
**Innovation and Development of the Traditional
handicrafts from Systemic Design Viewpoint
--Huizhou Three Carvings as Example**

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ABSTRACT

This is a research paper focusing on the Huizhou Three Carvings art (one of an intangible cultural heritages in China), using modern systemic design thinking and methods to explore the implementation of management innovation, marketing innovation, design innovation and propagation innovation.

Traditional handicrafts are the crystallization of wisdom and diligence of generations of craftsmen. They also carry traditional culture. However, with the change of consumption consciousness, the expensive price of traditional handicrafts has lost the market competition. At the same time, due to the acceleration of industrialization, the characteristics of traditional handicrafts are disappearing and the inheritance consciousness of the inheritors are diminishing; and because their sense of design innovation is not strong, the handicraft products are lagging behind the needs of the times. The economic backwardness of the industry has led to the crisis of survival and inheritance of such industries. As one of the representatives of China's intangible cultural heritage, Huizhou Three Carvings is in a similar development dilemma.

This paper uses the methodology of system design, supplemented by research methods such as literature review, case analysis, data collection and other desk research methods plus field research method. Taking Huizhou three carvings as an example, it proposes solutions to these problems that the industry of traditional handicrafts are facing. Microscopically, the research in this paper can contribute to the development of Huizhou three carvings craftsmen. It can create products that keep pace with the times, also, the industrial chain can be more efficient. From a macroscopic point of view, this is not a solution to a single case. It also provides methods that many traditional Chinese craftsmen can learn from. It has reference significance for the protection, promotion, inheritance and innovation of traditional culture.

This paper is divided into six chapters: Chapter One introduces the research background and the significance of the research. Chapter Two introduces the definition, concepts and theoretical principles of industry and systemic design. Chapter Three and Chapter Four are the research, review and case comparison of the status quo. Chapter Five is the focus of the thesis, mainly introduces the research results of Chapter Three and Chapter Four, using the theoretical basis of Chapter Two, proposing the corresponding design solutions. The research section focuses on the defects of the entire system, such as the use of raw materials, production methods, marketing channels, sales tactics, promotion models, and so on. In the practice section, with reference to the innovation mode of other

traditional handicrafts, the theory is applied to the art of Huizhou three carvings. The specific case analysis specifically proposes a feasible system upgrade plan for the Huizhou three-carving industry. The conclusions and future research directions of this paper are presented in Chapter Six.

Key Words: Systemic Design, traditional handicraft, Huizhou Three Carvings,
Industry innovation

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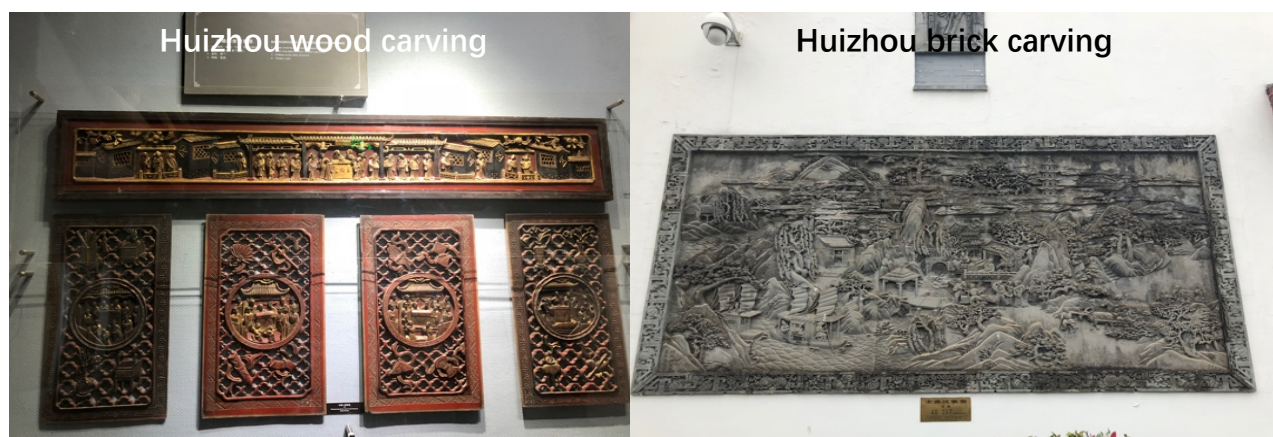
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Chapter I Introduction

Preface

As an ancient country with 5,000 years of civilization, China has a very rich intangible cultural heritage such as traditional handicrafts. Huizhou Three Carvings is one of them. (Huizhou, a small city located in the south-east part of China.)

Huizhou Three Carvings compose of wood carving, brick carving and stone carving, all techniques were originally used for architecture decoration.



Nowadays, with the development of new technology and westernized aesthetic taste, the Huizhou Three Carving techniques are losing their inheritors, and the carving products, artworks, and the industry related to them, are gradually losing their vitality.

I.1 Research Background

In September 2018, the National Art Foundation's 2018 Annual Art Talents Training Project “Huizhou Culture - Three Carvings Design Innovative Talents Training Program” was launched. The Talents Training course is based on Tongji University's international education and is co-organized by Huangshan College. The training targets are college teachers, Huizhou local craftsmen, non-genetic inheritors, and traditional craftsmen. The course aims to cultivate a group of high-level three-carvings innovative talents based on the artistic essence of Huizhou three-carvings art, with the traditional Chinese three-carvings culture consciousness and international aesthetic vision, and in line with market demand.

To combine theoretical cultivation and creative practice together, the training course hired well-known experts and professors from domestic universities and research institutes or national level with high attainments in the practice of three-carvings art related creation. At the same time, state-level art masters and folk craftsmen with high accomplishments in the practice of three-carvings art also participate in teaching and artistic practice.

The writer had the privilege of participating in the activities organized by the Huizhou Culture - Three Carvings Design Innovative Talents Training Program. Thanks to the opportunity, the writer conducted several times of field research on the Huizhou three-carvings culture and conducted many interviews with the talents engaged in the three carvings in Huizhou. Research found that although Huizhou three-carvings art is an intangible cultural heritage, it is still only popular in a small area. Most artists and crafts are not well-known to the world. More importantly, many people in the industry expressed deep concern about the current dilemma in the Hui Culture

The author's master's degree is media and communication design, undergraduate major was English literature. Therefore, the writer is very interested in the spread of Chinese culture home and abroad. In addition, during her study at the Politecnico di Torino, system design thinking influenced her a lot. Therefore, the writer tries to study the development and innovation of Huizhou three-carving art from the perspective of system design point of view, with the integration of the spread of Huizhou culture.

1.2 Research Purposes and Significance

As an ancient country with 5,000 years of civilization, China has a very rich intangible cultural heritage such as folk crafts. As one of the intangible cultural heritage, Huizhou Three Carvings deserves our respect and is worthy of inheritance. The persistence of inheritors is of no doubt important, but the development and innovation that keeps the art's pace with the times becomes especially more valuable. To this end, this paper combines the system design concept to carry out research on the Huizhou three-carving industry, hoping to provide reference for the inheritance and development of the three-carving industry.

Based on field research and interviews, this paper has obtained a large amount of first-hand information. From the perspective of system design, and through reference to foreign intangible cultural heritage innovation models, combining theory and practice, It not only has impacts on the development of Huizhou three Carvings industry, but also has reference significance for the protection, promotion, inheritance and innovation for other traditional handicrafts.

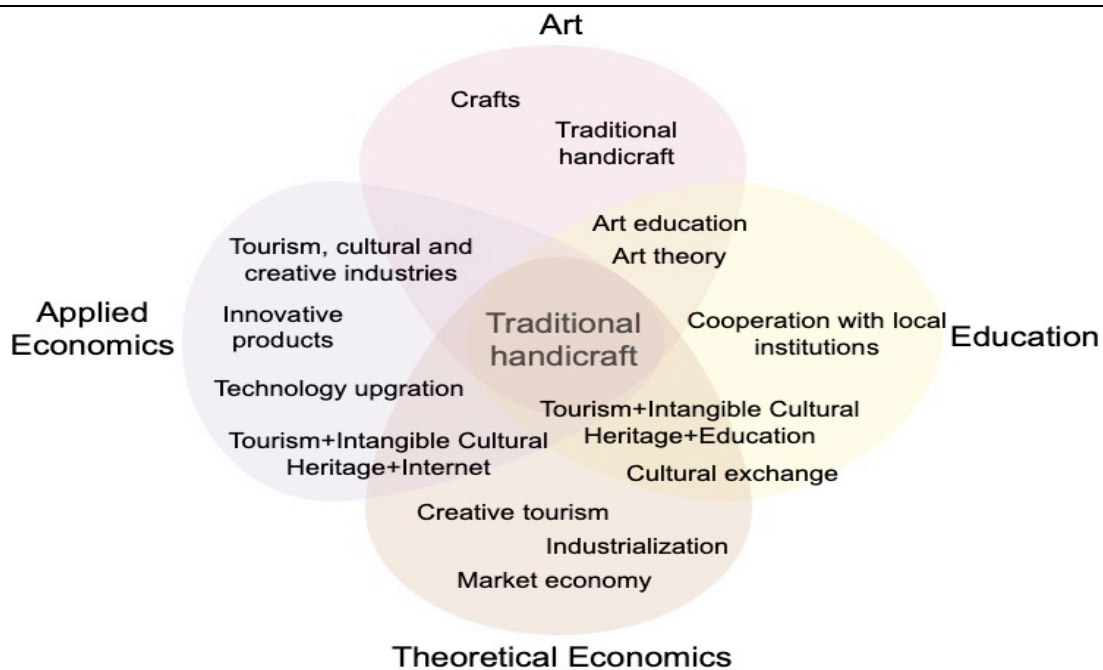
1.3 Research Status

1.3.1 Status of Chinese Research

cultural heritage is the essence of traditional culture of the people or even the of the whole country, and is an important living relic of human civilization. Traditional handicrafts occupy an extremely important part of China's intangible cultural heritage. While inheriting and documenting the traditional culture of the Chinese nation, it also reflects the wisdom and ingenuity of craftsmen, and has its own unique value in the path of development and inheritance.

