the overall visual identity of the brand. It mainly regulates the standard and complementary colors of the brand.

(1) Brand standard colors:

Brand standard color 1: Digital color values: R72 G169 B168, Printing color values: C86 M14 Y36 K0

Brand standard color 2: Digital color values: R29 G42 B115, Printing color values: C100 M98 Y26 K0

Brand standard color 3: Digital color values: R185 G138 B27, Printing color values: C33 M49 Y99 K0 (Figure 90).
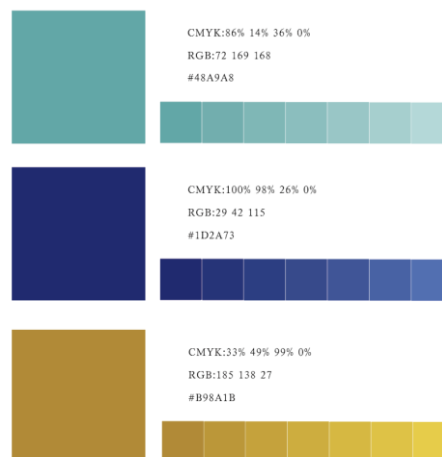
Figure 90 Brand standard colors. Source: drawn by the author.

(2) Brand auxiliary colors:

The auxiliary colors are primarily extracted from traditional culture (cultural heritage) to complement the main color scheme. Four auxiliary colors have been selected, each representing a specific aspect of the cultural and historical characteristics of the district: folk craftsmanship, traditional medicine, traditional opera, and arts and crafts. These colors are mainly used for color combinations in design and as a complement to graphical elements, emphasizing the main subject (Figure 91).
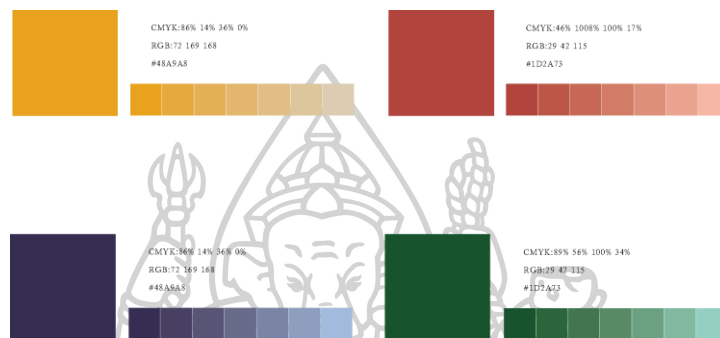
Figure 91 Brand auxiliary colors guidelines. Source: drawn by the author.

（3） Background luminance guidelines

The logo should be applied on backgrounds with different luminance levels. The following guidelines are specified:

When the background has a depth of 30%-70%, the logo should be used with a reverse effect (Figure 92).

When the background has a depth of 10%-20% or 80%-100%, the logo can be used with the standard colors (brand standard colors) in specific areas.

Note: Whenever possible, avoid using backgrounds with a depth of 10%

Figure 92 Background luminance guidelines. Source: drawn by the author.

4.2.3.1.3 Auxiliary graphic design

The auxiliary graphics have been designed using 26 cultural gene elements extracted from cultural cognition experiments. In addition to the elements of spring water and lotus flowers, we have also incorporated highly-rated design elements such as culture, shadow puppets, traditional opera, traditional Chinese medicine, traditional architecture, and the district itself, to reflect the local characteristics of the brand. These elements have been broken down into geometric shapes to create concise and summarized patterns.

The auxiliary graphics are created using vector tools, specifically the Pen Tool in Adobe Illustrator. Vector graphics are not limited by pixel restrictions and can be scaled infinitely without any loss of quality. Moreover, vector auxiliary graphics offer greater flexibility in terms of color changes and component separation during the application process. This makes vector graphics more versatile compared to pixel-based graphics (Figure 93).

Figure 93 Auxiliary graphic design examples and combination of auxiliary graphic designs. Source: drawn by the author.

4.2.3.1.4 Poster design

The branding poster design for Baihuazhou is an integral part of the overall brand communication strategy for showcasing the cultural heritage of Baihuazhou. It serves as a powerful visual tool to promote and showcase the unique cultural characteristics, historical significance, and key information of Baihuazhou to a wider

audience. The poster design carefully considers the visual identity elements of the brand, ensuring consistency and coherence with the Baihuazhou Brand Visual Identity (VI) guidelines (Figure 94).

Figure 94 Brand promotional poster design. Source: drawn by the author.

4.2.3.1.5 Brand visual identity (VI) manual

"Baihuazhou Brand VI Manual" is a systematic guidance manual that outlines the guidelines and standards for the visual expression of the Baihuazhou brand. Through this manual, the essence and values of the brand can be effectively communicated, ensuring a unified and impactful brand image.

The Brand VI Manual covers both the foundational system and the application system, including examples of how brand elements are integrated in various environments such as print materials, digital media, merchandise, and environmental graphics. This ensures that the visual identity of the brand remains consistent and recognizable at all touchpoints (Figure 95).

Figure 95 Brand VI manual (excerpt). Source: drawn by the author.

4.2.3.2 Brand application and offline promotion

The application section builds on the design foundation and focuses on the practical and applicable aspects of the brand identity. The design of this part has substantial malleability and practical value, providing a tangible reflection of the brand image and helping the brand become more systematic. In addition, it is also conducive to the unification of office and promotional supplies used by neighborhoods staff and merchants.

4.2.3.2.1 Brand offline application materials

Offline application materials are primarily used for office supplies, advertising, and peripheral products, catering to the needs of tourists, residents, staff, and private shop owners. The designs are simple and elegant, without compromising the functionality of the office supplies. Excessive decorative elements are avoided, especially for office supplies that require writing, where it is advisable to avoid using dark colors to ensure legibility of the text.

Brand offline application materials include 35 items such as brand labels, business cards, various office supplies, clothing and accessories, eco-friendly bags, paper bags, storage bags, umbrellas, posters, and promotional items (Figures 96-98).

(1) Office supplies

Figure 96 Office supplies. Source: drawn by the author.

(2) Offline advertising

Figure 97 Brand promotional columns, lightbox advertising. Source: drawn by the author.

Figure 98 Brand promotional materials, lightbox advertising. Source: drawn by the author.
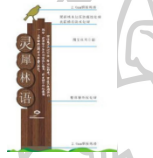
4.2.4 Signage system design

Based on the earlier research, the district's signage system design is the second principal component. The signage system design is an interface system that combines information with the relationship between the environment and people. In modern commercial spaces, public facilities, urban transportation, and community public spaces, wayfinding signage are no longer isolated individual designs or simple signposts. It has evolved into a systematic design integrating brand identity, architectural landscape, transportation nodes, informational functionality, and media interfaces(Yan, 2015).

4.2.4.1 Signage system design analysis

Based on the research conducted in the previous section regarding the signage system design within the district, it is necessary to optimize and design a specific plan for the directional signage system in the Jinan Baihuazhou Historical Cultural Block. Currently, the signage system design in the district has six significant issues, including information gaps, misinformation, redundant information, insufficient signage, lack of consideration for ergonomics, and stylistic deviations. These issues require a comprehensive planning and design approach (Table 48).

Table 48 Classification of guides

Positioning class		Indication class		Service class	
Main index	Sub-index	Level 1 instructions	Level2 instructions	Prompt class	Prompt class
Main road, entrance	Regional Junction Interchange	Main road interchange	Regional intersection	Everywhere in the scenic area	Everywhere in the scenic area

To address these concerns, the signage system design is categorized, analyzed, and compiled into a comprehensive design framework based on the overall principles of the district's signage system design (Figure 99).
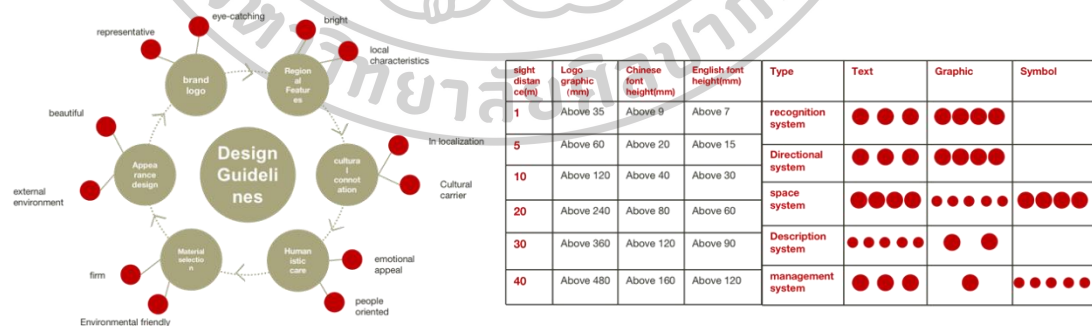
Figure 99 signage system design guidelines. Source: drawn by the author.

① Design proposition:

The signage system design in the Baihuazhou Historical Cultural Block belongs to the tourist attraction signage system design category. The concept of tourist attraction The signage system design in the Baihuazhou Historical Cultural Block

belongs to the type of tourist attraction wayfinding systems. The idea of tourist attraction signage system design is applied to the planning and design of signage system design in historical and cultural blocks, forming a design theory for urban wayfinding systems. The signage system design should emphasize its regional and cultural characteristics. Don Norman emphasizes the importance of a user-centered approach in his work(Lin et al., 2010). Jesse James Garrett (2006) introduces ways to optimize user experience in his book, achieving effective communication and feedback between individuals and the cultural environment of the urban district.

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The signage system design in Baihuazhou has the following characteristics: Firstly, the signage system design has extensive coverage, distributed throughout the district, making a strong impression on visitors. The signage system design in the section is highly symbolic and visually expressive, with universality and intuitiveness. Secondly, the signage system design within the community has strong controllability and functions to guide and direct visitors. In addition to ensuring the invention's effectiveness, exploring the district's regional cultural connotations and unique attractions is essential. Lastly, the signage system design in the community is a highly summarized language combined with regional culture, deepening memory and improving the quality of information transmission to achieve perfect communication effects.

② Design components:

The Baihuazhou Historical and Cultural Block Signage System Design consists of several basic elements, including color, graphics, text, materials, and craftsmanship. Each of these elements has a profound impact on the overall functionality of the signage system design. A superior signage system design originates from a well-planned approach to these elements:

Color: During the design process of the signage system design, it should be aligned with the brand's primary color palette, ensuring harmony with the regional color landscape while highlighting color distinctiveness within the environment.

Graphics: In signage system design, emphasis should be placed on the functional expression of graphics. Graphics convey information more quickly than text and offer the advantage of intuitiveness. By shaping graphic forms, the system becomes more vibrant, enhancing visitors' visual aesthetic awareness and making the public visual environment brighter and more organized.

Text: Attention should be paid to the accurate transmission of graphic and textual content, as well as the appropriate combination of font styles and sizes. The selection of fonts should consider indicators of social identification, satisfying both artistic requirements and the effectiveness of functional layout.

Materials and craftsmanship: The frame of the wayfinding signs is made from a combination of stainless steel and stone to reflect the local architectural characteristics. Stainless steel is a corrosion-resistant material that offers good hardness and strength, well as easy cleaning and maintenance. Stone, on the other hand, is a safe and environmentally friendly material. Using stone as the material for the wayfinding signs has the following advantages: the color and texture of the stone can blend into the local environment, avoiding a disruptive appearance that would disturb the existing ambiance. The use of these two materials is in line with the overall brand tone. Moreover, by taking into account the psychological needs of the crowd, the selection of materials with aesthetic appeal, tactile sensation, and comfort has been made to construct the system's signage.

Functional analysis of the signage system design: Baihuazhou is not only a tourist attraction but also a residential community, encompassing both commercial and residential areas. In such a complex and diverse neighborhood environment, there is a wide range of activities taking place, including business, housing, entertainment, exhibitions, and social gatherings.

Therefore, the signage system design should not only provide directions for people but also possess the functionality to handle these various activities. It should be able to guide the crowd dynamically and intelligently, displaying different information based on different requirements.

Determining the graphic symbols and text size for the signage system design:

According to GB/T 15566.1-2007 "Public information guidance systems – Setting principles and requirements - Part 1: General principles," the minimum size of signs should be determined based on the maximum observation distance of the sign. The relationship between the size of graphic symbols and the maximum observation distance is determined by the following formula: A = 25h/1000.

4.2.4.2 Signage system design proposal

①Planning and layout: In the planning and design process of the signage system design, it is divided into four aspects: Spatial signage system design, regional signage system design, district signage system design, and civilization and warning signage system design. The district signage system design mainly serves the function of guiding visitors to various attractions and is divided into three categories: positioning wayfinding system, directional signage system design, and public service signage system design.

The directional signage system design is mainly distributed at the intersections of main roads and side roads within the scenic area, while the service signage system design is mainly distributed within tourist areas along side roads and at their intersections (Figure100).
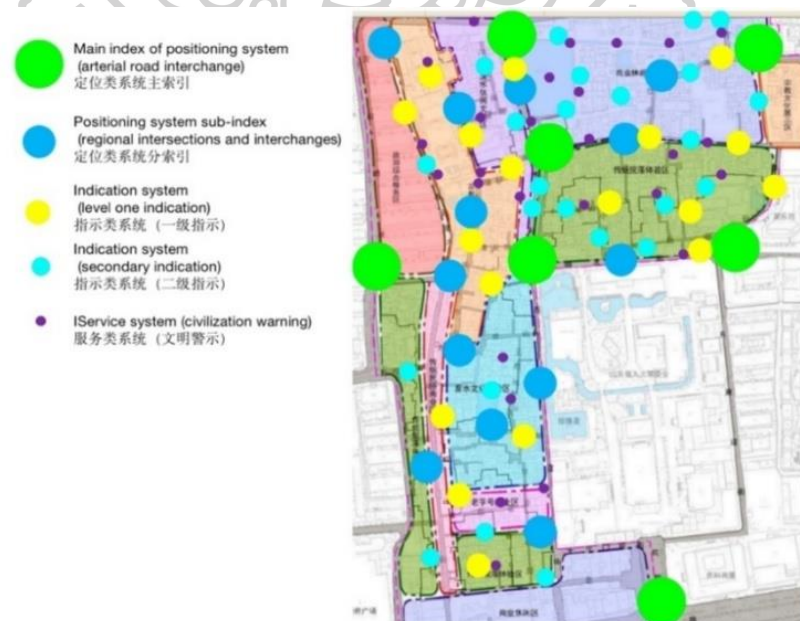
Figure 100 Distribution of the Baihuazhou signage system design. Source: drawn by the author.

②Symbol design: In the symbol design of the signage system design, the information seen by visitors is composed of symbols. Symbols serve as carriers of culture, and cultural content can be conveyed through visual symbols. The standardized American Institute of Graphic Arts (AIGA) / U.S. Department of Transportation symbols are adapted with smooth modifications and infused with Chinese elements, such as traditional Chinese qipao-style clothing. This results in a localized, concise, easily understandable, highly symbolic, and highly recognizable symbol system. Uniform symbol markings are applied to the signage system design within the district (Figure 101).

Figure 101 System symbol design. Source: drawn by the author.