In China, the research on the topic of "traditional handicrafts" began in 1978 and reached its peak in 2015. There are more than 2,000 related papers, covering ceramic art, lacquer art, jade carving, embroidery, wood carving,

bamboo weaving and other traditional handicraft forms. Most of them mentioned the lack of successor to traditional crafts, the disconnection with the time, the lack of regional features, and the unawareness of internationalism. Its interdisciplinary research has also developed rapidly, and has penetrated into many disciplines such as art, education, theoretical economics, and applied economics, and has derived a number of interdisciplinary themes. Some scholars have suggested that traditional handicrafts can be combined with modern technology, or developed industry, and can be roughly divided into cultural education industry, manual manufacturing, tourism and creative culture industries, digital media platforms, etc. (Zhang Jie, 2017). Among them, the main aspects of protection measures are mentioned, on one hand, the government needs to attach great importance to it, and formulate practical and feasible protection plans, deepen census, concept guidance, financial support, etc., and also cooperate with the development plan of the intangible cultural heritage. On the other hand, traditional crafts should be combined with higher vocational colleges to promote the education of the basic theories of national folk art, establish a regional cultural cooperation and exchange platform in a certain region, and implement a number of forms regional advantages and complement each other to form a regional cultural sharing platform (Wu Liuying, 2017; He Shanshan, 2015). There are also many articles that mentioned the innovation of traditional handicrafts, such as traditional handicrafts that need to keep up with the pace of the time for a modern transformation (Qi Lijun, 2018; Wei Xiaojun, 2007; Qiu Chunlin, 2017; Xie Liangcai et al., 2015) to broaden the application field and integrate with modern technology. Combine with fashion and high technology (Zhang Shuang, etc., 2018; Yi Ling, etc., 2017). There is also a number of researches aimed at the combination of traditional handicrafts and tourism culture (Zhang Wei, 2007; Gao Yi, 2016; Leng Yi, 2018; Liang Junxin, 2018). For example, traditional handicraft products can be "inlaid". Ways to integrate modern fashion products, to create "half-handmade" consumer products; also to introduce creative travel experiences of interactive learning experiences, to implement the form of "tourism + intangible cultural heritage+", such as "tourism + intangible cultural heritage+ museum" is an integration of entity museum space, virtual museum platform and VR technology to build a national intangible cultural heritage (Liu Chang, 2018). "Tourism + intangible cultural heritage+ education" refers to the organization of college students, primary and secondary school students to learn or experience intangible cultural heritage art (Zhang Liyang et al., 2016). And "tourism + intangible cultural heritage + Internet" is a internet-wise fusion of tourism and intangible cultural heritage industries, which can create unlimited possibilities.

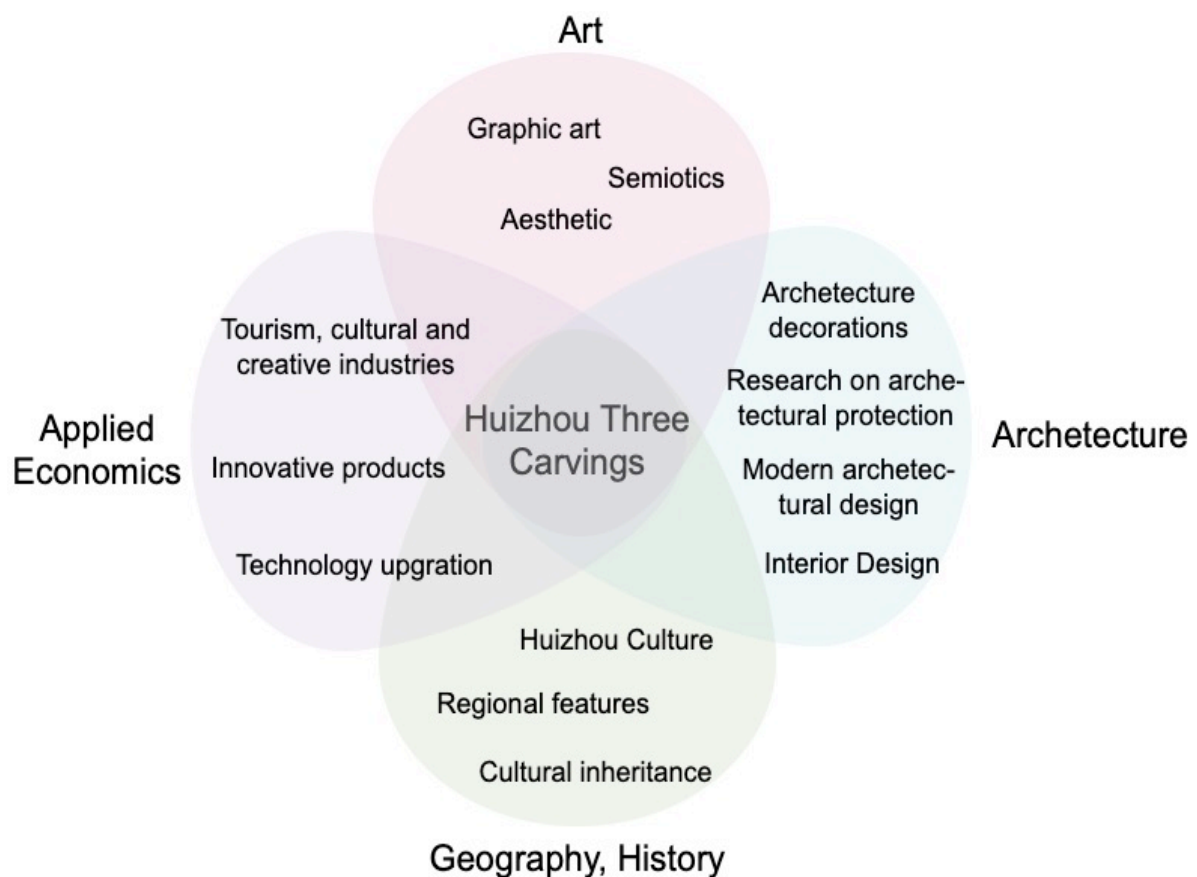


Research topics related to traditional handicrafts

About the topic of “Huizhou Three Carvings” artform, relevant research appeared since 1981, and it has reached its hottest point in 2015. There are more than 200 related papers so far. Some of these are historical studies and classification refinements of Huizhou three carvings, some of which are research on their current status, and some are reflections, ideas and examples of their current protection status, future development and integration with other disciplines. It achieve Infiltration in the fields of art, architecture, geography, history, applied economics, etc. Especially in recent years, there have been a few thoughts and innovative proposals for the status quo of Huizhou three carvings industry.

From the perspective of protecting the three carvings art, many articles mentioned the need to protect the inheritors of it in Huizhou and promote the encouraging system for folk artists and craftsmen. Moreover, it is necessary to establish an intangible cultural heritage park, increase the intensity of investigations, and let the ancient buildings of Huizhou in the private or rural areas could receive due attention and protection. From the perspective of art, some scholars studied the value of the "graphic heritage" of Huizhou ancient architectural sculpture art according to the figures of the three carvings. Some scholars studied the artistic aesthetics of Huizhou three carvings from the perspective of semiotics, and analyzed the generations of the three sculptures in Huizhou. The aesthetic value and social value of the art that is passed down from generation to generation (Wu Xiaozhong, 2006; Liu Yun & Fang Xuebing, 2012; Wang Yongjun & Liu Xiaoyu, 2010); from the perspective of architecture, many scholars start from the appearance of ancient buildings and extend to The decoration design of modern teahouses, or the combination of modern space interior design concepts, puts Huizhou three carvings into the modern interior design environment, and combines the exquisite carving art of ancient Huizhou with the innovation of modern architectural interior design (Lin Chaoyang, 2005; Zeng Fangping, 2013; Hong Zugen & Ouyang Yuefeng, 2012; Wang Lin, 2016). From the perspective of geography and history, involving the promotion and protection of local culture, the inheritance and

development of local craftsmen, and several other scholars have done corresponding integrated interviews and planning (Wang Wei, 2017; Cai Qiong, etc.) , 2017; Ye Lirong, 2010; Cheng Xiaowu & Zhu Guangya, 2004); From the perspective of applied economics, there are some references to the combination of modern technology and ancient carving techniques, such as the application of the Internet, such as the combination of engraving machines and crafts, or the addition of new materials, etc. (Zhou Hongsheng & Shen Chenyue, 2012). There are also a small number of scholars who have explored the possibility of combining Huizhou three carvings art with the tourism industry and the cultural and creative industries (Guo Hongbin & Zhao Shide, 2012; Huang Kai & Zhu Mina, 2009; Wu Changyuan, 2015), but most articles have no specific measures. It only stays at the level of exploring possibilities and exploring the direction of development. It does not go into the specific implementation steps, and does not propose a path for reference.



Research topics related to Huizhou Three Carvings

1.3.2 Status of Western Research

In the context of the new era, many foreign scholars went deep into the rural areas to conduct research on traditional craftsmen and traditional handicrafts. Among them, India's Vadakepat. V. M. (2013) mentioned how innovations should be made in the marketing methods of traditional craftsmen in small villages. TORRI. M. C. (2014) of Canada conducted in-depth research on local crafts and wood materials used, Nemas. K and Pelc. S (2019) in Slovenia took a deep dive into Ribnica, a small town with wood-made tradition, to investigate local craftsmen and propose the future direction of traditional crafts. Sánchez-Medina, P. S and Díaz-Pichardo, R et al. (2015) studied small handicraft companies in Mexico and investigated 186 pottery crafts companies, indicating that environmental compliance is a key factor to the improvement in the economic and environmental performance of small businesses in emerging economies.

Scholars from different countries also have different research on the modern marketing routes and reforms of traditional handicrafts. Yada. R and Mahar. T (2018) studied the reasons why SMEs in the Indian handicraft industry switched from traditional business routes to e-commerce routes through case studies. Also in India, Pierantoni. L (2018) studied the cultural heritage value of the handicraft industry in fast-growing cities. Bedi. P, Tripathi N. G. and Singh. H. B. (2019) studied smart tourism innovations in the Jaipur metropolitan area of India, based on technologies and innovations focused on smart tourism, combined with local traditional cultural heritage, tried to turn culture and the transformation of heritage into tourism products and the experience of tourists, which at last led to strategies to improve regional economic resilience. Pöllänen. S and Urdzina-Deruma. M (2017) examine the case of Finland and Latvia, focusing on the education of handicrafts and proposing future-oriented handicraft education reform proposals. Billi. A and Tricarico. L (2019) analyzed the status quo of Italian cultural entrepreneurship policy development and studied regional development policies: how to combine cultural methods with social innovation.

Other studies have suggested combining traditional craftsmanship with sales strategies, buyers' minds and other researches. Many scholars have suggested using local traditional handicrafts as a local feature and combining them with modern industry. This can not only promote the development of traditional handicrafts, but also promote the locality, bring more economic benefits, and has been applied in practice. For example, the establishment of multimedia platforms, websites, apps, etc., has made great contributions to the promotion of local traditional culture, the propagation of local traditional handicrafts, and the help of local traditional craftsmen.

1.3.3 Review of Current Research

From the above research status, it is acknowledged that the important role of the inheritance of intangible cultural heritage is a common consensus at home and abroad. How to realize the innovation and development of traditional crafts is also a topic of common concern. However, in general, due to the late attention to traditional crafts in China, the research content is not deep enough. Compared with foreign countries, there are still many areas for improvement in the legislative system, protection and support, and propaganda and communication. For the intangible cultural heritage of Huizhou Sandiao, although there is a certain research foundation in China, compared with other

themes, the research on the innovation of Huizhou three-carving industry is still weak, and due to the lack of extensive field. Research foundations or opportunities, the existing literature also lacks systematic and comprehensive innovative research, as well as feasible and referenced transformational proposals.

I.4 Research Methods and Roadmap

(1) Speculative research: logical methods (definition methods)

(2) Qualitative research:

Content Analysis Method: Identify or test the essential facts and trends in the literature, reveal the hidden information content contained in the literature, and make intelligence predictions on the development of things. It includes describing the propensity or characteristics of the content, describing the trends of the content of the communication, and comparing the content characteristics of different samples.

Literature Analysis: Some topics are mainly done through literature research, or literature research is one of the auxiliary research methods in the whole subject research.

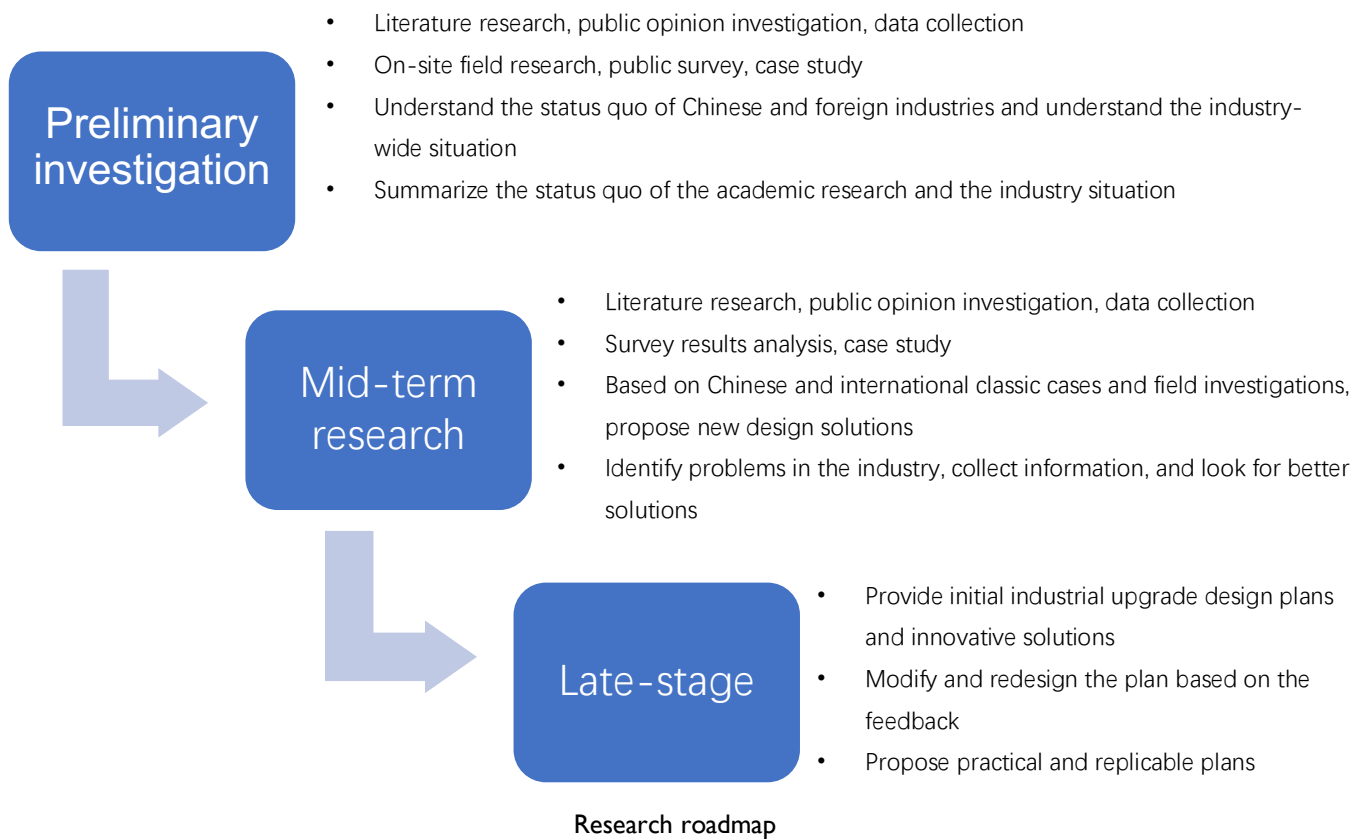
Field research: The data is obtained by means of observation, interviews and access to relevant materials, and then described and combined with the description for appropriate analysis.

(3) Quantitative research: questionnaire survey

(4) Comprehensive application of various research methods:

Case study method: Case study is generally a comprehensive and in-depth study and analysis of some typical characteristics of the research object. One can use one method or multiple integrated methods, such as observation, interview, questionnaire method, etc.

Comparative research method: synchronic comparison and diachronic comparison (Vertical and horizontal comparison) / similar comparisons and heterogeneous comparisons (analog and contrast) / quantitative analysis comparison and qualitative analysis (quantity and quality comparison)



1.5 Major Innovation

(1) Research methods:

System design thinking and methods originated in Italy, and there are few research and applications in China. This paper uses the system design-principles to study the innovation and development of the traditional handicraft industry in Huizhou, and analyzes the problems faced by the Huizhou three carvings industry and proposes possible solutions.

(2) Research content:

With the help of the National Art Foundation's 2018 Annual Art Talents Training Project “Huizhou Culture - Three Carvings Design Innovative Talents Training Program”, the writer got the chance to contact a large number of traditional craftsmen in the frontline and collected a large amount of first-hand information. Therefore, the text has combined both the theory of system design and a large number of research pictures and information. Based on this, the results become more solid.

(3) Research arguments:

At the end of the article, the paper puts forward the ideas and methods of redesigning the Huizhou three carvings industrial system, and designs a very operable Huizhou three carvings online platform, which hopefully could be put into practice.

Chapter II Industry Theory and Systemic Design

To build up the theoretical background, concepts related to the industry, the systemic design theories and concepts should be introduced first.

2.1 Industry Related Concepts

2.1.1 Concept of Industry

“Industry”, according to different contexts and different perspectives, has different meanings.

From the perspective of history and political economy, such as “industrial revolution”, industry mainly refers to “the aggregate of manufacturing or technically productive enterprises in a particular field, often named after its principal product”. From the perspective of law, industry can refer to “real estate”, such as “private industry” and so on. In the traditional socialist economic theory, industry mainly refers to the material production sector of the economy and society. From the point of view of economics, “industry” is between microeconomic cells (ie, enterprises, household consumers) and macroeconomic units (ie, the national economy), is the “collection” of various economies, simply saying “Producing a collection of material products”, which can include industry, agriculture, transportation, but generally does not include commerce. Sometimes it refers to all aggregates that produce material products and provide labor services.

Industry refers to the general term of the any general business activities consisting of various related companies and factories groups, which are related to each other and have different division of labor. Although their business methods and forms, or business models and even the distribution and circulation are not the same, their business objects and business scope are derived from the same kind of products, and they are self-contained, complete the circulation in its own system while contributing to the whole group.

In general, the industry is a collection of companies that use the same raw materials, the same process technology, and produce products or services with alternative relationships on the same value chain. The main research object of this paper is the collection of “three carvings” industry consisting of products created by craftsmen of three kinds of handicrafts, wood carving, brick carving and stone carving in Huizhou area.

2.1.2 Industrial structure

In order to adapt to the different purposes of industrial analysis in the various fields of industrial economics, the industry can be divided into several levels, which is the stage of “Industrial Agglomeration”. Specifically, the industry definition has three levels in industrial economics theory:

(I) The first level of industry is characterized by the same commodity market, that is, an industrial organization. The actual corporate relationship structure differs according to different industries. The relationship within the structure of the enterprises of the industry has an extremely important impact on the economic benefits of the industry. To achieve the best economic benefits of an industry, the industry must meet two conditions: First, the

nature of the corporate relationship structure within the industry have sufficient pressure of improving operations, improving technology, and reducing costs. Second, leverage "economies of scale" to minimize the unit cost of the company.