③Spatial signage system design: The aim is to achieve a good visual effect by selecting antique-style architectural forms that are characteristic of the district. The architecture is incorporated into the background and graphic elements are added to showcase the basic information of the district with local characteristics. In terms of specifications, the design takes into consideration the requirements of humanization. To facilitate visitors in appreciating and reading information from a distance and to provide them with a pleasant experience, a variety of flexible design methods are employed. The design extracts and summarizes the physical information of attractions, such as buildings, transportation, and scenery. Compared to ordinary wayfinding signs, it is more interesting and easier to understand, combining practicality and artistic qualities. Additionally, it can convey the cultural connotations of the attractions, further enhancing the cultural image of the attractions (Figure 102).
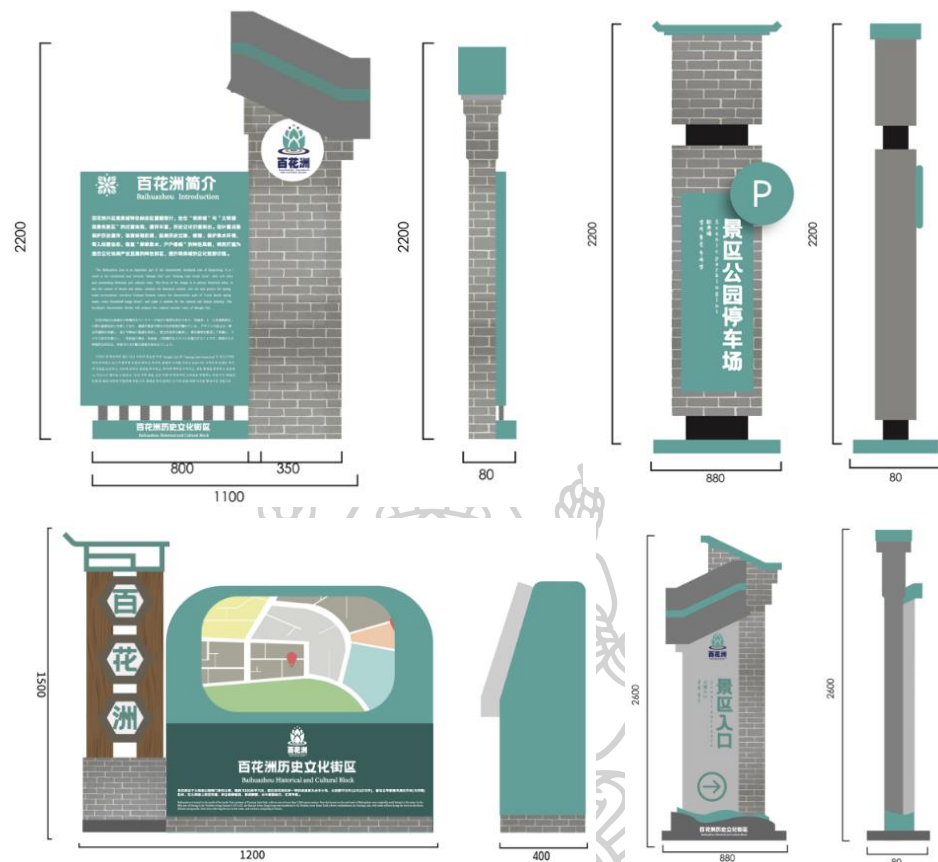
Figure 102 Spatial signage system design. Source: drawn by the author.

④ Regional signage system design: The regional signage system design primarily conveys information through the introduction of regional location concepts, featuring a clean and minimalist rectangular design. To add more variation to the shape of the signage system design, certain signs incorporate hollow designs. While reflecting historical characteristics, they also convey a sense of modernity, aiming to strike a balance in visual aesthetics. The panel information consists of a combination of graphics and text, providing a mixed guidance. Each individual space has its own visual symbol. By creating visually rich impressions with symbolic information, the wayfinding system connects different spatial relationships logically.

After entering the district, visitors have an urgent need for guidance to public facilities such as parking lots, ticket offices, and service stations. They can obtain clear directional guidance even from distant locations. Utilizing a simple and clear modern design, combined with elements of traditional architectural contours and

special color tones, a solemn and dignified cultural atmosphere is created within the attractions. This design approach effectively combines modern design aesthetics with traditional Chinese cultural elements, providing visitors with an entirely new visual experience (Figures 103-104).

Figure 103 Regional signage system design. Source: drawn by the author.

Figure 104 Regional signage system design. Source: drawn by the author.

⑤Attraction signage system design: Attraction information boards are typically distributed within each attraction area, providing visitors with relevant information to familiarize themselves with the background of the site, making the visit process easier. In the design process, silhouette shapes resembling ancient architecture are chosen to break away from mundane text explanations, enhancing the interest of

visitors during the viewing process and elevating the overall tour experience (Figure 105).
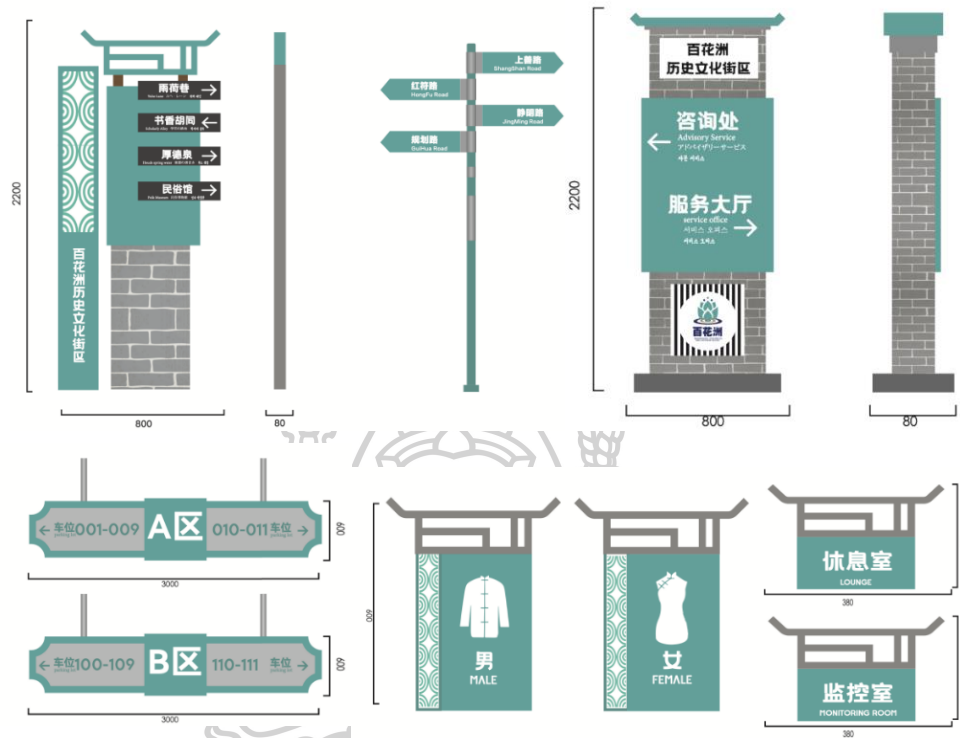
Figure 105 Attraction guide category. Source: drawn by the author.

⑥Civilization and warning design: The main purpose of civilization and warning signs is to ensure the safety of visitors during their visit and to protect the surrounding environment of the attractions, preventing damage to historic buildings and relics due to improper behavior. The historic buildings in the district have a large area and, due to their long history, pose significant safety hazards to the surrounding environment. The numerous ancient architectural remains within the scenic area are precious treasures of our national cultural heritage that are difficult to restore if seriously damaged. Visitors, often lacking relevant knowledge, may unknowingly engage in activities that violate local norms, making civilization and warning signs essential.

In the design process of civilization and warning signs, graphics that reflect the characteristics of the district are chosen, ensuring both practicality and aesthetics. These signs serve the purpose of reminding and notifying visitors while also providing them with a sense of aesthetics and civilization (Figure 106).

Figure 106 Warning Sign. Source: drawn by the author.

4.2.5 Tourist navigation map design

 4.2.5.1 Background and case study

The role of tourist guide map design in branding is crucial in shaping the perception and identity of a destination. It is more than just navigation; it is a visual storyteller. The content curated in the map highlights unique attractions, cultural heritage, and local experiences, reinforcing the destination's brand message. It plays a vital role in shaping the perception and memory of the goal for tourists.

4.2.5.1.1 Baihuazhou tourist navigation map current status description

Currently, the neighborhood faces a rather dire situation. Firstly, more guiding maps for the community need to be constructed, suggesting a need for more previous development work in this area (Krygier & Wood, 2016) (Figure 107). Secondly, the visual monotony of the neighborhood calls for creative approaches, such as highlighting the unique cultural heritage of the site or incorporating historical and human narratives into the mapping process to make the tourist guide maps more appealing and informative for residents and visitors. Based on the preliminary survey results, this session will use direct observation and questionnaire surveys to determine the design positioning, design style, and display form of the visualization design of the tourist guide map.
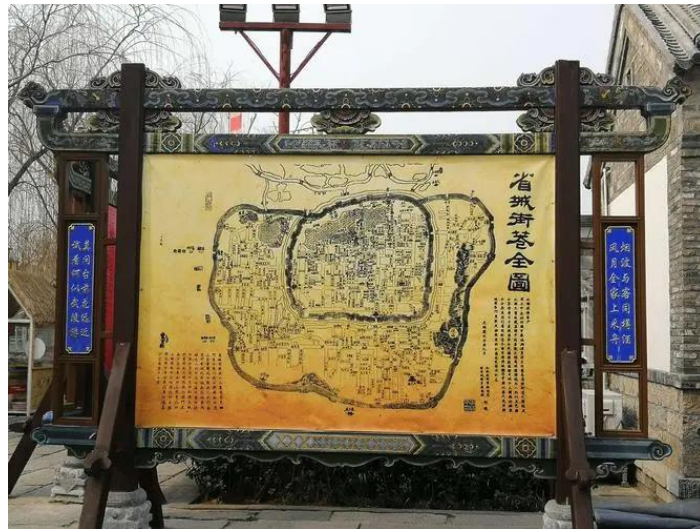
Figure 107 Map design for case one. Source: photographed by the author.

4.2.5.1.2 Excellent case study on tourist navigation maps

(1) Case 1: Map design of Zhoushan children's park in Zhejiang Province focusing on visual unity design

The map design of Zhoushan Children's Park in Zhejiang Province was jointly created by the Landscape Design Research Institute of China Academy of Art - Zhoushan Children's Park Project Team - Shao Zhan Team and the Zhoushan Municipal Government of Zhejiang Province (Figure 108). Zhoushan Children's Park is an artificial lightweight children's tourism resource (downtown children's playground) designed around one or more specific children's themes for overall planning. It has the dual function of meeting the recreational needs of visitors of different age levels and being used for educational promotion and popularization. Whether from the perspective of functionality or visual unity of the display or functionality of improving the children's park tourism map design, it needs to attract more consumers (ZCOOL, 2019).

In the basic element design, for the selection of color elements, cleverly through a single-color system for expansion, through the different colors of the ingredients in the map to make a significant distinction, for the detailed portrayal of an object, the primary use of the same color system for superposition, so that the overall picture is more concise, the overall visual presentation is more fluent. For the selection of text, the use of the text of the strokes in the split and combined with the exaggerated expression and the combination of graphics and text to make the overall visual effect livelier and more exciting, in line with the psychological needs of consumers.

Figure 108 Map design for case one. Source: https://www.zcool.com.cn/.

In the overall visual design, the map design adopts a horizontal composition, systematically showing the tourist routes, architectural images, particular areas, labeled graphics, and other structures in front of consumers. Regarding architectural vision, the hand-drawn cartoon modeling design caters to the visual style preferred by children and modern young people, making the tourist map design of Zhoushan Children's Park more spatial.

(2) Case 2: Dashilan map design with focus on visual visibility design

Beijing Dashilan map design is jointly created by Nippon Design Center - Kenya Hara team and Guang'an Holdings. Launching the Dashilan renewal plan in 2019, Kenya Hara was invited by the famous Chinese designer Liang Jinyu and began to get in touch with Dashilan, participating in the project bidding and completing the whole Dashilan guide system (Figure 109). The advantages of practicing the soft development of revitalized urban organic renewal by way of urban planning, intervening in old neighborhoods with the power of design and art, and involving more young people are summarised below:

Figure 109 Map design for case two, Source: https://www.ndc.co.jp/cn/.

The Guanyin Temple neighborhood of Beijing Dashilan is the root of merchant and Liyuan culture, with a strong city and historical and cultural atmosphere. In the basic element design, for the selection of color elements, Chinese red was chosen, with a small number of other colors, to create a serene, elegant, and modern design style. For the selection of text, it is used. Symbols of public signs are designed to be simple and straightforward, playing with the eye-catching characteristics of general symptoms, and the logo design of the bookstore's cultural and creative shops echoes the icon design of the building (Figure 110).

Figure 110 Specific display of case two. Source: https://www.ndc.co.jp/cn/.

In the map design, an overhead perspective is used. Kenza Hara believes, "Red is a traditional Chinese color that permeates daily life, so I chose red. The characteristic of Dashilan is that the houses in Dashilan only have two or three floors at the highest. They are all low-rise buildings, and there are no high-rise buildings. They are particularly suitable for 3D expressions. You can look down on them. Seeing the overall appearance of the courtyard, the buildings in the old street are simplified into three-dimensional red lines, presenting angles in a side-viewing way." Therefore, in the application, the perspective is a top-down view, and the shape of each house can be observed three-dimensionally intuitively. It makes the field of vision wider and the three-dimensional graphic elements closer to real life, which helps viewers lock their position.

(3) Case 3: Wuhan Garden map design with functional completeness

The Wuhan Garden Expo guide map design is jointly created by the Wuhan University Institute of Urban Planning and Design and the Zhoushan Municipal

Government of Zhejiang Province. The Wuhan Garden Expo Guide Map harmoniously blends natural aesthetics, user-friendly functionality, and rich cultural connotations. It aims to provide visitors with a seamless and visually appealing navigation experience while reflecting the essence of Wuhan's unique urban architecture and historical significance. The design uses a realistic style that blends organic forms, flowing lines, and vibrant colors to evoke a sense of tranquility and wonder (Wuhan Garden Expo official website, 2015) (Figure 111).

Figure 111 Map design for case three. Source: http://whybh2015.hankowli.com.cn.

The design fully considers the user experience, with broad, well-defined roads and an intuitive map layout. It also features a variety of transport options, bus route maps, and fare information. The color scheme is derived from the natural tones of the area, creating a calming atmosphere and enhancing the overall visitor experience.

4.2.5.1.3 Principles of visual design of map navigation information

Table 49 Case summary

Name	Merit	Aspects to be improved
Zhejiang zhoushan children's park map design	The features are distinctive, the style is unified, the visual effect is more lively and interesting, and the hand-drawn cartoon design caters to the visual style favored by children and modern young people.	Map design should be more standardized. Add Chinese and English bilingual.
Beijing Dashilan map guide design	The 3D panoramic map allows tourists to clearly preview the scenic spots. Interactive equipment has been added.	Large-area map displays of the same color may easily cause visual fatigue for tourists.
Wuhan Garden expo guide map design	A clear introduction to map design information. Specifications for the use of logo fonts, etc. Surrounding facilities are marked in detail.	The visual lacks a certain interest. Add Chinese and English bilingual.

According to the case study, we know that the tourist guide information should include attraction information, road instruction information, warning care information, service facilities, and other information; the display mode is usually in the form of tourist brochures, tourist maps, or other tourist promotional materials, at the same time, which is mixed with a large number of advertisement information, we should avoid the information load caused by too much information that tourists can't find the corresponding information in time, and the tourism experience is poor. It shows the communication effect of graphic details and the smooth experience of reading content, etc. Therefore, four principles should be paid attention to in the following design:

Efficient communication of information - by utilizing the information dissemination effect of graphics over text, the data is transformed into a design that aims to be understandable to the target audience;

Rationality of screen layout - beautification through typography in visual;

Normality of element use - architecture according to industry standards;

Experientiality of user use - finding a sense of harmony between people, environment, and product.

4.2.5.2 Define objectives and audience

Based on brand research, collation, and analysis, the objectives of the tourist guide map were determined and used as a strategy to guide the design. The design of the guide information will improve and deepen the brand impression of the scenic spot and enhance the tourists' experience of playing. Therefore, we summarise the three aspects of objectives, people, and products to clarify the design direction.

4.2.5.2.1 Objective

The purpose is to help users determine the direction and make decisions. At the same time, it increases the visibility of Baihuazhou and enhances the brand influence.

4.2.5.2.2 Audience positioning

We learned that the brand audience group is mainly 21-45 years old, and the tourists who choose to visit are primarily students, white-collar workers, or family-type trips, whose main purpose is mainly for leisure. The consumer demand of this group has upgraded from survival consumption to enjoyment and development

consumption, which is the primary personality characteristic of the main body of tourism consumption in China.

4.2.5.2.3 Product positioning

According to the cognitive tendency of the audience group, the simple design style allows the "information" itself to be highlighted as the core, considering youthfulness and informatization, reducing the generation of cognitive barriers, and simultaneously focusing on portability. To facilitate the use of tourists, the final combination of print media and scenic guide signs of communication advantages achieve the overall unity of the visual image of the neighborhood.

4.2.5.3 Design content positioning

4.2.5.3.1 Research process
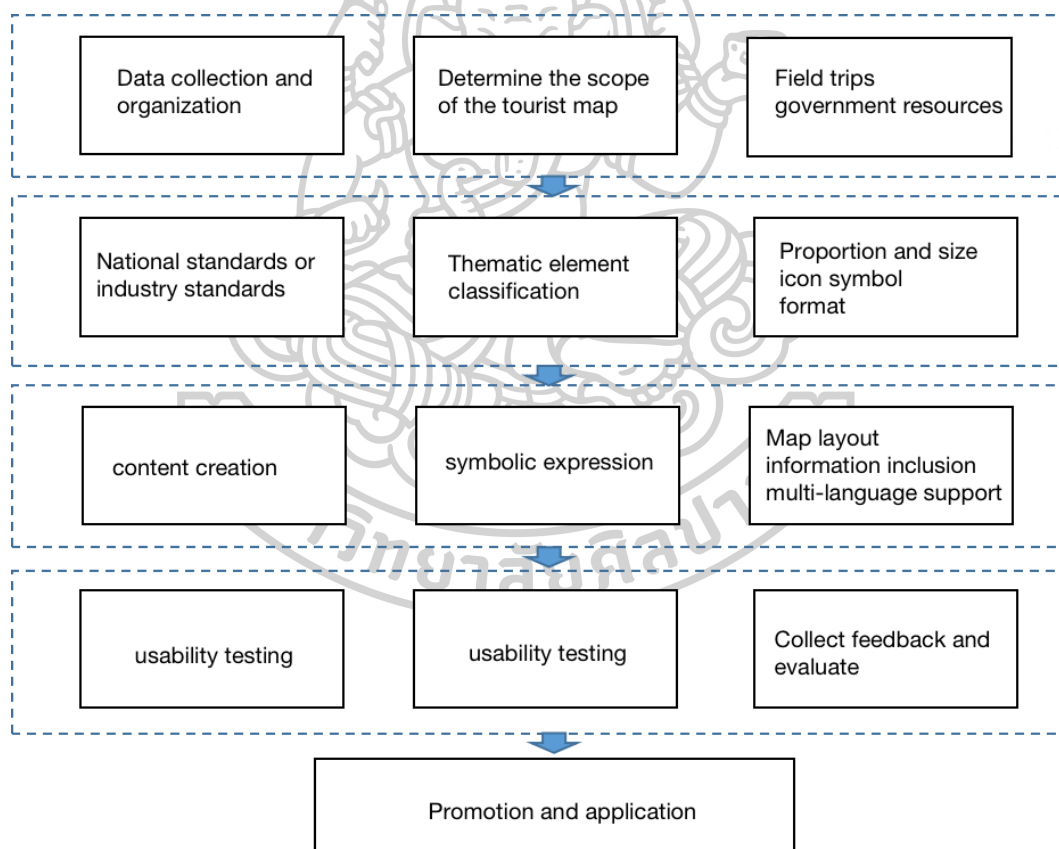
Figure 112 Research flow chart. Source: produced by the author.

4.2.5.3.2 Data collection

The first is to study the regional characteristics, cultural heritage resources, and human customs of Jinan and Baihuazhou through books and literature. The second

is to go to the neighborhood several times for research. Afterward, the scenic area's regional scope, the neighborhood attractions' distribution, practical information about the community, and traffic information were compiled.

4.2.5.3.3 Content division

According to the functional division, the content of Jinan Baihuazhou Neighborhood Tourist Guide Map design is divided into three parts:

Firstly, the "Scenic Spots" section is dedicated to the detailed introduction of Baihuazhou's culturally rich and significant attractions, architectural wonders, and any sites of historical significance.

Secondly, the "Traditional Cultural Experiences and Activities" section highlights the unique cultural offerings of Pak Nga Chau. It includes details about cultural performances, theatres, or workshops.

Finally, the "Local Facilities and Services" category focuses on practical information. It outlines essential services such as restaurants, customer service centers, mother and baby rooms, public toilets, and medical facilities, which can ensure that they receive the necessary convenience and assistance when needed.

4.2.5.3.4 Implement chinese industry standards.

The guide map's design should align with China GB/T 20501.3 (Design Principles and Requirements for Elements of Public Information Orientation Systems). Including the use of Chinese and English bilingual expressions; the font of Chinese characters other than the name of tourist attractions (or tourist attractions) should be bold; Chinese should be more eye-catching than other languages; use of standardized Chinese characters (Simplified Chinese); the English font should be quasilinear, and the letters should be capitalized, or all letters should be capitalized.

Location identification of tourist attractions: by Chinese or Chinese and English (the text is consistent with the whole system), of which the Chinese name can use unique fonts.

Scenic spot introduction: the design should meet the requirements of GB/T 20501.4. Including scenic overview and description of significant tourist attractions, the use of languages and fonts, and the whole system to maintain consistency.

Panorama: generally consists of a name, schematic diagram of the scenic spot, legend, and tour road map. Among them, the schematic diagram of the scenic spot

should be located in a prominent position in the guide map, and the rest should be outside the area of the schematic diagram of the entire picturesque site.

4.2.5.3.5 Design considerations

Scale and size: Determine the appropriate scale. Consider the physical size of the map for print or digital display.

Symbols and icons: Adopt a design scheme for the guide system.

Colour scheme: To deepen the visitor's impression of the brand, adopt a design that is dominated by the brand's colour palette.

4.2.5.4 Creating highlights based on tourists perspective

4.2.5.4.1 Tour route

First, to ensure a complete tour of the entire scenic area. Its guide route should maximize the protection of tourists in the specified time to play the vast majority of attractions, each attraction by the linear, chronological order strung together to form a complete sequence of excursion routes.

Second, set a functional navigation route map based on the audience's characteristics. They are the Baihuazhou study tour route and the water play route. Baihuazhou's high-quality features are created for different audiences to express the advantages of the scenic spot better.

Third, the introduction of celebrities and historical allusions. This is the main highlight of this design; for travelers, it is a fascinating and engaging way to explore the destination. Responding to audience preferences, relevant story backgrounds, illustrations, or portraits are added to enhance visual appeal and provide a clear understanding of the historical context.

4.2.5.4.2 Character (guide) selection for the tour map

In a guided tourist map with the tourist as the central perspective, there is a need to give the tourist a better sense of immersion, provide a sense of ownership, form their traveling perspective, and lead the route of the story's development. In addition, the character roles in tourist maps play an important role in shaping the whole design and outlining the characteristics of the neighborhood, so this time, a travel guide is added.

The traveling map guide (characters), using the cultural elements of famous scholars that are ranked high in the brand resource library, selects two of the

most representative figures of Jinan - "Jinan Er'an" (Figure 113). This refers to two famous lyricists during the Song Dynasty, Xin Qiji and Li Qingzhao. Since they were both from Jinan and had the character "An" in their names, they were collectively known as "Jinan Er'an." They were the most outstanding lyricists of the Song Dynasty and the most exceptional poets in ancient Chinese literature.

Figure 113 "Jinan Er'an" character prototype. Source: collected by the author.

4.2.5.5 Tourist guide map design practice

Based on the above design strategies, research work was carried out on tourist guide map design.

4.2.5.5.1 Theme style

Continuing the brand's overall style, it emphasizes the importance of aligning the map design with the established brand style, using a hand-drawn, minimalist style while adding a guided tour of the map characters to enhance the overall user experience.

4.2.5.5.2 Data preparation

Baihuazhou presents a distinctive layout with its unique "six vertical and seven horizontal" pattern, which refers to the grid-like structure of six main roads in the north-south direction and seven main roads in the east-west direction. The area is elongated along the north-south axis, demonstrating a remarkable sense of verticality in that direction while occupying a relatively compact footprint.

4.2.5.5.3 Character design

Character modeling and settings are also the finishing touch of the map guide; seven experts were invited to conduct online discussions and evaluate the three plans. After review, the most suitable modeling was selected for this study.

(1) Programme details

Option 1: Cleverly integrate the contemporary charm of Li Qingzhao, Xin Qiji, and Q-shaped avatars. Lovely and approachable, with a unique personality and exuding warmth and friendliness. (Figure 114).

Figure 114 Q-drawing of option 1 character. Source: drawn by the author.

Option 1 expert assessment and feedback, (Table 50):

Table 50 Option 1 Expert feedback

No.	Question feedback
1	Generally in line with the current trend of cute and simple design.
2	The painting effect is relatively simple.
3	Lack of consistency with brand style.

Option 2: This program incorporates ancient Chinese design styles. Historical accuracy was meticulously followed during the drawing process, and the characters are dressed in traditional costumes, reflecting the elegance of ancient literati. The design captures the essence of classical Chinese art with rich and straightforward tones, evoking a sense of nostalgia and rich cultural connotations (Figure 115).

Figure 115 Option 2 Chinese ancient style character drawing. Source: drawn by the author.

Option 2 expert assessment and feedback, (Table 51):

Table 51 Option 2 expert feedback

No.	Question feedback
1	It is recommended that modern elements be incorporated to enhance accessibility and appeal to a wider range of people.
2	Character traits are clearer and in line with the character traits.
3	Not very compatible with the overall style of the brand, further adjustment is recommended.

Option three: A unique design featuring a fusion of Chinese aesthetics and cartoon art. This innovative combination captures the attention of a diverse audience, catering to both those who appreciate traditional Chinese culture and a younger demographic attracted to the charms of cartoon characters. Clothing and accessories reflect classical Chinese elegance, with colors such as blue, cyan, pink, and gold and local cultural motifs added to the dress and costumes (Figure 116).

Figure 116 Option 3 Chinese national style and cartoon style character drawing.
Source: drawn by the author.

Option 3 expert assessment and feedback, (Table 52):

Table 52 Option 3 Expert feedback

No.	Question feedback
1	The design bridges the generation gap and promotes cultural appreciation for younger audiences.
2	The design style is unique and can ensure the attractiveness of the tourist map guide image.
3	The color combination is reasonable, and the character's expression has affinity.
4	The task modeling style meets the requirements of the brand image design of Baihua Island.

The design of the characters of the Baihuazhou brand tourism guide map was carried out and evaluated through a variety of research methods (Table 53), and seven experts were invited to score the three sets of options' uniqueness, attractiveness, and innovativeness, as shown in (Table 54).

Table 53 Statistics of three options

Option1	Option 2	Option 3
Q version avatar style	**Traditional realistic style**	**Chinese style combined with cartoon style**
"Q version" characters, are a style of drawing characters with exaggerated and cute features. Q version characters have small and chubby bodies with disproportionately large heads，giving them a cute and endearing appearance.	The traditional Chinese painting style embodies the characteristics of Chinese philosophy and aesthetics.	Combining Chinese style with a hand-drawn cartoon style can result in a visually appealing and culturally rich design. This fusion allows for the incorporation of traditional Chinese art elements into a playful and approachable format.

Table 54 Scoring result

No.	Evaluation criteria	5A	4A	3A	2A	A
Option1	Visual distinctiveness	1	2	2	1	1
	Visual appeal	2	1	2	2	0
	Innovative	2	1	2	1	1
Option2	Visual distinctiveness	1	3	0	2	1
	Visual appeal	3	2	1	1	0
	Innovative	2	2	2	1	0
Option3	Visual distinctiveness	5	2	0	0	0
	Visual appeal	3	1	3	0	0
	Innovative	3	2	2	0	0

Option 3 was finally chosen for the design project practice.

4.2.5.5.4 Map design

(1) Regional design: The element extraction method in the regional design combines two design methods, the general method and the graphic combination method. The framework of the map screen is a square map, which is mainly used to indicate the

broad scope and the framework should contain the buildings of the ancient city attractions, the vegetation of the old city, the waterways of the ancient city, and the ancient city pedestrian streets.

(2) Architectural image design: Selected with a high degree of recognizability of the old city buildings for its design, the architectural image of the refining method using the method of induction extraction for the creation of the idea of the old city buildings is the shape of the outline to be a simple outline (Figure 117).

Figure 117 Example of architectural image. Source: drawn by the author.

(3) Design of labeled graphic symbols：One of the primary purposes of the labeling graphic symbol design is to ensure that the amount of information while taking into account the overall visual effect of unity and simplicity; another purpose is to make the map screen effect of the presentation of a more recognizable (Figure 118).

Figure 118 Labelled graphic symbol design. Source: drawn by the author.

(4) Use of fonts: Marking fonts by GB/T 20501.3 standards, use bilingual expressions in Chinese and English, with Chinese fonts in bold and standardized Chinese characters, with all letters capitalized.

(5) Overall map effect

The setting of the tour route and the elements that characterize characterized the scenic areas on the way. The functionality of the guide needs to be taken into account, so the author designed an optimal tour route during several visits to form a reasonable story route with a guide function.

Map Route 1: North Entrance → Folk Culture Market → Fuxue Literature Temple → Beixi Remains → Yuheju → Non-heritage Experience Museum → Jen Pond, Daizong Spring, Mirror Han Pond → Baihuazhou Theatre → Shadow Shadow Theatre → Spring Water Bean Curd Museum → Jasper Springs, Jiao Teng Springs, Royal Pools → Guandi Temple → Springs Bunny Wang Cultural and Creative Centre → South Exit (Figure 119).

Figure 119 Overall design effect display. Source: drawn by the author.

Schematic diagram of the Baihuazhou research and learning tour route: We designed a research and learning tour route map based on on-site observations and interviews with the audience. The route setting takes into account the functionality of the tour guide, including the route, tour time, introduction to each attraction, etc.