(2) The second level is an industry based on the similarity of technology and process, that is, industrial linkage. During a certain period of time, in a process of social reproduction in a country, various industrial sectors have invested and produced through certain economic and technological relations, that is, the flow of intermediate products, which truly reflects the proportional relationship and changing pattern in the process of social reproduction.

(3) The third level is based on the stages of economic activity, dividing the national economy into a number of major industries, namely the industrial structure. It refers to the technical and economic links and contacts formed between industries in national economic activities.

The content system of the industry includes industrial organizations in the microscopic field, industrial linkages in the mesoscopic field, industrial structures in the macroscopic field, industrial spatial layout in which the regional industrial structure is rationalized, and industrial policies.

This thesis is coping with the industrial organization of Huizhou three carvings industry, which is the competition and cooperation between the three carvings craftsmen. Since the concept of industrial structure is relatively towards a more macroscopic view. The industrial organization does not meet the research object of this paper. Therefore, this thesis mainly studies the industrial linkage between the three-carvings craftsmanship, while analyzing the industrial policies of the three carvings industry.

2.1.3 Industrial Chain

The industrial chain is a concept in industrial economics. It is a chain-based relationship between various industrial sectors based on certain technical and economic relations, and according to specific logical relationships and spatial and temporal layout. The industrial chain is a concept that includes four dimensions: value chain, enterprise chain, supply chain and space chain. These four dimensions form an industrial chain in a balancing process of mutual docking. This "docking mechanism" is an internal model of industrial chain formation. As an objective law, it regulates the industrial chain like an "invisible hand".

In this thesis, the connection of the Huizhou three carvings industry which the author is trying to study is actually the three-carvings industrial chain.

The essence of the industrial chain is to describe a corporate group structure with some inherent connection. It is a relatively macroscopic concept with two-dimensional attributes: structural attributes and value attributes. There are a large number of upstream and downstream relations and mutual value exchanges in the industrial chain. The upstream links deliver products or services to the downstream links, and the downstream links feedback information to the upstream links.

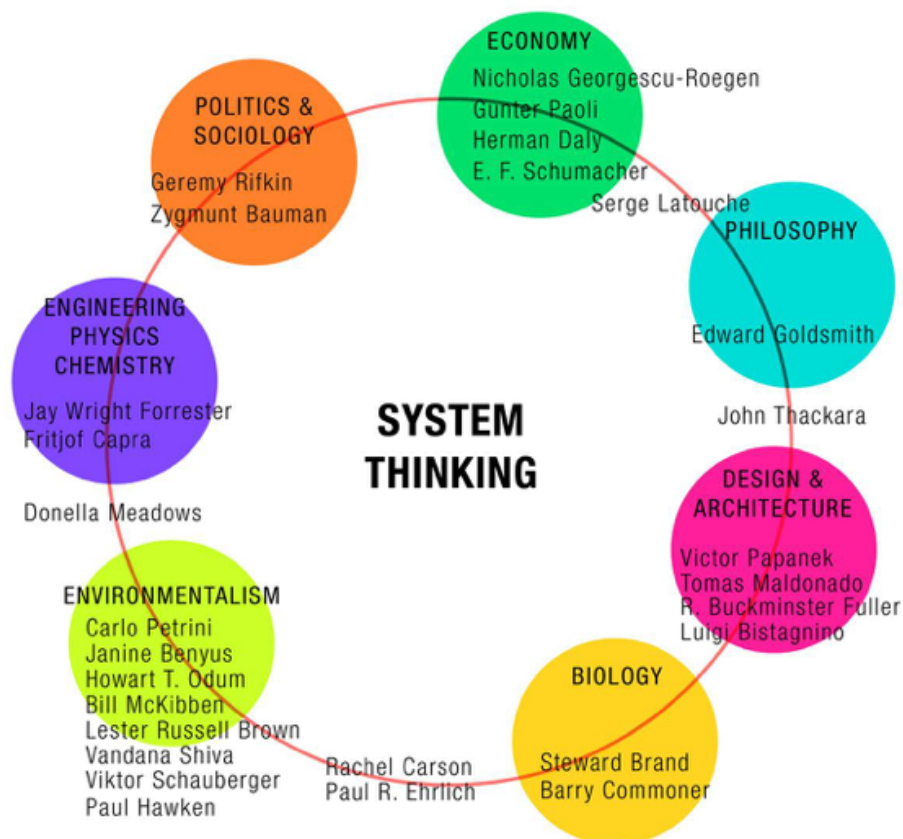
In the three-carvings industrial chain, the upstream link is the raw material supplier, the three-carving craftsman, and the downstream link is the customer who buys the product. Therefore, the Huizhou three carvings industry

should strengthen the association of raw material suppliers, craftsmen and customers, if so, the industry chain can become more closely connected along with generating economic growth.

2.2 Systemic Design Concepts and Theory

2.2.1 Systemic Thinking

Systematic thinking is generated in response to the failure of mechanical thinking and the biodynamics of explaining biological phenomena. According to system thinking, a "system" is a network of complex, highly interconnected components that are synergistic and collectively exceed the sum of their parts. From the perspective of the organization, the organism is a closed system, and at the same time, from the energy point of view, it is open. Energy and matter can be transmitted in and out. That is to say, in the environment around them, it is not "alone" or "still", but is studied as a whole. In this way, they present new properties that cannot be derived from their single components (von Bertalanffy, 1974). A system is an interconnected set of elements that is coherently organized in a way that achieves something. A system must consist of three kinds of things: elements, interconnections and a function or purpose (Meadows, 2008)



Systemic thinking in different fields

Cartesian science believed that in any complex system the behavior of the whole could be analyzed in terms of the properties of its parts. Systems science shows that living systems cannot be understood by analysis. The

properties of the parts are not intrinsic properties but can be understood only within the context of the larger whole. Thus systems thinking is “contextual” thinking; and since explaining things in terms of their context means explaining them in terms of their environment, we can also say that all systems thinking is environmental thinking. (Capra, 1996)

The perspective of understanding the world as a system of interconnected things has been adopted by research methods in other fields, not just biology. In fact, after the test of time and the development of different application fields, system thinking merges other fields like biology, information theory, management, general system theory, cybernetics, etc. The so-called “hard” system theory has been used for decades in engineering and engineering design (Sage, 1991). System thinking has been applied to management and organizational disciplines (Flood & Jackson, 1991), which provides new insights and ways to manage social technology systems for people, process, and technology.

However, it is widely believed that the real use of systemic thinking lies in the high complexity of dealing with structural error problems, which were previously human-centered (Checkland, 2000) (Ackoff, 1974, Bausch, 2001). The way of system thinking is different from the traditional way of classical decomposition or reductionism. It looks at relationships (rather than unrelated objects), connections, processes (rather than structures), the whole (and not just its parts), the patterns of the system (rather than the content) and the overall environment. It provides a perspective that provides a tool for understanding the relationships between things, rather than a single answer to a problem within a single discipline (Moore & Kearsly, 1996/2005; Cameron & Mengler, 2009). Although understanding the whole requires understanding of its parts, it also requires careful understanding of the interrelationships between the parts. In this way, the system presents new properties that cannot be derived from separate components.

The so-called “first generation” design thinker (Bayarzit, 2004) seeks to incorporate “scientific rigor” into design, while the next generation is able to express the special abilities that designers have beyond the scope of “scientific rationality”. From this transition, we can see the corresponding relationship in the design field. As Cross (1994) pointed out, designers can “propose new and unexpected solutions, tolerate uncertainty, and deal with incomplete information” (1994, p. 41). At present, many contemporary design researchers are promoting the use of systemic thinking, teaching and practice in their researches. In each case, design issues represent complex areas such as “sustainable design” (Charnley & Lemon, 2011); organizational design, including complex problem formulation and system redesign (Pourdehnad et al., 2011) The essence of design (Nelson & Stolterman) , 2002, 2012); Information Technology and Innovation (Dubberly, 2008).

Systemic thinking, by its very nature, welcomes and even requires the existence of complexity, which is consistent with the design challenges of contemporary issues, such as sustainability, management and social innovation, and because of its human-centered focus, it shows a high degree of complexity.

2.2.2 Systemic Design Concepts

The system design is based on the results of the system analysis, using system science ideas and methods to design a new system that can best meet the required goals (or objectives). When designing the system, the object system to be designed must be considered together with the environment surrounding the object system. The former

is called the internal system, the latter is called the external system, and there is mutual support and mutual constraint relationship between them. Combined with an external system, it is called an overall system. Therefore, in systemic design, the principle of thinking combining internal design and external design must be adopted, and the overall optimal system is designed from the synthetic concern of the aspects of function, input, output, environment, procedure, human factors and media of things.

Systemic design should adopt a working method of decomposition, synthesis and feedback. No matter how large the complex system, it must first be decomposed into several subsystems or elements. The decomposition can be carried out in terms of structural elements, functional requirements, time series, spatial configuration, etc., and its characteristics and performance are standardized and integrated into optimal subsystems. The optimal subsystems are then designed to obtain the optimal system. In this process, from the beginning of the design plan to the design of a satisfactory system, phased and overall comprehensive evaluation should be carried out, each task is revised and improved. The entire design process is a comprehensive feedback process. Systemic design content includes: determining system functions, designing guidelines and methods, generating an ideal system and making drafts, making corrections to the draft by collecting information to generate alternative designs, decomposing the system into subsystems, detailed designing and evaluating subsystems and the whole system, and demonstrating system solutions and predicting performance.

Systemic design is distinguished by its scale, social complexity and integration – it is concerned with higher-order systems that entail multiple subsystems. By integrating systems thinking and its methods, systemic design brings human-centered design to complex, multi-stakeholder service systems.

2.2.3 Systemic Principles

Ten systemic design principles shared between design and systems disciplines were proposed in Jones (2014), based on meta-analysis of concepts selected from system sciences and design theory. Design principles were selected that afforded significant power in both design and systems applications, and were sufficiently mature and supported by precedent to be adapted in general contexts.