Route: Fuxue confucian temple→Folk culture marke→Intangible cultural heritage experience center→ Shadow puppet theater→ Quanshui tofu museum→ Quancheng rabbit king cultural and creative center→Baihuazhou theater→Wuyue temple (Figure 120).

Baihuazhou fun route guide map display: This map contains two routes: one is a must-visit attraction, and the other is a route map for spring tours. It compiles a series of must-visit locations and activities to ensure a seamless and smooth journey.

Route 1: Fuxue confucian temple → Folk culture market → Zhilandi → Yuheju → Intangible cultural heritage experience center → Baihuazhou theater → Quanshui tofu museum → Quancheng rabbit king cultural and creative center → Hanfu experience center

Route 2: North entrance → Beixi ruins → Daizong spring → Zhenchi, daizong spring, Jinghan pond → Biyu spring, Jiaoteng spring, Wangfu pond → South exit.

Figure 120 Schematic diagram of the two routes. Source: drawn by the author.

(6) Binding design

In the process of binding design, to consider the characteristics of tourists, such as portability and durability, combined with the reflection of the content of the guide map and the suggestions of the Baihuazhou Management Committee, two versions were used for application. The first version of the map manual was a 32-folio manual. Embed into the album page. The second edition of the portable version is in A3 size and has three-fold pages (Figure 121).

Figure 121 Tour guide brochure effect display. Source: drawn by the author.

4.2.5.6 Map testing and feedback

4.2.5.6.1 Usability testing

Purpose: To understand the experience of tourists and residents of the neighborhood using tourist guide maps.

(1) Survey objects: For visiting tourists or citizens to participate in interviews, two team members will first distribute maps, and then one member will distribute user questionnaires (Figure 122).

Figure 122 Neighborhood survey. Source: photographed by the author.

(2) Research method: Record the user's use process through the on-site observation. randomly distributed questionnaires for sampling. 135 research

questionnaires were printed and distributed, and 131 valid questionnaires were retrieved, with an effective rate of 96% for descriptive analysis.

(3) Research results: The research statistical data table shows that 91% of the respondents think that the design is evident and can help them quickly find their location; for the size of the annotations and text, the vast majority of the subjects think that it is very suitable for the usual reading habits. The overall satisfaction with the map is high, and the experience of using the map is good (Table 55).

Table 55 Map user usage survey analysis

No.	Survey category	Conditions	Percentage
01	Demographic information	Men	39%
		Women	61%
02	Age	Under 20 years old	11%
		21-35 years old	49%
		36-45 years old	33%
		over 46 years old	7%
03	Are the color schemes and icons clear and intuitive, and do they help you understand the map?	Yes	95%
		No	5%
04	During the reading process, did the presentation of the text help you understand?	Don't understand	1%
		No help	4%
		General	3%
		Helpful	21%
		Very helpful	71%
05	Can you quickly find the location or information you're looking for on the map?	Yes	95%
		No	5%
06	Does the map provide details of the area's major attractions, facilities or services?	Yes	98%
		No	2%
07	Does this map help you navigate the Baihuazhou area efficiently?	Yes	96%
		No	2%
08	How satisfied are you with your overall experience using Maps?	Very dissatisfied	0%
		Not satisfied	1%
		General	2%
		Satisfy	11%
		Very satisfied	84%

4.2.5.6.2 Feedback

Positive feedback on all aspects of map design, readability, usability, and overall user experience indicates high user satisfaction. This shows that the map

successfully meets the needs and expectations of users, providing them with a positive and practical experience when navigating the Baihuazhou area.

Positive feedback can be the basis for future map designs, indicating which elements resonate well with users. It should be maintained or further enhanced in subsequent versions, and the map effectively meets user requirements and preferences. Overall, this positive feedback is a testament to the quality of the map and its ability to meet the diverse needs of its users.

4.2.5.7 Promotion and application

Promotion within the neighborhood: Print into books and distribute them to key locations such as entrances to scenic spots, information centers, and popular attractions. When scanned by visitors ' smartphones, QR codes are printed onto tour guide maps and panoramic area guidance systems to provide additional information about specific points of interest.

Out-of-the-neighborhood promotion: Work with local businesses such as hotels, restaurants, and tour operators to distribute maps. This expands the distribution network and ensures more visitors can access the map. Make a guided tour map part of their tour package and make sure every member of your tour group receives one.

In essence, the Hundred Flowers Chau Tourist Guide Map design has successfully achieved a harmonious balance between aesthetics and functionality. Its captivating visuals, user-friendly layout, informative content, and seamless navigation combine to create an extraordinary tool that enhances the overall visitor experience, making it an invaluable asset for both tourists and the local community.

4.2.6 Thematic cultural and creative travel-related merchandise

The design of travel-related merchandise focuses on two main directions: character-themed and poetry and painting-themed. The creation of the thematic cultural and creative illustrations is based on the famous verses and scenes of Li Qingzhao and Xin Qiji, incorporating the regional characteristics of Jinan, such as landmarks and iconic plants. The illustrations are designed to be easily accepted by the public and full of novelty and fun. In terms of overall style, a unified ancient style is adopted, but it is not purely retro; instead, it incorporates modern elements and aesthetics to make it more vivid and lively.

The illustrations highlight the characteristics of Jinan, closely linked with the "Er'an culture", and become a new and better platform to promote the reputation of Jinan's literati. The illustrations are primarily designed based on the scenes and verses of Li Qingzhao's and Xin Qiji's poetry. Different thematic series are created based on the content of the poetry, resulting in eight series of different poetic illustration scenes (Figure 123-124).

Figure 123 Creative image sketch and initial drafts. Source: drawn by the author.

Figure 124 Creative image completed. Source: drawn by the author

Merchandise derived from poetry and painting includes stamps, postcards, badges, business cards, work permits, and envelopes, utilizing the contents of poetry and painting. Merchandise centered around characters is designed as key chains, fridge magnets, and stickers, starting with the characters as the focal point.

Additionally, lifestyle products related to cultural and travel themes have been created, such as pillows, canvas bags, paper cups, folding fans, and oil-paper umbrellas. These items not only serve cultural and aesthetic functions but also retain their practicality, providing economic benefits (Figures125-126).

Figure 125 Cultural and travel-themed merchandise. Source: drawn by the author.

Figure 126 Cultural and travel-themed merchandise. Source: drawn by the author.

The design imagines scenes of "Er'an", who are both from Jinan, speaking in Jinan dialect, combines the "Er'an" figures with Jinan dialect, design them as emojis and apply them on the internet and various social media platforms to make them.

More easily spread and utilized (Figures 127).

Figure 127 Emoticon design and emoticon application. Source: drawn by the author.

4.2.7 Exhibition panels

The design of the exhibition panels aims to guide attendees in understanding the cultural diversity, sustainable development efforts, and immersive experiences. It adopts an elegant grid layout, skillfully juxtaposing historical photographs with modern designs. Thoughtfully placed text boxes convey concise and historical insights (Figure 128).

Figure 128 Exhibition panel design. Source: drawn by the author.

4.2.8 Summary

This chapter mainly covers brand design practices, including brand logos, brand foundational systems, offline brand material applications, brand spatial guidance systems, brand event theme design, and brand online and offline promotions in six parts. First, based on Saussure's two-axis analysis method, brand logo construction was carried out: symbols were extracted from the brand gene bank established in Chapter Three and placed on Saussure's two axes together with brand personality elements,

resulting in the creation of 10 logo combinations. Using a focus group approach, one logo was ultimately selected as the brand logo. Secondly, a brand foundational system was constructed, including standardized graphical representation of the logo, square coordinate diagrams, ink sketches, and reverse effect examples, reserved space, minimum scale limits, standardized font representation, ink sketches, and reverse effect examples, line drawings, and reverse effect examples, logo symbol and standard font horizontal and vertical combination specifications, brand standard colors, brand auxiliary colors, background color usage specifications, background color brightness specifications, auxiliary graphics, and other 20 brand foundational system elements. Finally, brand design practices were conducted, including brand application products: brand labels, brand business cards, brand promotional pages, brand office supplies, brand posters, promotional materials for brand events, and 27 other design practices. Using "Jinan Er'an" as a prototype, a localized IP image was constructed by anthropomorphizing it and integrating it with brand elements. Online promotion application design practices include brand application interface and brand social media interface design and so on.

4.3 Design exhibition and audience satisfaction results

4.3.1 Exhibition overview and results

The study aims to explore the transformation of urban cultural heritage brand image shaping, showcase the diversity and creativity of urban cultural heritage in exhibition displays, and validate the theoretical basis through audience participation and feedback. In August 2023, offline design exhibition was held to showcase a series of design proposals to the audience. Feedback was collected through questionnaire surveys and on-site interviews. Analysis of the collected data revealed that the audience has strong interest in Jinan's urban cultural heritage brand and the overall response is positive. The collected data also showed a wide of diversity and adaptability.

4.3.1.1 Venue introduction

The design exhibition was held at the Shandong Handmade Display and Experience Center in the Baihuazhou Historical and Cultural District. The Shandong Handmade Display and Experience Center, established and operated by Jinan Cultural and Tourism Investment Holdings Co., Ltd., is one of the critical projects of Shandong Province's Cultural and Tourism Development Promotion Project in 2022. It is a

handmade industry park jointly created by the provincial, municipal, and district levels, integrating "Shandong handmade sales, research and development, exhibitions, incubation, and experiential learning." The center is guided by the critical spirit of promoting the "creative transformation and innovative development" of excellent Chinese traditional culture, focusing on exploring the outstanding traditional cultural heritage resources in Shandong and the creative development of conventional culture. Create a comprehensive exhibition space with different themes such as "Handmade Products", "Qilu Handmade", "Handmade Exhibition", "Handmade Research" and other themes, It will become an art palace for Jinan citizens to play with intangible cultural heritage, experience art, and appreciate the beauty of culture in the Qifeng and Luyun.The choice of venue for the exhibition ensures maximum exposure and public participation.

After visiting Baihuazhou, visitors can directly enter the experience center to view the collection. The exhibition hall can accommodate various design displays, information panels, and interactive elements, allowing visitors to immerse themselves in the concept of brand design construction (Figure 129).

Figure 129 Exhibition venue. Source: photographed by the Author.

The exhibition combines visual elements, interactive installations, and multimedia presentations to create a unique historical and artistic atmosphere of the region, attracting visitors. The visual design of the exhibition harmoniously blends traditional elements with contemporary aesthetics, showcasing the unique charm of Baihuazhou. The layout has been carefully designed to evoke a sense of pride in history and a confident cultural identity in visitors, enhancing the overall storytelling appeal. The exhibition plays a crucial role in shaping the brand's visual identity for urban

cultural heritage by showcasing its uniqueness, fostering emotional connections, and guiding public awareness (Figure 130).
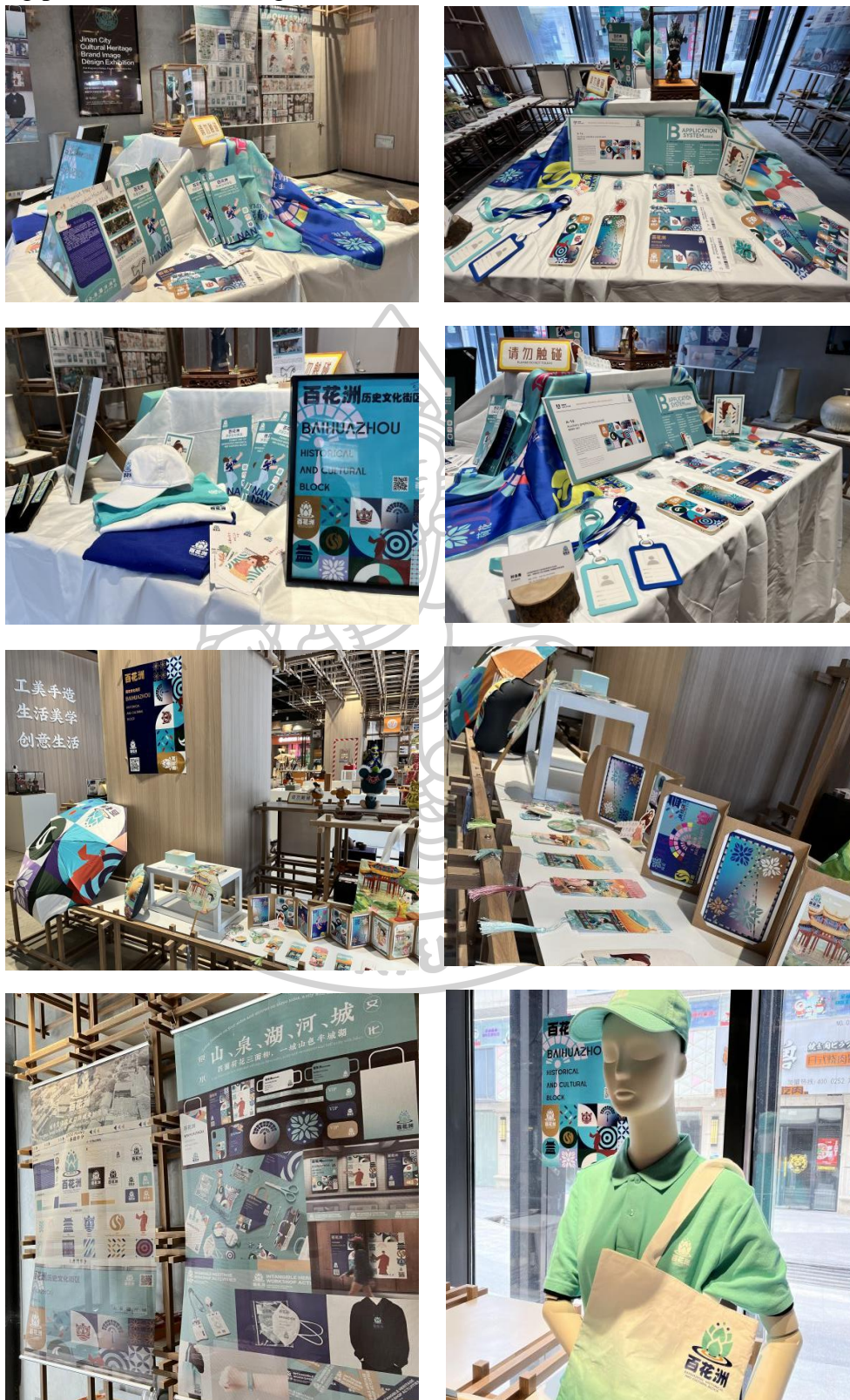
Figure 130 Partial photo of the exhibition, Source: photographed by the author.

4.3.1.2 Display results

The design exhibition of Jinan Baihuazhou Cultural Heritage has received high recognition from local residents and tourists. The exhibition took place during the summer break for Chinese students, attracting a large number of families and students. Additionally, history, culture, and folk art enthusiasts also visited the exhibition. They all showed a strong interest in the rich cultural heritage of Baihuazhou (Figure 131).

Figure 131 Photo of visitors at the exhibition of Baihuazhou brand design. Source: photographed by the author.

According to the feedback from the audience, the visual design of the exhibition effectively showcased the essence of Jinan Baihuazhou cultural heritage. The immersive visual storytelling approach resonated with the visitors, evoking strong emotional connections, and reinforcing the cultural pride of local tourists and residents.

4.3.2 Audience satisfaction survey results

The aim of this study was to explore the feasibility of shaping the brand image of cultural heritage in context of urban renewal. Through the brand shaping model, the diversity and visual impact of urban cultural heritage in exhibition displays were showcased, and the theoretical basis of the research was validated through audience participation and feedback. Through the analysis of the collected data, it was found that the shaping of the brand image of cultural heritage exhibits extensive diversity and adaptability. The findings of this study will contribute to improving the audience's awareness of Jinan Baihuazhou Historical and Cultural Block and expanding research perspectives and methods in related fields (Figure 132).
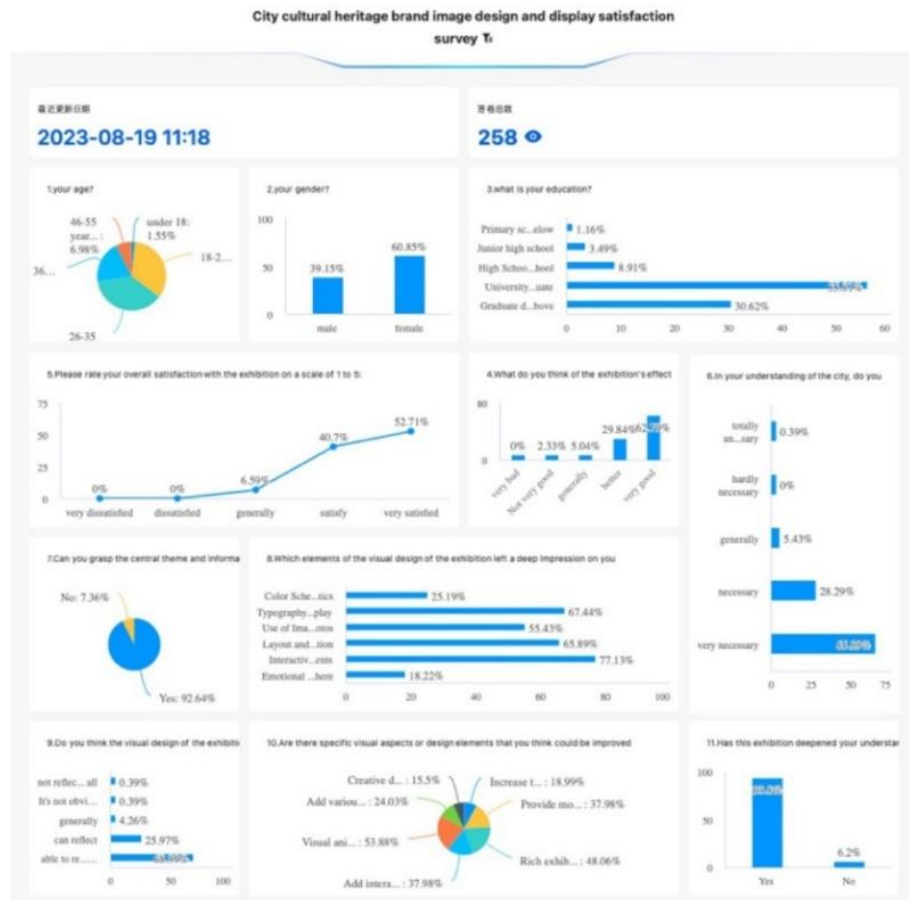
Figure 132 Survey on the design and satisfaction of the brand image of Jinan urban cultural heritage products. Source: compiled by the author.

Table 56 Audience age analysis of brand design exhibitions

Options	Subtotal	Proportion	
Under 18	4		1.55%
18-25 years old	87		33.72%
26-35 years old	96		37.21%
36-45 years old	52		20.16%
46-55 years old	18		6.98%
Over 55 years old	1		0.39%
Number of valid entries for this question	258		

(Table 56) presents the age group distribution of visitors to the exhibition, primarily falling within the 18-45 age range, accounting for 70.93%. Individuals of different age groups have varying preferences, interests, and behavioral traits, which impact visitors' awareness and engagement with the destination brand. The exhibition design takes into account age-related preferences and habits of the visitors.

Table 57 Analysis of audience education level

Options	Subtotal	Proportion	
Primary school and below	3		1.16%
Junior high school	9		3.49%
High School/Technical secondary	23		8.91%
University/Undergraduate	144		55.81%
Graduate degree or above	79		30.62%
Number of valid entries for this question	258		

(Table 57) provides a clear overview of the educational level distribution among visitors to the exhibition. Analyzing the education levels of exhibition attendees helps understand their receptivity and engagement with the exhibition content. By examining audience groups with different educational backgrounds, we can gauge their comprehension of the design and the effectiveness of information delivery. Table 2 shows that visitors with a university and graduate degree or higher comprise 86.43% of the total. This indicates that visitors with higher education are more likely to appreciate

in-depth historical narratives and complex design elements. At the same time, relatively straightforward explanations and visual storytelling may resonate more with a broader education level. Overall, understanding educational diversity allows for a tailored approach to engaging all participants and fostering deeper connections with the traditional and contemporary identity of Baihuazhou.

Table 58 Cross-analysis of audience age and satisfaction

Age	Verydissatisfied	Dissatisfied	Generally	Satisfy	Very satisfied	Total
Under 18	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	4(100%)	4
18-25	0(0.00%)	0(0.00%)	0(0.00%)	47(54.02%)	40(45.98%)	87
26-35	0(0.00%)	0(0.00%)	3(3.13%)	38(39.58%)	55(57.29%)	96
36-45	0(0.00%)	0(0.00%)	13(25%)	20(38.46%)	19(36.54%)	52
46-55	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	18(100%)	18
55 Up	0(0.00%)	0(0.00%)	1(100%)	0(0.00%)	0(0.00%)	1
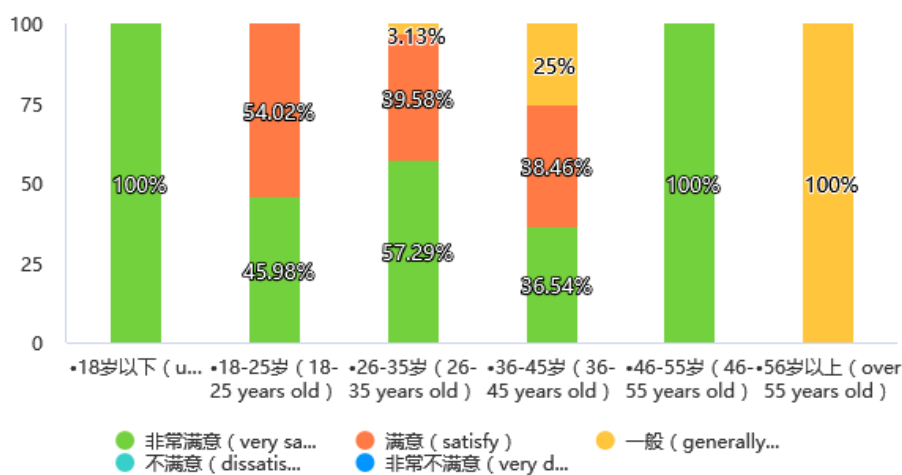
Figure 133 Cross-Analysis of audience age and overall satisfaction with brand design exhibition. Source: compiled by the author.

(Figure 133) presents clear data on the overall satisfaction of visitors from different age groups, providing insights into how visitors of different age ranges perceive and respond to the design exhibition. Through data analysis, it aids in formulating future exhibition strategies. The survey results indicate that respondents from all age groups expressed satisfaction with their exhibition experience.

Table 59 Cross-analysis of education level on recognition of visual design in design exhibitions

X\Y	Color schemes and aesthetics	Typography and text display	Use of images and photos	Layout and organization of the presentation	Interactive elements	Emotional atmosphere	Total
Primary school and below	33.33%	33.33%	66.67%	100%	100%	33.33%	3
Junior high school	22.22%	33.33%	66.67%	66.67%	4.44%	6.67%	9
High School/Technical secondary school	34.78%	43.48%	65.22%	73.91%	7.83%	7.83%	3
University/Undergraduate	25.69%	70.14%	54.86%	61.11%	3.33%	0.42%	44
Graduate degree or above	21.52%	74.68%	51.90%	70.89%	7.22%	7.72%	9
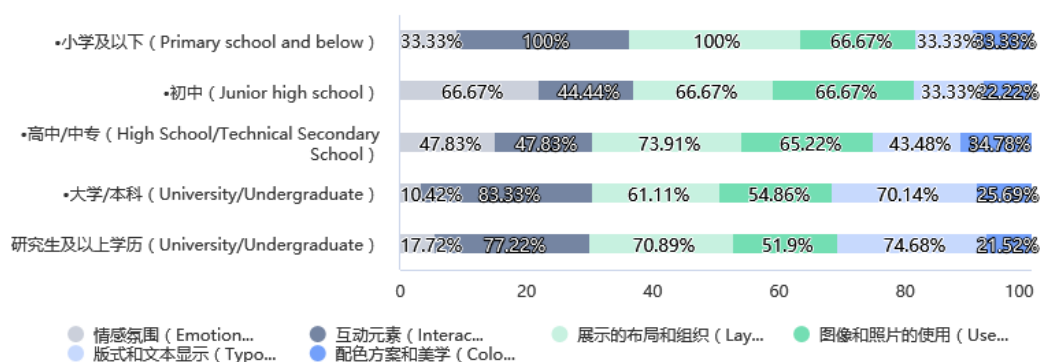
Figure 134 Cross-Analysis of educational level of exhibition attendees and brand On-site visual design affinity. Source: compiled by the author.

(Table 59) displays the distribution of the affinity towards brand on-site visual design among exhibition attendees based on their educational level. The data reveals that shaping the brand of urban cultural heritage products can effectively enhance the visual and tour experiences of visitors across different age groups. All surveyed respondents believed that brand shaping provides personalized information acquisition and enriches the experiential aspect of the time through visual presentation.

As can be seen from the table, visitors with different educational backgrounds have slightly other preferences for the exhibition experience. People with

high school education and below pay more attention to the layout and organization of the display during the exhibition experience. In contrast, people with a bachelor's degree or above believe that the emotional atmosphere and interactive elements contribute to a richer exhibition experience (Figure 134). emphasize the importance of curators considering the tastes and habits of audiences with different educational backgrounds when designing presentations. These research results provide a reference for the visual impact of brand design in display and offer support and insights for future in-depth research.

Table 60 Whether the exhibition can grasp the central theme and information of Jinan Baihuazhou cultural heritage

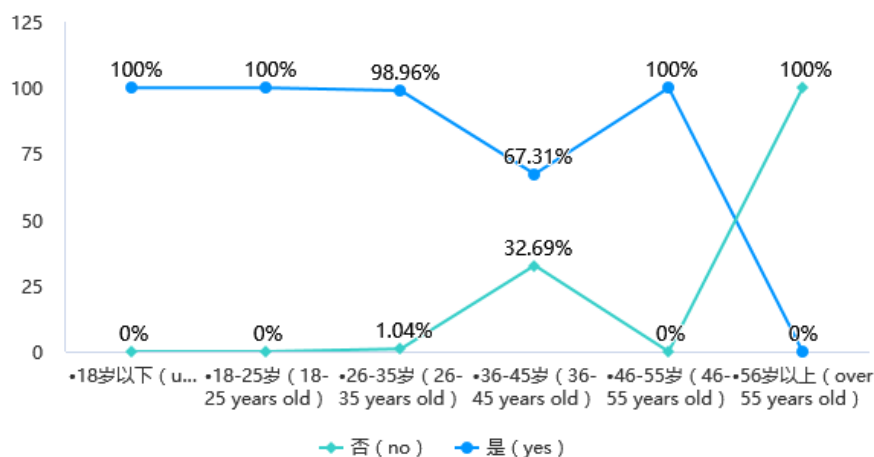| X\Y	Yes	No	Total
Under 18	4(100%)	0(0.00%)	4
18-25 years old	87(100%)	0(0.00%)	87
26-35 years old	95(98.96%)	1(1.04%)	96
36-45 years old	35(67.31%)	17(32.69%)	52
46-55 years old	18(100%)	0(0.00%)	18
Over 55 years old	0(0.00%)	1(100%)	1

Figure 135 whether the central theme and information of Jinan Baihuazhou cultural heritage can be conveyed through the visual design of the exhibition. Source: compiled by the author.

(Table 60) presents the survey results regarding the opinions of different age groups regarding the brand design of Jinan Baihuazhou Cultural Heritage.

Respondents from other age groups generally agree that brand shaping can enhance the viewers' identification with urban cultural heritage and expand cultural communication channels. The respondents also recognize the potential of brand establishment in protecting urban cultural heritage and providing innovative ways of cultural inheritance during the urban renewal process (Figure 135).

Table 61 Areas where visual aspects or design elements could be improved from the audience's perspective

X\Y	Increase the introduction of regional cultural heritage	Provide more personalized service	Rich exhibition information	Add interactive multimedia devices	Visual animation (motion effect	Add various promotional media	Creative development of cultural and creative products	Total
Under 18	0.00%	75%	25%	100%	50%	50%	0.00%	4
18-25	43.68%	16.09%	58.62%	26.44%	55.17%	14.94%	10.34%	87
26-35	5.21%	58.33%	38.54%	38.54%	69.79%	39.58%	5.21%	96
36-45	11.54%	48.08%	65.38%	28.85%	40.38%	15.38%	48.08%	52
46-55	40.00%	0.00%	0.00%	60.00%	0.00%	0.00%	0.00%	18
Over 55	55.00%	0.00%	100%	45.00%	100%	100%	100%	1
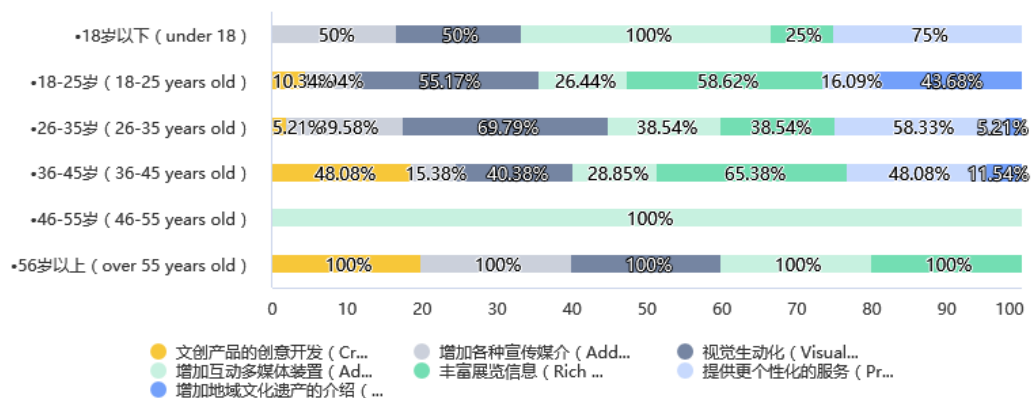
Figure 136 From the audience's perspective, areas in the visual aspects or design elements that need improvement. Source: compiled by the author.

(Table 61) displays the survey results of audience opinions on the brand exhibition across different age groups. The results indicate that younger visitors, especially those under 25 years old, have higher overall satisfaction with the exhibition experience than older age groups. Most respondents from all age groups prioritize providing more personalized and interactive experiences. This is especially true for the

interactive experience of being on tour, such as how quickly they can find the location of an attraction with the travel guide map and neighborhood guide system.