- 1. Idealization**
- 2. Appreciating complexity**
- 3. Purpose finding**
- 4. Boundary framing**
- 5. Requisite variety**
- 6. Feedback coordination**
- 7. Generative emergence**
- 8. Continuous adaptation**
- 9. System ordering**
- 10. Self-organizing**

2.2.4 Systemic Design Principles

The ten design principles represent a series of challenges faced by most design projects, whether a commercial product, a healthcare service, or a complex social policy. If we accept the relative validity of the temporal model's orientation to processing decisions and risk from Strategy to Deployment, the design principles can be associated with risks or concerns faced by the design team (as a whole). Figure 2.1 illustrates the arrangement of these design principles recognized along the conceptual design model.

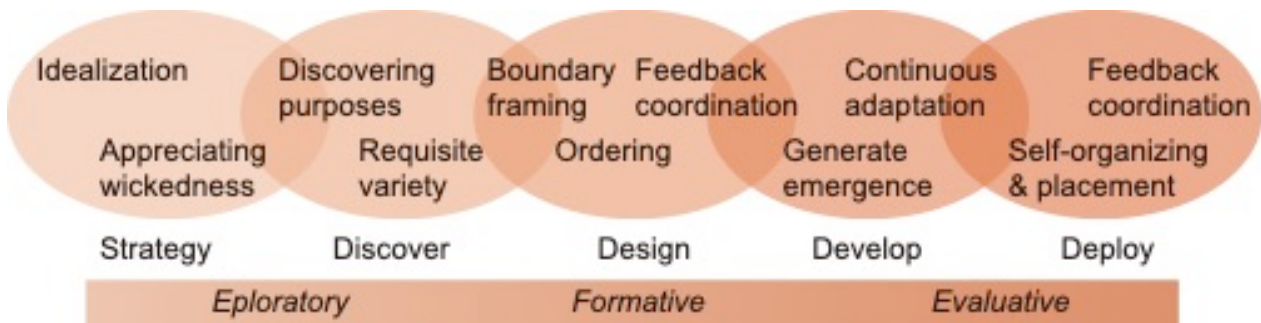


Figure 2.1 Design principles mapped to design model.

The research ideas of this paper follow the principle of system design. The main research process begins with the assumption and problem determination. After a series of design, adjustment and re-design, it is finally expected to achieve the purpose of application.

2.2.5 Systemic Design Method

Figure 2.2 portrays a range of commonly cited (hard and soft) systems thinking methods. These methods are organized around the four intents of systems practice (understanding or prediction research outcomes, design or change design outcomes). These four methodological intents (based on the 3 from Braa and Vidgen, 1997, adding Design) are relevant to the evaluation and selection of research and design methods, whether in human-centred or systemic problems. This model incorporates systemic design methods representing selections for research and design in the four outcomes.

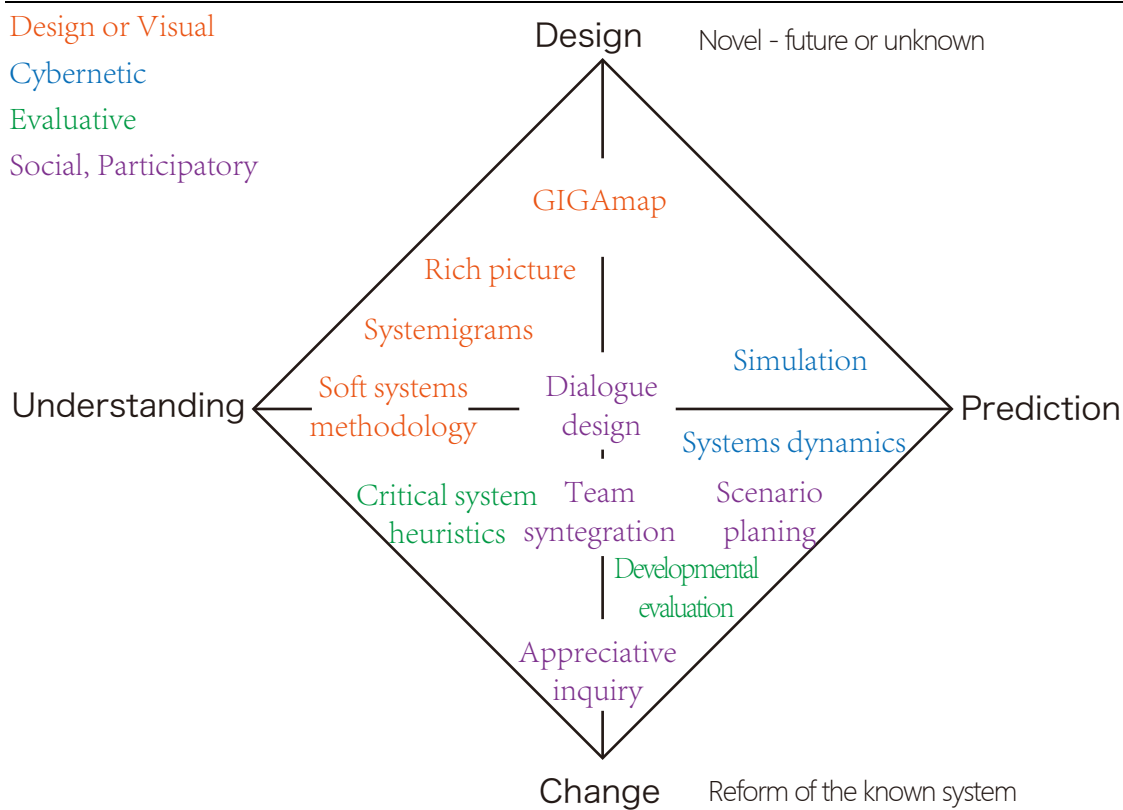


Figure 2.2 Systemic design methods by research intent.

Four design modes are indicated in the model. Design/Visual modes are identified (in orange) as relevant to the intentions for human understanding and system design. While also useful in change and prediction intents of systemic research, design/visual models have more direct utility in these two (i.e., visual methods such as the GIGAmapping are designed to enable shared understanding of systems for design purposes). Four participatory methods are identified, typically associated with change (action research and organizational development). Evaluative methods (green) are related to system change, while simulation and modeling methods (light blue) can be considered both cybernetic and quantitative reasoning modes, useful for enabling prediction and forecast planning. In systemic design, any or all four intents may emerge in a relevant research application. In some cases at least one of each intent – associated with the sequenced stages in research - may be appropriate.

Table 2.2 shows 10 systemic methodologies commonly employed to obtain the desired effects of the design principle. Placements of these methodologies within a canonical service design process may be associated with the five stages as shown in Figure 2.3.

Table 2.2 Systems methodologies associated with systemic design principles.

Principle	Systemic Design Methodologies
1. Idealization	Dialogic design, Idealized design
2. Appreciating Complexity	Problematique
3. Purpose finding	Function hierarchy
4. Boundary framing	Critical system heuristics
5. Requisite variety	System modeling

6. Feedback coordination	System dynamics
7. System ordering	Process model
8. Generative emergence	Cellular automata
9. Continuous adaptation	Intervention (leverage points)
10. Self-organizing	Dialogic design, Developmental Evaluation

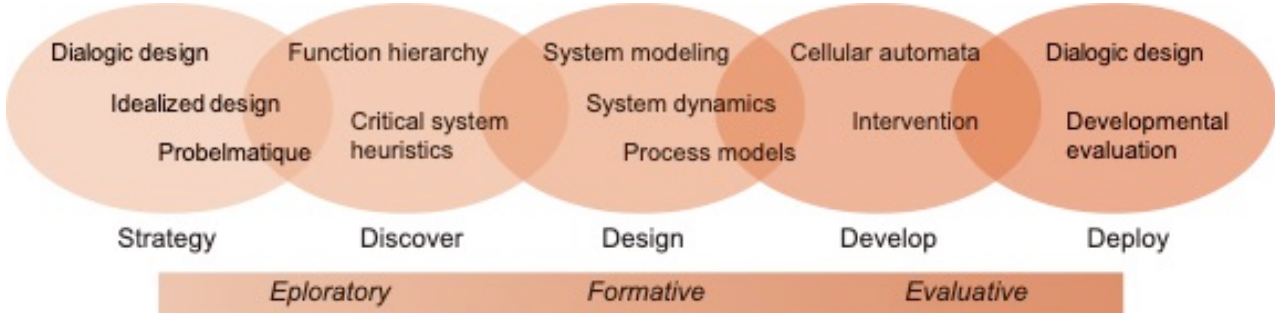


Figure 2.3. Systemic Design Methods Mapped to Design Model

2.3 Systemic Design Practical Application

The research method applied in this paper adopts the system design method. According to the specific conditions of the Huizhou three carvings industry and the specific problems to be solved, the order or content of each research method is appropriately adjusted to suit the specific situation, and the corresponding analysis and design are made specifically, as shown in Figure 2.4 and Figure 2.5.