There are noticeable differences in opinions across various age groups. Specifically, respondents aged 18-25 prioritize whether the exhibition can cater to their innovative perspectives and include interactive design elements. Incorporating digitalization and social media can enhance their engagement.

On the other hand, respondents aged 26-35 emphasize the service experience, such as immersive interactions and visually dynamic elements. Overall, respondents aged 36-45 exhibit a moderate level of agreement, believing that the exhibition should showcase richer information. This group may value a balance between historical context and contemporary relevance in the exhibition design. Respondents aged 46-55 show the highest level of agreement regarding the importance of cultural heritage preservation while also emphasizing the need for increased cultural promotion, based on collecting the preferences of different age groups, we can quickly grasp the future development and promotion plan of the neighborhood and effectively serve Jinan regional tourism.

In summary, these survey results demonstrate the importance of regularly collecting feedback and conducting post-exhibition surveys to understand audience satisfaction and preferences continually. This data can guide the iterative improvement of future brand design exhibitions, ensuring their relevance and appeal to different age groups (Figure 136).

Table 62 Is it necessary to intervene in the development of urban regional culture through brand image building?

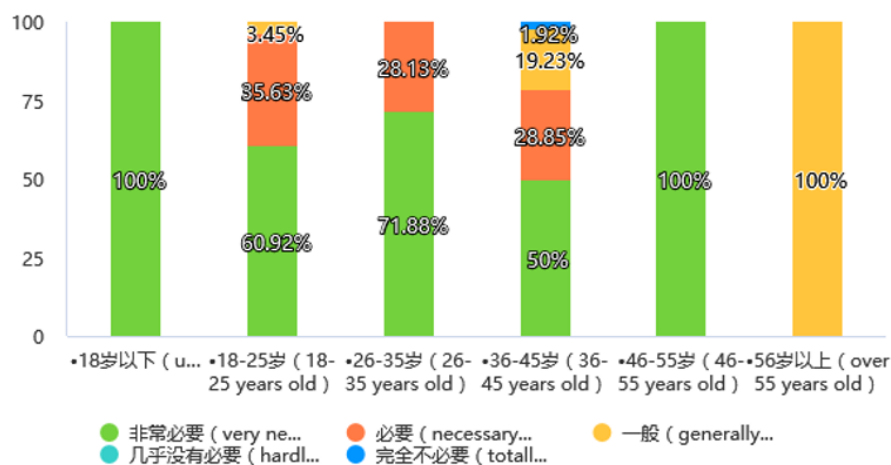| X\Y	Totally unnecessary	Hardly necessary	General	Necessary	Very necessary	Total
Under 18	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	4(100%)	4
18-25	0(0.00%)	0(0.00%)	3(3.45%)	31(35.63%)	53(60.92%)	87
26-35	0(0.00%)	0(0.00%)	0(0.00%)	27(28.13%)	69(71.88%)	96
36-45	1(1.92%)	0(0.00%)	10(19.23%)	15(28.85%)	26(50%)	52
46-55	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	18(100%)	18
Over 55	0(0.00%)	0(0.00%)	1(100%)	0(0.00%)	0(0.00%)	1

Figure 137 Is it necessary to intervene in the development of urban regional culture through brand image shaping? Source: compiled by the author.

(Table 62) presents statistics on the audience's views on the involvement of brand image shaping in the overall development of the city. The results indicate that most respondents consider it very practical or effective. The age group of 18-45 showed the highest positive response rate. The 46-55 age group also had a high response rate, and the 56 and above age group showed a few neutral attitudes towards the involvement in the overall development of the city.

This suggests that brand image shaping can attract tourists of different age groups.

In conclusion, understanding the relationship between audience age and satisfaction with brand design exhibitions helps tailor experiences to meet different preferences. By striking a thoughtful balance between innovation and tradition, exhibitions can resonate with young and middle-aged visitors, leading to higher overall satisfaction and sustained engagement (Figure 137).

4.3.3 Summary

This summary has mainly covered the brand exhibition, block promotion, and visitor satisfaction questionnaire survey, providing a comprehensive overview of the effectiveness of the design exhibition in Baihuazhou Historical Cultural Block and the audience's satisfaction. The survey results indicate that visitors overall have a high level of satisfaction and recognition, as the exhibition successfully embodies the cultural essence of the area and highlights the importance of integrating the brand into

the cultural experience and attracting a diverse audience. Visitors appreciate the layout and organization of the exhibition, the emotional atmosphere, the integration of historical and contemporary elements, and the level of participation and empathy. Overall, the design exhibition has effectively connected with the target audience, providing a basis for the branding efforts in the area.

4.4 Conclusion

The research results include six parts: questionnaire results, expert interview results, focus group discussion results, cultural intention experimental results, actual research results, and exhibition display effects.

Residential and visitor questionnaire surveys indicate a widespread recognition of the importance of brand image building. Historical and cultural blocks serve as essential carriers of urban cultural heritage, and developing distinctive partnerships with historical and artistic charm can not only preserve and inherit the city's historical culture but also enhance the overall image and quality of the block. This can attract tourists, drive economic development, and improve the overall appearance of the city.

Expert interviews reveal the importance of capturing the essence of regional culture, authentically conveying it, avoiding a "one-size-fits-all" approach, and shaping a unique urban brand image. The brand must reflect the genuine identity of the region and interact with the local community, aligning with the city's values and desires. Based on these interview insights, a model for brand image shaping was developed, which can provide a reference for future research on visual aspects of domestic urban brands.

The focus group discussions provide valuable suggestions from a professional perspective. Participants expressed their multi-faceted and multi-level approval of the brand design proposal for Baihuazhou Historical Cultural Block, which deepens the connection to the city's regional culture. Furthermore, the importance of inclusiveness and diversity became key factors.

The cultural intention experiment demonstrates that regional cultural elements significantly influence participants' perception and behavior, and the high engagement shown by the experimental group has positively contributed to targeted brand promotion efforts.

The actual research achievements confirm the importance of blending historical elements with contemporary aesthetics in the design proposal. It comprehensively summarizes the path to brand image building for Baihuazhou Historical Cultural Block, including capturing the essence of regional culture and establishing meaningful connections with diverse audiences. Emphasis is placed on captivating visual effects and information-rich content, aligning with participants' preferences for immersive exhibitions. The focus group discussions provide valuable suggestions from a professional perspective. Participants expressed their multi-faceted and multi-level approval of the brand design proposal for Baihuazhou Historical Cultural Block, which deepens the connection to the city's regional culture. Furthermore, the importance of inclusiveness and diversity became vital factors.

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The research achievements confirm the importance of blending historical elements with contemporary aesthetics in the design proposal. It comprehensively summarizes the path to brand image building for Baihuazhou Historical Cultural Block, including capturing the essence of regional culture and establishing meaningful connections with diverse audiences. Emphasis is placed on captivating visual effects and information-rich content, aligning with participants' preferences for immersive exhibitions.

The exhibition display effects indicate a high level of attention from residents and tourists to the exhibition of the brand image of Baihuazhou Historical Cultural Block. The show effectively conveys historical knowledge and conservation concepts of the ancient blocks, showcases rich information about the block, and visually communicates the cultural narrative of the area.

Overall, building a distinctive historical cultural block is a comprehensive project that requires collective efforts from different aspects. The research findings emphasize the importance of authenticity, inclusiveness, and community participation in shaping a brand image that resonates with residents and tourists. Only by focusing on the preservation and inheritance of historical culture, enhancing the overall

appearance and quality of the block, strengthening resident participation and community development, can the cultural life and folk activities with local cultural characteristics be carried on, and an attractive historical and cultural block be created. The exhibition display effects indicate a high level of attention from residents and tourists to the exhibition of the brand image of Baihuazhou Historical Cultural Block. The show effectively conveys historical knowledge and conservation concepts of the ancient blocks, showcases rich information about the league, and visually communicates the cultural narrative of the area.

CHAPTER 5   RESULTS AND DISCUSSION

5.1 Discussion

The fifth chapter focuses on "Research on the Brand Image Building of Jinan's Urban Cultural Heritage under the Background of Urban Renewal." The conclusions, research difficulties, and suggestions for future research and development during the research practice are discussed. This section is divided into the following three parts:

5.1.1 Restatement research

This study comprehensively used document analysis, case analysis, expert interviews, focus group discussions, and cultural intention cognitive experiments to determine five objectives and three hypotheses.

Objective one: Study urban sustainable development strategies in the context of urban renewal. The purpose is to maintain urban vitality and sustain urban development. Besides physical infrastructure, cultural heritage enhances urban dynamism and growth. Therefore, effectively protecting heritage in the city is crucial in the urban renewal process.

Objective two: Explore strategies for the protection and utilization of cultural heritage in urban renewal. By integrating cultural heritage into urban brand creation and transformation, this research aims to improve the overall image and quality

of the city, attract tourists, promote industry integration, and contribute to urban development.

Objective three: Investigate pathways and methods for shaping brand image in historical and cultural blocks. Historical and cultural blocks serve as essential carriers of urban cultural heritage. By taking historical and cultural blocks as entry points in urban renewal, this study aims to explore the formation mechanism of their regional "cultural heritage characteristics." Under the premise of preserving the original social structure and cultural ecology of the historical blocks, this research aims to construct pathways and methods for integrating urban cultural heritage into the shaping of brand image in historical and cultural blocks.

Objective four: Examine the application of cultural heritage in the shaping of urban brand image. Various methods will be used, from identifying specific characteristics and elements to determining the key factors constituting the brand's design. Ultimately, a model for shaping urban cultural heritage brands will be developed, redefining the brand-shaping approach for urban cultural heritage.

Objective five: Conduct a comprehensive analysis of design outcomes and achievements and formulate a complete brand design plan.

5.1.2 Hypothesis summary

H1: Integrating brand design strategies into Jinan's cultural heritage protection measures will significantly improve audience awareness and participation in the city's cultural heritage.

Integrating brand design strategies into Jinan's cultural heritage protection measures will significantly increase audience awareness and active participation in appreciating and protecting the city's cultural heritage. Branding initiatives such as visual identity, storytelling, and marketing campaigns effectively communicate heritage sites' cultural significance and value, making them more visible and attractive to residents and visitors.

H2: Effective cultural heritage brand image building in the urban renewal process in Jinan will positively impact participation in and support for heritage protection.

Branding of urban cultural heritage will positively impact the engagement of local communities, tourists, residents, and government and win support for cultural

heritage protection efforts. Regarding choosing the expression carrier, the historic block, as a visible historical material cultural heritage, has both cultural attributes and visual features.

H3: If the brand image construction focuses on the authenticity and historical integrity of heritage sites, it will achieve a balance between modernization and protection, receive positive responses from residents and tourists, and improve visitor experience.

The building of the brand effectively integrates multiple elements, such as the internal and external spaces of the city block, the audience's visual perception, and exhibitions. This hypothesis suggests that branding efforts that respect a place's culture without compromising its intrinsic value will receive a positive response from residents and tourists. Tourist experience, quality, and satisfaction are key evaluation factors of brand image shaping program feedback.

5.1.3 Discussion and summary of the research process

Review This study used mixed methods to collect quantitative and qualitative data. The conceptual framework includes five topics: urban renewal, city image, cultural heritage, brand image building, and historical and cultural districts. The research was divided into four phases. The first stage is qualitative research, which explores and demonstrates by reviewing literature, drawing on excellent cases, field investigation records, group discussions, and in-depth interviews. The second stage is a questionnaire survey, which is a survey of the research audience's awareness of urban renewal and cultural heritage. The third phase is experimental research, aiming to study ways to promote the protection, transformation, and presentation of cultural heritage in the city. The fourth stage is the actual research on brand visual design. They are taking the Jinan Urban Renewal Demonstration Zone "Baihuazhou Historical and Cultural Street" as the target. After the research summary, it was found that the following results are consistent with the research objectives.

1. Through theoretical exploration, the conclusion is that brand image building can change people's perceptions of a city and play an essential role as a cultural identity and collective memory. How to convey the cultural essence of a town through storytelling and experiential marketing. This study comprehensively analyses

interrelated concepts and refines information by understanding the broader theoretical foundation concepts, providing valuable insights for subsequent similar research.

2. The questionnaire survey results show that tourists are still relatively concerned about the remains of historical heritage in the city, it shows that these tangible or intangible cultural heritages have critical social functions, cultural significance and economic benefits in modern Chinese society.

3. Through expert interviews: Experts emphasized the importance of integrating brand design strategies into Jinan City's cultural heritage protection work. They stressed that effective branding initiatives can enhance the identity and recognition of cultural heritage sites, attract a wider audience, and promote active participation in heritage conservation. At the same time, regarding the balance between modernization and preservation, experts emphasized the importance of authenticity and historical integrity in brand image building.

4. As a case study, the researchers conducted field research using Baihuazhou Historical and Cultural Street, an urban renewal demonstration zone in Jinan City. It is rich in cultural, architectural, and intangible cultural heritage, characterized by traditional buildings, ancient streets, and historical landmarks. Through careful preservation and thoughtful revitalization efforts, Baihuazhou District showcases the city's historical and cultural essence, providing a tangible connection to the past while embracing modern urban development. This project is an in-depth study of the brand image construction of this cultural district through the successful integration of brand design principles in the cultural protection of Baihuazhou.

5. In brand design projects, researchers took Baihuazhou District as an example and combined regional material cultural heritage as the main visual elements to develop and promote urban image design projects. The study's focus is the activity process: 1) First, conduct field research and interviews to attract a wider audience and cultivate a stronger sense of cultural identity. 2) Collect their feedback and reactions to screen visual elements and establish a brand cultural resource library. 3) Researchers try to use brands as an intrinsic link between the urban modernization process and the protection of traditional culture. 4) The purpose is to enhance the overall city image and promote Jinan to become a destination full of cultural vitality and sustainable development.

6. based on the brand plan, the researcher designed a tourist route guide map to reflect its essential value to the cultural tourism development of Jinan City. It comprehensively and intuitively displays the main attractions and historical sites in the region. This map is a valuable resource for tourists and locals, providing essential information about Jinan's famous landmarks, historical sites, cultural destinations, dining options, accommodations, and transportation hubs. By providing easy-to-read navigation and detailed descriptions, the map enhances the travel experience and promotes exploration and understanding of Jinan's rich cultural heritage and contemporary features. It acts as a guide to help tourists make the most of their time in the city, thereby contributing to Jinan's tourism industry and local economy.

The brand design experiment explores the effectiveness of different brand strategies in enhancing tourists' awareness of and participation in Jinan's cultural heritage. It involves creating multiple brand prototypes containing various visual elements, messages, and cultural references.

5.2 Expert feedback and suggestions

The researcher attempted to ensure the reliability and validity of this study. This event invited seven experts with rich experience in theory, design, and cultural heritage to provide feedback on papers and questionnaire reports. It is divided into two groups: Group one, five experts in the direction of brand theory and design research, and Group two, two experts in cultural heritage and urban cultural tourism resource development (Figure 138-139):

Figure 138 List of experts. Source: compiled by the author.

Figure 139 Listen to feedback from individual experts offline. Source: photographed by the author.

1. Professor Miao Dengyu, doctoral supervisor and deputy secretary of the Party Committee of Shandong University of Arts and Crafts, specializes in introduction to brand design and brand marketing.

2. Professor Zhang Bo, master's tutor, dean of the School of Design and Art of Shandong Youth University of Politics.

3. Professor Hou Liping, doctoral supervisor, professor of Visual Communication Design, Shandong Academy of Arts and Crafts, dean of Applied Design, Shandong Academy of Arts and Crafts.