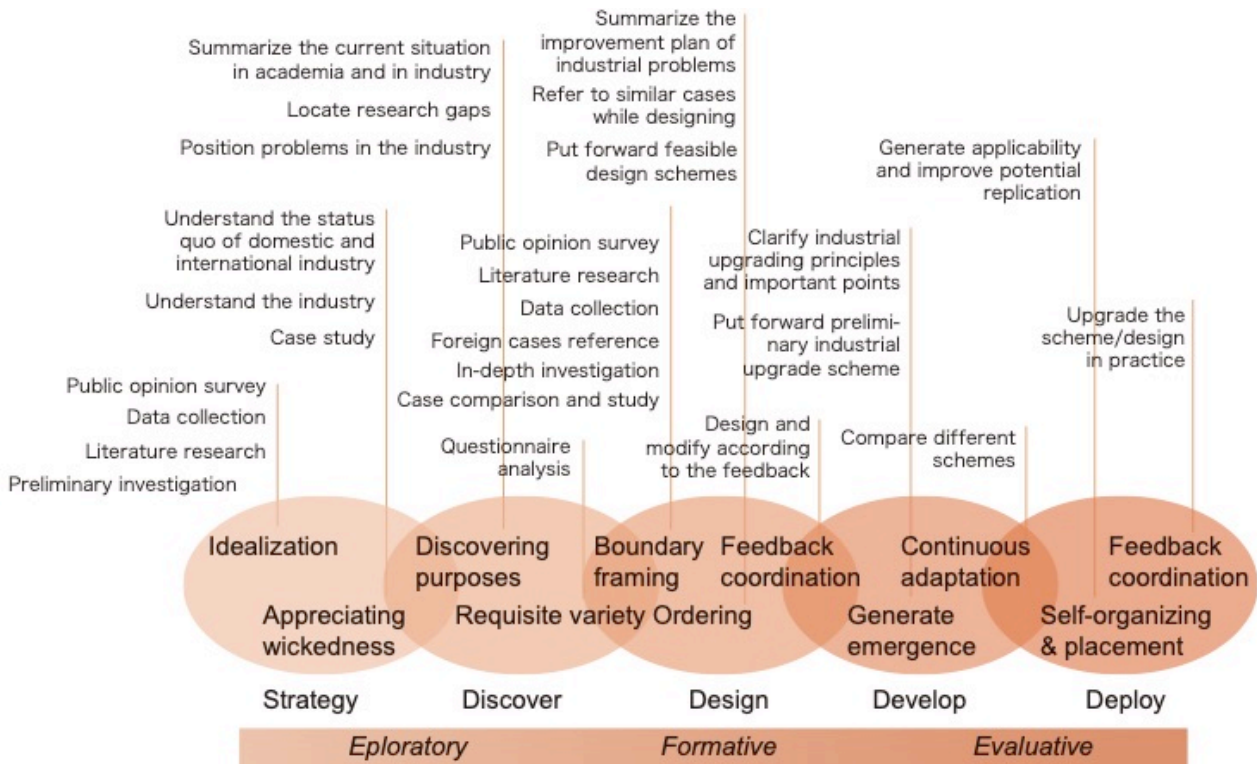


Figure 2.4 The practice of system design method in the study of Huizhou three carvings industry

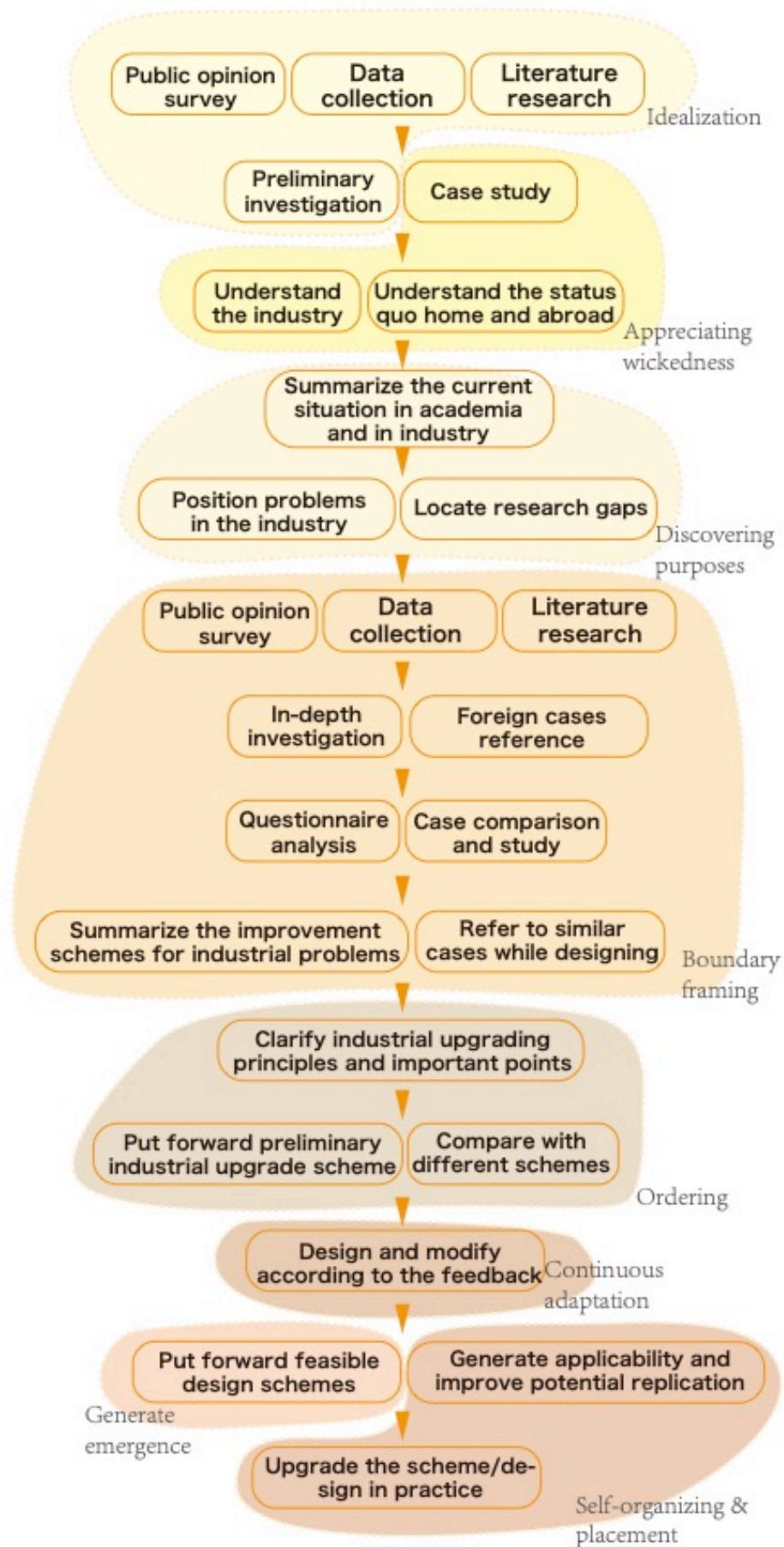


Figure 2.5 Application flow chart of system design method in Huizhou three carvings industry research

2.4 Systemic Design, Sustainability and Local Community

The systems theories can play an important role in rural development, such as Ison's participatory rural appraisals (PRAs) with their conceptual and process issues relating to design (Ison, 2000). The systemic design approach, in the most recent evolution, is particularly attentive to the territorial implications and valorizations. Barbero (2018) led the implementation of systemic design methods in three cases are set in three different geographical contexts (Mexico, Italy, and Spain) with declining rural situations and generated new territorial businesses to guarantee distribution of wealth to local communities.

The application of systemic design in rural areas can guarantee the economic development of these territories thanks to the exercise of its five principles (Bistagnino, 2011):

1. **Output becomes input:** The wastes of a system become the resources of another one, in order to generate a continuous flow of material, energy, and information, leading towards zero emissions. This is the basic principle that helps anthropic processes to imitate the nature and to define new ways to pursue a sustainable development.
2. **Relations generate the system:** The different elements of a system are connected to each other from the exchange of material, energy, and information, generating the strengths of the system itself. The relationships developed within the system generate it as open and inclusive. In these rural areas, the lack of connections is a serious weakness that makes the territory very fragile, so with the increase of relations, it starts to be resilient and stronger.
3. **The system is self-generating:** The autopoietic open systems are self-supported and reproduced, so they can evolve in relation to the changes that occur in the context. Like biological systems, the system is self-regulating and dynamically stable in order to change with the co-evolution of the entire system as a whole. Rural contexts are usually very reluctant to change, however to go towards a new sustainable development they need to be flexible and adapt to new situations.
4. **Actions are local:** The operational context is prioritized, by wisely using local resources. The cultural material heritage is preserved, and any system can be identically replicated in another place. The scalability and replicability of systems are evaluated as a unicum (Barbero & Bicocca, 2015). As we have seen in the action cases, they are all different, one from the other, and they need distinct solutions that work just for the specific situation, which has a strong tradition and cultural heritage to preserve.
5. **Human being is at the center of the project:** The relationship between man and context is the heart of the project, not in an anthropocentric way. The human component should be considered in the design process in order to guarantee the respect of local culture and know-how, especially in rural areas where the folk-lore and local culture is very vivid.

Chapter III History and Current Situation of Huizhou Three Carvings

Industry

Among the resourceful Chinese artforms, the art of Huizhou carvings originated in the ancient Huizhou appears to be delicately unique. Among them, the three counties: Yi(黟), She(歙) and Wuyuan(婺源) are the most famous. Huizhou three carvings refers to the abbreviation for three folk carving techniques: wood carving, stone carving and brick carving of Hui style in the six counties of ancient Huizhou (now is Yi, She, Qimen, Xiuning, Taiping, Jixi, and Wuyuan County of Jiangxi Province - 黟县、歙县、祁门、休宁、太平、绩溪和江西的婺源县). The Hui style sculpture has strong atmosphere of life, rich and colorful subjects, materials adapted to local conditions, and distinctive cultural and regional characteristics. Buildings of Huizhou have distinct characteristics, there are many memorial arches, and the thresholds of the houses are decorated with exquisite stone carving and brick carving. Countless layers are stacked on top of each other. Inside the house, wooden beams and rafters are intricate and exquisite, and there are also a large number of arts and craftworks, and even daily necessities are beautified and expressed using the same artisanship.

3.1 Brief Introduction to the Development of Huizhou Three Carvings Industry

3.1.1 Origin of Huizhou Three Carvings

Seeking the source, the history of Huizhou carving art can be traced back to the Song Dynasty. In the Ming and Qing Dynasties, this art form has been greatly developed, and it has emerged and stood out from many art schools. The "Huizhou Three Carvings" has since become famous in the country. The art originated from the successful business of the Huizhou merchants who spent their accumulation from commercial road on building their own homes. In order to pursue the style and taste of architecture, more and more emphasis is placed on the skills and forms of the carvings, and the requirements for architectural craftsmanship are getting higher and higher. Objectively, the three carvings in Huizhou have been promoted to a higher stage. Therefore, the three carvings formed and grew with the development and boom of economy of Huizhou. A product that gradually forms and develops in the background. The art of Huizhou carvings flourished in folklife. The craftsman used labor and wisdom to integrate art into the daily production and life. From the people's residence to the official residence, and even to temples, you can see beautiful carvings. From architectural decoration to daily use of furniture, to artware owned by scholars and literati, the art form of carving is almost ubiquitous. It has already been integrated into the life of ancient Huizhou people and has become an indispensable part of it. The art of Huizhou carving is good at changing with the subject of creation, and the different materials and techniques are merged into a unified whole. The works have a great charm and own a high appreciation value.

The Huizhou three carvings are based on architecture. However, with the development of society and the changes of the times, the inheritance of Huizhou's three carving skills, like many other traditional handicrafts, entered a period of embarrassment and is faced with survival crisis. Since the founding of New China, there hasn't been enough attention paid to the ancient buildings in Huizhou and the protection has been very weak. Many of the three carvings artwork of ancient Huizhou have been lost, and they have become trading objects, and some have been shipped to other places and countries. The inheritors of the three carvings art is also not the same as it used to be.

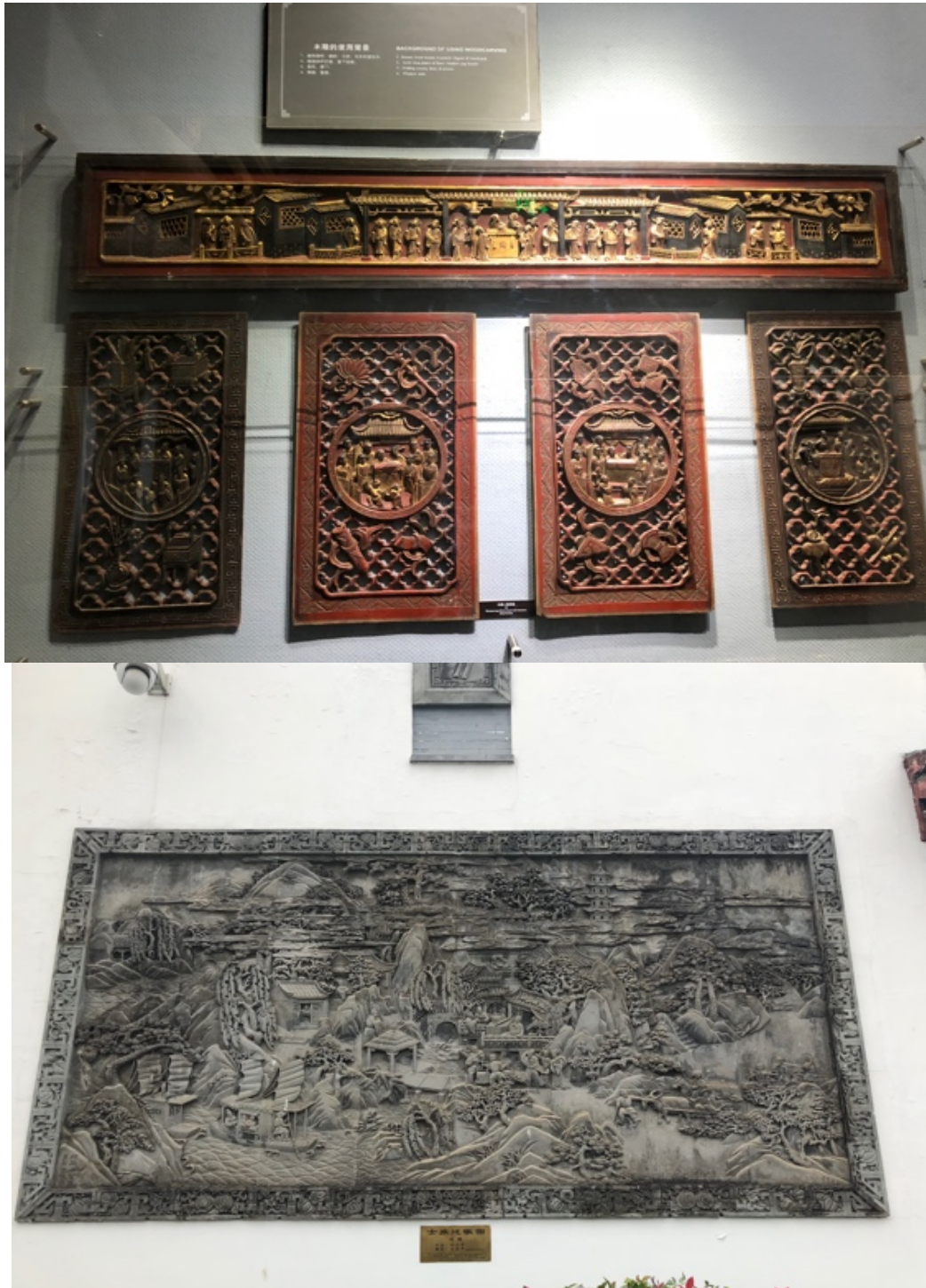


Figure 3.1 Ancient huizhou brick and wood carvings
(Source: photo by the author 2018.10)

3.1.2 Raw Materials of Huizhou Three Carvings

Due to its diverse terrain and its subtropical monsoon climate, Huizhou has rich forest vegetation resources since ancient times. Huizhou woodcarving is to use the local wood resources to select the wood with clear texture, soft and easy for hand-carving raw materials, such as pine, fir, eucalyptus, elm, cypress, water willow, maple and other hard or soft wood material.

Huizhou is not only rich in vegetation resources, but also has complex geological structures. Among many geological rock layers, tremolite and Cambrian tuff, carbonate argillaceous limestone and carbonate siliceous rocks, argillaceous sandstones and Calcareous rocks are the majority. These high-quality stones are the materials that Huizhou craftsmen chose to make stone carvings. In the local cognition, the bluestone of Yi County, a kind of black carbonate marble, is of the highest quality, usually used in temples and arches. Its texture is hard and delicate, the main component is limestone, which will become very smooth after being polished. The white stone and kenaf stone from areas of Yi, She and Xiuning counties are a kind of argillaceous sandstone. The hardness is lower than that of Yi, and the stone texture is relatively loose. It is mainly used for making column foundation and stone base. In addition, the blue colored stone(青色茶回石) from local and Zhejiang province is also a common stone, with a tight and fine texture and good gloss. It is also a good raw material for carving.

Compared with the other two techniques, Huizhou brick carving has more production process of raw materials. The brick making process mainly uses the sedimentary clay in the fine soil or field deposited in the river turning for many years. During the drifting and sedimentation process, the clay particles become very fine and contain some organic matter and other impurities, so the plasticity is comparatively good, but the degree of refractoriness is relatively poor, generally below 1350 degrees. The removed clay is then sieved, panned, blanked, dried, and kiln-fired. The bricks can be engraved after being ground. The patterns of the bricks are exquisite and firm, and are not easily damaged for a long time.

3.1.3 Inheritance of Huizhou Three Carvings

Historical records on the three sculptures of Huizhou are rare, probably because the artistic heritage of Huizhou three carvings is open, not secretly. Although there are few written records, according to the existing inheritance situation, we can still sort out the basic inheritance of Huizhou three carvings: the inheritance of crafts mainly depends on three ways: by word, by objects, and by heart. By word is namely by language, explanation, etc. By object is a form of communication through the visual image and the process of carving-teaching. By heart is a comprehensive form of teaching in which the words, the teachings, the objects and the words, that is, the understanding of the creation of things.

The three carvings craftsmen all have a formal apprenticeship, and the time of study is generally three to five years. During the apprenticeship, there is no remuneration. The master supplies their meals. After finishing the apprenticeship, the student leaves the master and lives on his own. The inheritance of this skill is accustomed to the

passing of the master and the disciple, and the father-to-son inheritance, so the inheritance of three carvings skills generally follows its path.

3.2 Investigation on the Development of Huizhou Three Carvings industry

From October 2018 to December 2018, the author followed “Huizhou Culture - Three Carvings Design Innovative Talents Training Program” students to Huangshan City, Anhui Province, and went in-depth to interview Huizhou three carvings inheritors, craftsmen and masters. The author also visited several working studios and production plants, retail shops, etc.

According to the results of the survey, at present, the inheritors of Huizhou three carvings are adjusting their business practices towards enterprise and workshop production mode, and have more obvious and stronger market behavior. National and provincial-level Huizhou three carvings inheritors have established individual enterprises or studios, or follow the national and provincial inheritors as apprentices or employees.

3.2.1 Status of Brick Carving Industry

(I) Overview

There are many brick and kiln factories in Huangshan City, and bricks are supplied to the city. The annual turnover of the entire brick carving industry in Huangshan City is about tens of millions of RMB.



Figure 3.2.1 orner of the studio of Master Wu Zhenghui

(Source: Photo taken at 2018.10)

At present, the whole craftsmanship of brick carving in Huangshan City is about 100 people. The author visited the Zhenghui Brick Carving Art Research Institute in She County, which was founded by the master of Chinese arts and crafts, master of brick carving in Anhui Province, and the master of brick carving. It is also his studio, which has more than a dozen of apprentices and workers in the brick carving industry, mainly doing complex design and production of brick carving works. As for transport and installation, depending on the situation, other workers need to be hired. The orders are mainly from the government and large enterprise units, such as ancient construction repair, manor construction, private house decoration carving and so on. In Huangshan City, there are not many large-scale brick carving studios like Master Wu Zhenghui's. Many brick carving craftsmen even run a studio by one or two people, taking some small or private orders.

(2) Brick carving process

Ancient brick carvings need to first use a mud to make a blank. The excess part of the blank should be knocked off by hand, and then step by step, rough carving, fine carving and delicate carving. Now, the blank can be made by the machine, and the blanking process can be completed in one minute. Some machines can even complete the steps of rough carving and fine carving, and the final polishing, smoothing and the steps such as deep relief and hollow carving are done manually.