4. Associate Professor Zhou Liting is the subject leader of the Visual Communication Design Teaching and Research Section of Shandong Youth University of Political Science. His research directions are brand design and cultural and creative product design.

5. Associate Professor Wu Qiangwei, director of the Teaching and Research Office of Visual Communication Design at Shandong Youth University of Political Science, specializes in brand design and promotion.

6. Professor Tang Jialu, doctoral supervisor and director of the Scientific Research Department of Shandong Academy of Arts and Crafts, research direction is folk art and cultural heritage.

7. Researcher Qiu Zhaoshui, urban tourism expert, Weifang Culture and Tourism Bureau director, deputy secretary of the Party Committee of Tourism Development Committee. The research direction is tourism management and integrated development of urban cultural tourism.

We will identify relevant topics based on our experts' expertise, experience, and research. They will provide valuable insights from paper writing, questionnaire reporting, and designing experimental exhibitions and ensure the reliability and validity of the study. During the interview process, experts were invited to participate in semi-structured interviews to assess their views on using cultural heritage branding in urban renewal.

1. Overall evaluation: How do you evaluate the exploration of this thesis on the theme of "Building the Brand Image of Jinan's Cultural Heritage under the Background of Urban Renewal"? Can it provide new research perspectives and methods for the remains of urban cultural heritage?

2. Practical impact: Considering the findings and suggestions in the paper, do you agree with the methods and results of this research using brand building to enhance audience perception? From your perspective, are there any practical applications or policy considerations that this research can bring to Jinan or similar urban renewal and cultural heritage protection?

3. Areas for improvement: What aspects of the research could benefit from further development or refinement? Can visual expression become the norm?

These feedback questions are designed to gather expert input on the paper and potential areas for improvement. The semi-structured format allows respondents to provide detailed feedback that will be invaluable in assessing the strengths and weaknesses of the form and informing future iterations or applications of the research.

Professor Dengyu Miao 's feedback. Professor Miao Dengyu is a design educator with 30 years of professional experience. He believes exploring the theme of "shaping the brand image of Jinan's cultural heritage under the background of urban renewal" is commendable. The study reveals the interplay between urban renewal and cultural heritage branding, and the in-depth analysis of the case provides valuable insights into the challenges and opportunities faced by protecting and promoting cultural heritage during urban transformation. The paper's comprehensive literature review and methodology demonstrate the authors' commitment to rigorous research. The findings and conclusions are supported by evidence and significantly contribute to city branding and cultural heritage.

Brand image building provides novel research perspectives and methods for preserving urban cultural heritage. By repositioning using brand-building strategies to appeal to a broader audience and foster a stronger sense of cultural identity, there is the potential to increase public engagement and support for cultural heritage conservation.

Professor Zhang Bo's feedback. As the designer of the emblem and overall image of the 11th National Games of China and the person in charge of the overall visual system design of the 2018 Qingdao SCO Summit, Professor Zhang Bo has rich academic and practical experience in brand image design. In this interview, he analyzed the advantages and disadvantages of the research, proposed ways in which branding can be further developed or improved, as well as some issues that need to be avoided in the future, and provided reasonable insights.

Regarding the method and results of this study using brands to enhance audience perception, he believes this is a novel and practical way to integrate brand models into cultural heritage protection and urban renewal. Therefore, measuring audience perception can provide valuable insights into the effectiveness of your branding campaigns.

The researcher's wayfinding design and travel guide map are perfect. This kind of professional map can not only be used as a navigation tool but also can be used as a powerful marketing and brand asset for the city. It breaks the status quo of the region from scratch.

Although this study is relatively comprehensive, several aspects could be further improved. To strengthen the generalizability and applicability of this study beyond Jinan City, the potential conflict between examining cultural heritage brands and protecting their authenticity and historical integrity will be the subject of further research, and the research can be further enriched by addressing these aspects of Urban heritage protection and brand building.

Professor Liping Hou's feedback. Professor Hou Liping's research directions in recent years are mainly design education research, design theory research, visual communication design, brand marketing, etc. In this article, she explores how branding can provide plausible insights into the practical applications of similar urban renewal cases and cultural heritage preservation cases.

She believes that by shaping the city's cultural heritage brand, tourists and residents can understand the cultural heritage of Jinan. Use surveys to assess your audience's credibility.

This study offers critical practical applications and policy considerations for Jinan City and beyond. Findings from this study can be used to develop comprehensive strategies that use branding to protect cultural heritage while encouraging sustainable tourism and community engagement.

Professor LiTing Zhou's feedback. In recent years, Professor Zhou Liting's research directions have mainly been tourism product design, design theory research, development and design of cultural and creative products, etc.

She believes this study comprehensively analyzes the complex relationship between urban renewal, cultural heritage and branding in Jinan City. The authors clearly understand the topic and effectively synthesize existing literature to support their arguments. By examining how branding can be integrated into cultural heritage conservation, this study provides a fresh and innovative perspective on revitalizing and promoting historic sites. Using case studies and empirical data enhances the validity of the findings, making the study a valuable contribution to urban studies, cultural heritage management, and branding. The map was praised for its user-friendly design and clear navigation paths, making it accessible to many users. It is recommended to incorporate real-time updates or interactive features through digital integration to ensure the map remains up-to-dateup-to-date and adapts to changing visitor needs. This improvement will increase the usefulness and effectiveness of the map.

The study highlights that incorporating brand strategies into cultural heritage management in the planning of urban renewal projects can foster community engagement, promote sustainable tourism, and secure financial support for conservation initiatives, setting the stage for cultural heritage protection and brand development in Jinan City—a unified vision.

Professor QiangWei Wu's feedback. Associate Professor Wu Qiangwei, as the subject leader of the Visual Communication Teaching and Research Section of our school, has led a team of teachers and students to participate in several brand design practice projects in recent years. This interview mainly discussed whether the transformation of brand design (cultural and creative products) could become a regular

expression of visual expression of cultural heritage in urban renewal, and experts gave relative feedback.

Professor Wu said this is a feasible and promising approach. Using creative and innovative branding strategies can bring a fresh and modern perspective to a city's historic landmarks. Furthermore, by promoting cultural and creative products as part of a cultural heritage brand, economic sustainability can be enabled, and local artisans can be supported. However, it is crucial to balance commercialization and conservation to maintain cultural heritage's authenticity and integrity. Overall, this study shows that brand design and artistic and creative product transformation have great potential as regular expressions of cultural heritage visualization in urban renewal.

Professor Tang Jialu's feedback. Professor Tang Jialu has a dual educational background in folk art and visual design and has rich academic experience in traditional culture, cultural heritage, and graphic design. In this interview, he put forward reasonable opinions on the relationship between the survival status of Jinan's urban cultural heritage and the transformation of brand design.

This research describes the challenges and opportunities that Jinan's cultural heritage currently faces in urbanization. As we all know, the city has many cultural heritages, and how to protect and revitalize them has always remained at the theoretical stage. Some insights are provided on existing conditions, such as the degree of conservation, the state of historic sites and landmarks, and the level of public awareness and participation in the city's cultural heritage. By exploring how branding can be used to revitalize cultural heritage, the study highlights the sustainable potential of brand transformation to impact these valuable assets in urban regeneration to increase the visibility and attractiveness of cultural heritage. Ultimately, the research deepens the audience's understanding of the symbiotic relationship between the survival status of Jinan's urban cultural heritage and the strategic transformation of brand design, emphasizing the need for thoughtful and inclusive practice in shaping this historic city.

Professor ZhaoShui Qiu's feedback. As a government agency and a concurrent post in various associations under government organizations, he has a dual education background in traditional culture and tourism management. He has rich academic experience in classic culture, cultural heritage, and tourism management. In

this interview, he mainly recognized that branding is feasible from the perspective of tourism-driven urban development.

This study delves into the interaction of various factors in urban tourism development. The findings indicate that urban renewal initiatives directly impact the conservation and transformation of cities, often revitalizing urban heritage areas to attract tourists and boost the local economy. The study highlights potential benefits and challenges from this relationship, such as neglected urban regeneration and over-commercialized regions. Additionally, balancing tourism-driven development and preserving Jinan's authentic cultural identity is essential.

This interview summarizes the opinions of seven experts on the cultural heritage branding of cities in the context of urban renewal. Experts believe the study is comprehensive and actionable. Overall, this study contributes to an essential cornerstone of theory and practice in preserving cultural heritage in urban regeneration and, through these recommendations, further strengthens subsequent research efforts.

5.3 Analysis of research results

5.3.1 Explanation of research results

1. Audience recognition. Integrating brand image building into Jinan's cultural heritage protection measures significantly impacts the audience's awareness and participation in the city's cultural heritage. To attract a wider audience and promote a deeper connection between tourists and the city's historical and cultural heritage.

2. Build community engagement and support through your brand. A well-executed branding campaign can actively engage the local community, generating enthusiasm and support for heritage conservation efforts. By engaging residents in the conservation process and fostering a sense of ownership, cultural heritage brands can increase community engagement to preserve Jinan's rich cultural heritage.

3. It balances preserving the city's old quarters and the modernization process. The research highlights the importance of prioritizing authenticity and historical integrity in the brand image building of Jinan's cultural heritage (Ling, Y., & Zhangqi, X,2021). Successful branding efforts strike a harmonious balance between modernization and conservation, ensuring heritage sites retain their cultural essence while engaging contemporary audiences. By respecting the intrinsic value of cultural heritage, the brand initiative has received a positive response from residents and tourists,

enhancing the overall city image and promoting Jinan as a culturally vibrant and sustainable destination.

5.3.2 Factors affecting cultural heritage protection and brand transformation in the process of urban renewal

The factors affecting cultural heritage protection and brand conversion in urban renewal were explored through literature research, field visits, questionnaire collection, expert interviews, and experiments. Researchers believe that "people" and "sustainability" are key factors.

5.3.2.1 Effective use of demographics in research

On the physical level, differences in gender, age, etc., of tourists affect the visitor experience regarding design scale, space planning, and interactive forms (Jiannan, Y, 2016). For example, gender differences can influence how men and women may have different historical interests or perspectives on heritage sites' preferred engagement patterns with cultural heritage. They can affect the effectiveness of marketing and communication strategies, among others. We must consider these differences to create differentiated and personalized visit experiences for different groups. People of different age groups may have different interest levels in history and views on cultural heritage's importance. For example, younger people may seek more interactive and experiential activities, while older generations may prefer lectures or traditional exhibitions. As an essential carrier of urban publicity, individual differences should be fully utilized to optimize design schemes to meet the needs of different groups.

5.3.2.2 The significant characteristics of urban cultural heritage resources in brand image image-shaping design

In recent years, China's urban cultural heritage brand transformation has experienced significant growth. China's rapid urbanization and economic development have brought challenges and opportunities to protect and promote rich cultural heritage. We have also recognized the value of its historical and cultural assets in fostering cultural identity, attracting tourism, and enhancing urban livability. Therefore, Chinese cities are paying more and more attention to the city's brand image construction.

With rich historical and cultural significance, unique architectural and artistic features, intangible cultural heritage, spiritual and symbolic meaning, and

tourism potential, Chinese cities have adopted various strategies to transform cultural heritage brands, combining traditional protection work with modern marketing and branding techniques. A key trend is the combination of digital technology and interactive experiences to engage visitors and enhance their understanding of the cultural significance of a heritage site.

In summary, transforming cultural heritage brands in Chinese cities embodies a dynamic and forward-looking approach to preserving cultural heritage and identity while catering to modernity. As China continues to develop, it is expected that the transformation of its cultural heritage brands will remain in focus.

5.3.3 Methods to enhance the brand image of chinese urban cultural heritage.

1. Audience-centered design approach. Gain a deep understanding of your audience's demographics, interests, cultural background, and preferences. This can help researchers understand the motivations of the audience and their identification with the city's brand (Minghao et al., 2005).

2. Increase cognitive engagement through contextual design. Develop engaging and authentic stories around the character of the city. Highlight history, cultural legends, and significant events. Media such as videos, immersive exhibits, and interactive displays can engage more visitors and enhance the overall experience.

3. Sustainability and environmental considerations. Emphasize sustainability in all aspects of brand image building, aligning with the city's environmental goals and values. Use environmentally friendly promotional materials to raise awareness of sustainable tourism practices.

4. Inclusion and accessibility. Ensure the brand image and associated experience are inclusive, regardless of age, background, or ability. Provide multi-lingual signage, audio guides, and facilities to meet the needs of different audiences.

5.4 Suggestions and solutions for future research

5.4.1 Recommendations

To Better Serve the Regional economy and realize the perfect combination of urban modernization and historical and cultural heritage, the suggestions for future research include the following:

Long-term directional assessment: Conduct a longitudinal study to assess the long-term impact of brand image building on Jinan's cultural heritage and urban

renewal efforts. By tracking visitor numbers, community engagement, economic benefits, etc., provides insight into the sustainability and effectiveness of brand strategies.

Stakeholder perspectives: Explore the perspectives of various stakeholders involved in the cultural heritage branding process, including residents, government officials, cultural heritage experts, and tourism operators (Crespi-Vallbona, M., & Richards, G,2007). Understand their views and promote cooperation in urban cultural heritage protection and brand promotion.

Intangible cultural heritage integration: Examining how traditional arts, crafts, and cultural practices can be effectively integrated into branding strategies to enrich visitors' cultural experiences and enhance authenticity.

Digital branding strategy: Exploring the role of digital technology, social media, and virtual experiences in building cultural heritage branding and engaging audiences.

Brand awareness and experience: Assess tourist's and residents' awareness and expertise of Jinan's cultural heritage brand. Analyzing feedback from brand interactions can provide insight into the effectiveness of brand strategies in conveying desired cultural narratives.

By addressing these research areas, future research will contribute to the continuous improvement and innovation of Jinan's cultural heritage brand image-building efforts, ensuring that the city's rich cultural heritage remains a vibrant and precious asset in the context of urban renewal.

5.4.2 Solution

The positive aspects of user exhibition feedback are that it has a positive and far-reaching contribution to urban renewal, diversification, and cultural heritage. They expressed satisfaction with the presentation of Jinan's cultural heritage. However, feedback also revealed potential issues and areas where audience expectations were unmet. Therefore, based on the feedback given by users, the following four-point solutions are provided for urban renewal, urban diversification.

Need to deepen the concept of urban renewal: To better serve the goals of urban renewal, it is recommended to deepen the idea of urban renewal in subsequent development. Jinan City's future urban vision can be shown to the audience by

introducing more elements of urban planning and sustainable development. Through models, virtual reality (VR) technology and other means, the audience can feel the effects of urban renewal, stimulating expectations and support for the city's future.

Strengthen the expression of urban diversity: Feedback involves expectations for urban variety, so the multicultural characteristics of Jinan City should be emphasized. By highlighting the features of different communities, the display of folk culture, and the interaction of different cultures, the audience can have a more comprehensive understanding of the diverse culture of Jinan City.

Promote the in-depth integration of urban renewal and cultural heritage: Innovative projects and cooperation need to be launched better to promote the integration of urban renewal and cultural heritage. We can cooperate with local enterprises and communities to carry out urban renewal projects so that urban renewal is not only a theoretical concept but also a manifestation of practical actions. In addition, creative products of urban cultural heritage can be launched to promote the commercialization of cultural heritage.

Strengthen urban interaction mechanism and community building: To achieve sustainable development of the city, we will form closer ties with residents through regular urban residents' forums, opinion collection, and online community building to allow residents to participate in the process of urban renewal. This will provide broader support and participation in urban regeneration, forming an urban community that works together to promote the long-term prosperity and development of the city.

5.5 Conclusion

This study achieves the research objectives, including analyzing the challenges and opportunities of the urban renewal of Jinan's cultural heritage, proposing a branding strategy premised on the audience, and examining the impact of brand image building on visitor engagement and community engagement. Valuable suggestions are provided for future research in cultural heritage branding. This includes conducting a long-term impact assessment to gauge the sustainability of branding efforts, exploring the various stakeholders' perspectives, and conducting comparative studies with other cities' successful branding initiatives.

Overall, brand image building is a powerful way to strengthen protection and promotion. By utilizing branding strategies that resonate with tourists and the local community, the city can reinforce its cultural identity, attract tourists, and foster a sense of ownership and pride among residents. Expert feedback and future research recommendations contribute to the continuous improvement and innovation of the brand's work, ensuring that Jinan's cultural heritage remains a valuable, thriving asset in urban renewal.

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APPENDIX

Dissertation Acceptance Notice

Journal of Roi Kaensarn Academi

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Phone number. +6694-7095636 ID Line. teekapko

Date : November 15, 2023

Acceptance Letter

Dear Author (S) : Yichen Qi and Yodkwan Sawatdee

Paper ID : 670308

PaperTitle : The Value Perception and Reconstruction of Cultural Heritage in Chinese City Culture Brand Design

This is to enlighten you that above manuscript reviewed and appraised by the review committee member of Journal of Roi Kaensarn Academi by 3 assessors and it is accepted for the purpose of publication in Journal of Roi Kaensarn Academi at Group 1 of Thai journal citation Index Centre (TCI) with ISSN 2697-5033 (Online) Volume 9 Issue 3 March 2024 that will be available at https://so02.tci-thaijo.org/index.php/JRKSA/index

Sincerely

Teedanai Kapko

Dr.Teedanai Kapko

Editor Journal of Roi Kaensarn Academi

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วารสารสหวิทยาการมนุษยศาสตร์และสังคมศาสตร์

December 14, 2023

ACCEPTANCE LETTER

To, Authors,

Yichen Qi and Yodkwan Sawatdee
Faculty of Decorative Arts, Silpakorn University, Thailand.
E-mail: qiyichen0313@gmail.com, kru_ton@hotmail.com

Warm Greetings!

It's a great pleasure to inform you that, after the peer review process, your article entitle, **"Extraction and Design Transformation of Visual Symbols for Urban Cultural Heritage Branding: A Case Study of Jinan"**.

In this regard, three experts (Peer Reviewers) have read the article and the author has edited its according to the recommendations. The editorial team has agreed to accept your article for publication in **Journal of Multidisciplinary in Humanities and Social Sciences ISSN: 2697-6471 (Online) in Vol. 7 No. 2 (March - April 2024)**

Thank you for submitting your work to this journal. We hope to receive in future too.

Warm Regards,

(Asst.Prof.Dr. Somchai Damnoen)

Editor In Chief

Questionnaire for Research

Appendix A: Questionnaire on image perception of cultural heritage and brand building in Baihuazhou historical and cultural district

Part 1: Demographic variables and basic situation analysis

1. Your gender ( )

A. Male B. Female

2. Your age ( )

A. Under20 years old B. 21~35 years old C. 36~45 years old D. 46~55 years old E. Over 56 years old

3. Your education status ( )

A. Junior high school and below B. High school/secondary vocational C. Junior college D. Undergraduate E Master and above

4. Your occupation type ( )

A Staff   B. Government personnel   C. Students   D. Individuals   E Others

5. Do you know Baihuazhou Historical and Cultural District? ( )

A. Don't know   B. Less   C. Generally   D. Understand   E. Very well

6. How did you first learn about Baihuazhou Historical and Cultural District? ( )

A. TV   B. Internet   C. After traveling   D. Others

7. Your visit time to Baihuazhou Historical and Cultural District   ( )

A. Within 30 minutes   B. 30 minutes-1 hour   C. 1-2 hours   D. More than 2 hours

8. Your initial impression of Baihuazhou Historical and Cultural District   ( )

A Natural   B. Traditionally   C. Historical   D. Innovative   E. Special

9. How satisfied are you with the current popularity of Baihuazhou Historical and Cultural District? ( )

A. Very dissatisfied B. Dissatisfied C. Basically satisfied D. Satisfied E. Very satisfied

10. How satisfied are you with the current popularity of Baihuazhou Historical and Cultural Block ( )

A. Very dissatisfied B. Dissatisfied C. Basically satisfied D. Satisfied E. Very satisfied

Part 2: Brand cognition tendency of Baihuazhou historical and cultural district

1. If the neighborhood brand is redesigned, do you think the choice of visual elements of the neighborhood brand should tend to ( )

A Historic buildings in the neighborhood

B. Regional cultural characteristics

C. City landmark symbols

D. Traditional folk art

E. Colors with local characteristics

F. Local cultural and festival activities

2. Cognitive tendency towards the performance of Baihuazhou visual brand logo ( )

A. Text-based   B. Graphics-based   C. Text + graphics

3. Cognitive tendency towards the color expression of Baihuazhou visual brand ( )

A. Symbol of regional culture: blue, cyan, green

B. Symbol of historical heritage: yellow, stone brown

C. Symbol of traditional culture: gold, red

D. Symbol of multiculturalism: collision colors

4.Have you ever purchased souvenirs or products related to Baihuazhou Historical and Cultural District? What influenced your decision to purchase these items? (Select all that match the criteria)

A. Attractive design

B. Connection to the area's heritage

C. High quality

D. Price

E. Others (please specify)

5. To what extent do you think the brand of Baihuazhou Historical and Cultural District reflects its cultural heritage and history? ( )

A. Very dissatisfied   B. Dissatisfied   C. Basically satisfied   D. Satisfied   E. Very satisfied

6. What suggestions do you have for improving the brand image and tourism experience of Baihuazhou Historical and Cultural District? ( )

A. Develop cultural and creative products

B. Establish clear guidance

C. Increase cultural exchanges

D. Increase interactive experience

E. Effective visual communication

F. Feedback from visitors

Appendix B: Baihuazhou regional culture + cultural heritage symbol screening scale questionnaire

Instructions: Please read the following questions carefully; each question has five choices, from strongly disagree to agree.

If the description obviously does not meet your requirements and you strongly disagree, please select "1".

If this description does not meet your requirements and you disagree, please select "2".

If you're unsure of the description or somewhere in between, select "3".

If this description meets your requirements, agree, please select "4".

If the description meets your requirements and you strongly agree, please select "5".

The higher the final score, the stronger the recognition of the Baihuazhou cultural image generated by the regional elements.

1. Your gender is _____

A.Male B.Female

2. Your age ( )

A. Under20 years old B. 21~35 years old C. 36~45 years old D. 46~55 years old E. Over 56 years old

3.Your career type is _____

A.Company employee B.Individual C.Civil servant D.Student E.Others

4.You are from _____

A. Local B. Within the province C. Domestic D. Other

5. How much do you know about the visual image design of Baihuazhou Historical and Cultural District?

A. Never know B. Less C. More D. well E. Very good

Question: Do you think this picture can represent the regional culture and intangible cultural heritage characteristics of Baihuazhou	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
1.Qushuiting street	1	2	3	4	5

		1	2	3	4	5
2. Yuhe lane		1	2	3	4	5
3.Countywest lane		1	2	3	4	5
4.Fuxue confucian temple		1	2	3	4	5
5.Ming and Qing houses		1	2	3	4	5
6.Church		1	2	3	4	5
7.Yuheju		1	2	3	4	5
8.Pearl springs		1	2	3	4	5
9.Houdequan		1	2	3	4	5
10.Lotus		1	2	3	4	5

11.Bamboo		1	2	3	4	5
12.Yew		1	2	3	4	5
13.Intangible heritage group		1	2	3	4	5
14.Dyeing workshop		1	2	3	4	5
15.Ntangible heritage theater		1	2	3	4	5
16.Chinese medicine exhibition hall		1	2	3	4	5
17.Lantern festival		1	2	3	4	5
18. Celebrity culture		1	2	3	4	5
19.Wangfu pond		1	2	3	4	5

20.Yudai river		1	2	3	4	5
21.Collection intangible cultural heritage New Year goods		1	2	3	4	5
22.Baihuazhou performances		1	2	3	4	5
Question: Do you think this picture can represent the intangible cultural heritage features of Baihuazhou		Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
1.Jinan paper cutting		1	2	3	4	5
2.Rabbit king		1	2	3	4	5
3.Jinan dough figurines		1	2	3	4	5
4.Jinan shadow play		1	2	3	4	5
5.Liuzi opera		1	2	3	4	5
6.Wuyin opera		1	2	3	4	5

7.Shandong clapper		1	2	3	4	5
8.Lu embroidery		1	2	3	4	5
9.Wicker		1	2	3	4	5
10.Black pottery making process		1	2	3	4	5
11. Shandong cuisine cooking		1	2	3	4	5
12.Hongjitang traditional chinese medicine culture		1	2	3	4	5
13.Dong'e donkey-hide gelatin craft		1	2	3	4	5
14.Zhang's bone setting		1	2	3	4	5
15.Thousand buddha mountain temple Fair		1	2	3	4	5

	1	2	3	4	5
16.Hungry ghost festival customs	1	2	3	4	5
17.Drum yangko	1	2	3	4	5
18.Joe's stilts	1	2	3	4	5
19.Eight diagrams tai chi	1	2	3	4	5
20.Praying mantis fist	1	2	3	4	5
21.Legend of daming lake	1	2	3	4	5
22. Legend of shun	1	2	3	4	5
Question: Do you think this picture can represent the cultural heritage features of Baihuazhou	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
1. Governor's yamen in Shandong Province in the Qing Dynasty	1	2	3	4	5

		1	2	3	4	5
2. Tibitang theater building of Qing Dynasty		1	2	3	4	5
3.Taoist buildings		1	2	3	4	5
4. Fuxue confucian temple		1	2	3	4	5
5. Chen Mian Zhuangyuan Mansion		1	2	3	4	5
6. Ming city wall		1	2	3	4	5
7. Ruins of bixia palace in Ming Dynasty		1	2	3	4	5
8. Houzaimen street christian church		1	2	3	4	5
9. Lu dahuang former residence		1	2	3	4	5
10. Sun family mansion		1	2	3	4	5

Appendix C: Design project user questionnaire

Hello! Thank you for visiting our Urban Cultural Heritage Brand Exhibition! We are conducting user research for project design. The purpose of this survey is to find out the value of project design from the user's perspective and provide some reliable evaluation of project design. Your feedback is critical for us to improve the exhibition and enhance the visual representation of Jinan's cultural heritage brand. Please take a few minutes to complete this questionnaire and your responses will be kept confidential. Thank you for supporting me so much!

1. Your gender ( )

A. Male B. Female

2. Your age ( )

A. Under20 years old B. 21~35 years old C. 36~45 years old D. 46~55 years old E. Over 56 years old

3. Your education status ( )

A. Junior high school and below B. High school/secondary vocational C. Junior college D. Undergraduate   E. Master and above

4. Rate the overall satisfaction with the exhibition( )

A. Very dissatisfied   B. Dissatisfied   C. Average   D. Satisfied   E. Very satisfied

5. How do you think this exhibition displays the cultural heritage and brand vision of Jinan Baihuazhou? ( )

A. Not at all   B. Somewhat   C. Average   D. Very good   E. Very good

6. Do you understand Jinan's urban cultural heritage? Do you think it is necessary to intervene in the development of urban regional culture through branding ( )

A. Very necessary

B. Need

C. Generally

D. Almost not necessary

E. Totally unnecessary

7. Were you able to grasp the central themes and messages of Jinan Baihuazhou cultural heritage through the visual design of the exhibition ( )

A. Yes   B No

8. What elements of the exhibition's visual design impressed you ( )

A. Color schemes and aesthetics

B. Layout and text display

C. Use of images and photos

D. Display layout and organization

E. Interactive elements

9. Do you think the visual design of the exhibition effectively reflects the cultural heritage and uniqueness of Jinan Baihuazhou ( )

A. Not at all   B. Somewhat   C. Average   D. Good   E. Very good

10. Are there any specific visual aspects or design elements that you think could be improved ( )

A. Historical relics display

B. Provide a more personalized experience

C. Rich exhibition information

D. Interactive multimedia device

E. Visual storytelling

F. Information panels and displays

11. Has this exhibition deepened your understanding and appreciation of the city's cultural heritage ( )

A. Yes

B. No

12. How likely are you to recommend this exhibition to others interested in the cultural heritage of Jinan Baihuazhou ( )

A. Very unlikely   B. Unlikely   C. Neutral   D. Likely   E. Very likely

Do you have any comments or suggestions on the visual design of Jinan Baihuazhou Cultural Heritage Brand Exhibition?

_____

Thank you very much for your feedback!

Appendix D: Navigation map user experience questionnaire

Hello! Thank you for visiting our Historic District Map Experience Survey! We are conducting user research for project design. The purpose of this survey is to find out the value of project design from the user's perspective and provide some reliable evaluation of project design. Your feedback is critical for us to improve the exhibition and enhance the visual representation of Jinan's cultural heritage brand. Please take a few minutes to complete this questionnaire and your responses will be kept confidential.

1. Your gender ( )

A. Male B. Female

2. Your age ( )

A. Under20 years old B. 21~35 years old C. 36~45 years old D. 46~55 years old E. Over 56 years old

3. Your education status ( )

A. Junior high school and below B. High school/secondary vocational C. Junior college D. Undergraduate   E. Master and above

4.Are the color scheme and icons in the manual clear and intuitive, and do they help you understand the map?

A. Yes   B No

5. During the reading process, logos and text are helpful for your understanding( )

A. Very dissatisfied   B. Dissatisfied   C. Average   D. Satisfied   E. Very satisfied

6. Can you quickly find the location or information you are looking for on the map( )

A. Yes

B. No

7. Does the map provide details of the area's major attractions, facilities or services?

A. Not at all   B. Somewhat   C. Average   D. Good   E. Very good

8. Does this map help you explore the Baihuazhou area effectively?

A. Not at all   B. Somewhat   C. Average   D. Good   E. Very good

9. How satisfied are you with your overall experience using this map?

A. Not at all   B. Somewhat   C. Average   D. Good   E. Very good

Do you have any comments or suggestions on the visual design of Jinan Baihuazhou Cultural Heritage Brand Exhibition?

_____

Thank you very much for your feedback!

VITA

NAME   Yichen QI

INSTITUTIONS   Faculty of Decorative Arts,Silpakorn University
ATTENDED

PUBLICATION   1."The Value Perception and Reconstruction of Cultural
                       Heritage in Chinese City Culture Brand Design" was
                       published in TCI Journal Area 1 "Journal of Roi Kaensarn
                       Academi"
                       2. "Extraction and Design Transformation of Visual
                       Symbols for Urban Cultural Heritage Branding: A Case
                       Study of Jinan" was published in TCI Journal Area 1
                       "Journal of Multidisciplinary in Humanities and Social
                       Sciences"