(3) Sales channels

At present, brick carving mainly relies on more traditional sales methods such as introducing acquaintances. The famous brick carving master has naturally more people coming with orders. The brick carving craftsman who is the apprentice of a famous master will also use the name of the master as his propaganda point.

(4) Promotion and publicity channels

The architectural decoration made of brick carvings and the crafts itself are a kind of propaganda. In addition to that, the government and the masters are also trying to promote the brick carving process. For example, Master Wu Zhenghui plans to build a brick carving museum in the intangible cultural heritage industrial park in She County, and display the brick carving works of different periods in his collection as a base for the inheritance and research of Huizhou brick carving art. There are not many online advertisements. When searching for “Huizhou brick carving” on



Figure 3.2.2 Brick carving craftsman
(Source: photo taken at 2018.10)

the search engines, most of the results are general text introductions, some of which are created for personal propagation, but the content of the page is only related to one person(the interior), no promotion or introduction of the industry.

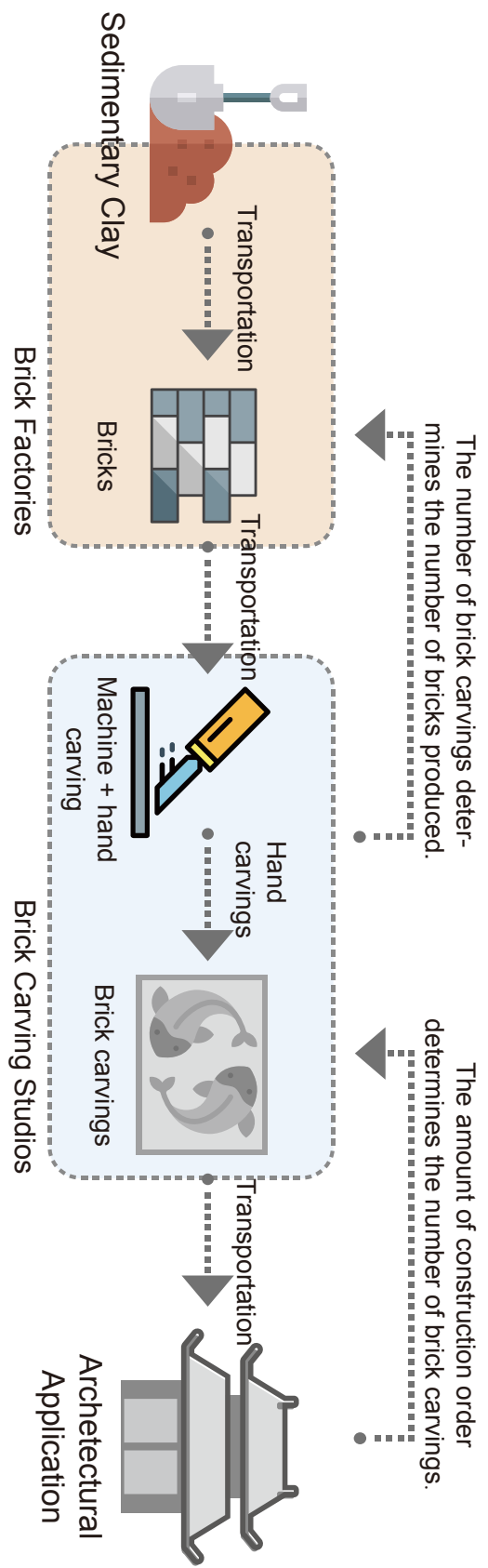


Figure 3.2.3 Flow of the brick carving industry

3.2.2 Status of Wood Carving Industry

(1) Overview

Huizhou woodcarving is mainly used in architectural decoration and furniture decoration. The industry can be roughly divided into several directions: ancient building restoration, architectural flower board, handicraft ornaments, handicraft accessories and so on. Trees are felled by lumberjacks and transported to different sawmills, some are cut into fixed sizes, and others are sent to processing and retail outlets. Some woodcarving craftsmen set up their own studios and stores to process and retail wood, while others crafted their own products to retailers for retail sales.



Figure 3.2.4 Raw materials for wood carving

(Source: photo taken at 2018.10)

(2) Sales channels

Compared with brick carving and stone carving, Huizhou wood carving can be made into exquisite household ornaments because of its delicate and light materials. Therefore, their application range and sales channels are relatively wide. For the wood carving craftsmanship, in addition to special retail stores, acquaintance networks, etc., there are also online sales channels, such as the “Dongjia(东家)” craftsman platform app, which helps the craftsmen connect to their customers and sell the works through the Internet. For the large-size wood carving architectural decoration, the sales mainly depends on the craftsman’s fame and influence.

(3) Promotion channels

In Dongyang(another city in South-east of China, famous for wood carving), there is a special woodcarving museum. However, Huizhou wood carving, one of the seven in the most famous schools of Chinese wood carving, has is no special museum for it. Only some comprehensive museums have Huizhou wood carving exhibition area. The online publicity situation is the same as that of the brick carving. Search "Huizhou woodcarving" online, it appears only general introduction of the same words, or a simple publicity page of some wood carving craftsman.



Figure 3.2.5 Wood carving Workbench

(Source: photo by the author)

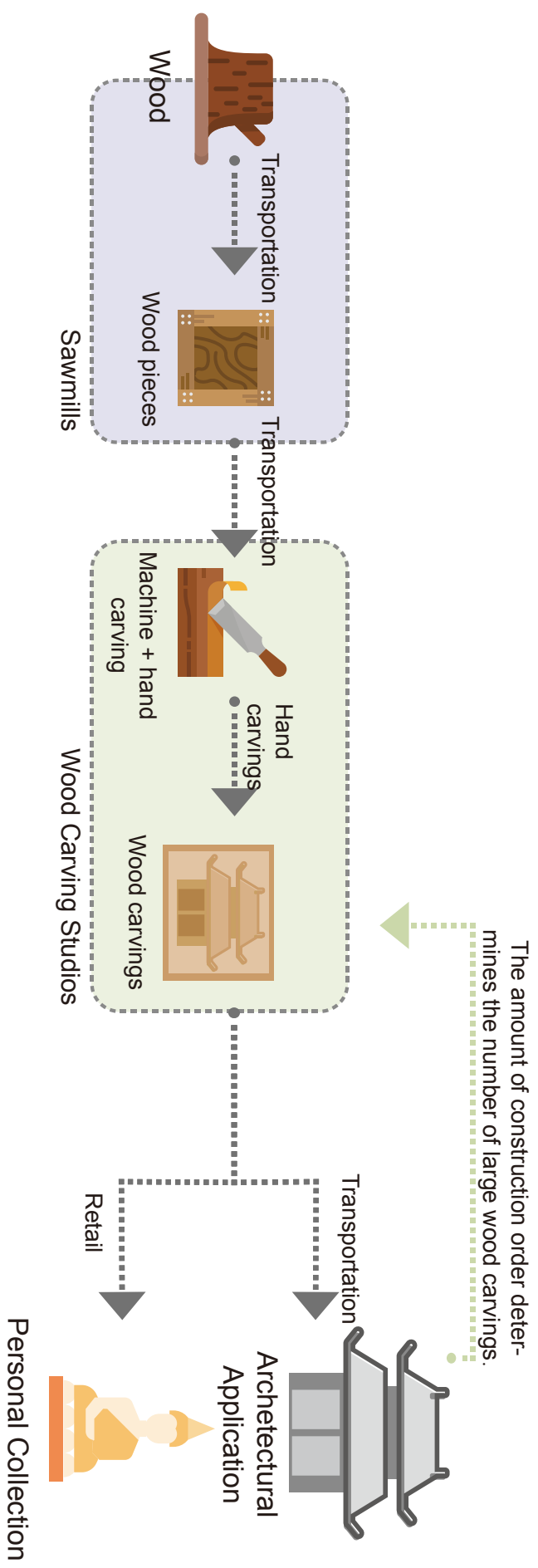


Figure 3.2.6 Flow of the wood carving industry

3.2.3 Status of Stone Carving industry

(I) Overview

There are many mountains in Huizhou, Yi county is located in the mountains. Therefore, there are two main sources of stone carvings in Huizhou: one is a kind of green-black stone from Yi county, and the other is a brown colored garden stone. The color and perception are different. The stone carvings are mainly displayed in the courtyards, temples, arches, towers, bridges and residential courtyards, gates, railings, pools, flower beds, windows, walls, pillar foundation, drum stone, stone lion and so on.

Since most of the stone carvings are bulky, transportation and trading is not easy, the demand is gradually declining, and also, the dust produced by the carving large stones is heavy, the number of inheritors is becoming smaller and smaller.

Inkstone carving is a branch of stone carving. Nowadays, there are still many craftsmen who polish their own skills as they polish the stones. The most famous of the Huizhou inkstone carvings is the inkstone of She(歙砚), means the inkstone of She county, is one of China's four famous kinds of inkstone, namely Tao Inkstone of Gansu Province(洮砚), Duan Inkstone of Guangdong province(端砚), Chengni Inkstone of the Yellow River. She county, located between Huangshan Mountain in Anhui Province and Tianmu Mountain and Baiji Mountain, includes counties such as Jixian, Xiuning, Qimen, Qixian and Wuyuan.



Figure 3.2.7 Materials for stone carving

(Source: photo by the author)

(2) Sales channels

The sales channels of stone carvings mainly rely on retail shops with connections, fame and distribution.

(3) Promotion channels

The stone carving in Huizhou are slightly inferior to wood carving and brick carving. First of all, there are few special exhibition areas for stone carving in the museum. The preservation of exquisite stone carving objects is also significantly less than that of brick carving and wood carving. Searching for “stone carving” on the search engine basically shows no too much detailed information, and there are relatively few related reports. The information related to the "inkstone carving" is similar to the wood carving and brick carving, also some personal websites of only a few craftsmen.



Figure 3.2.8 Stone Cutting Workbench

(Source: photo by the author)

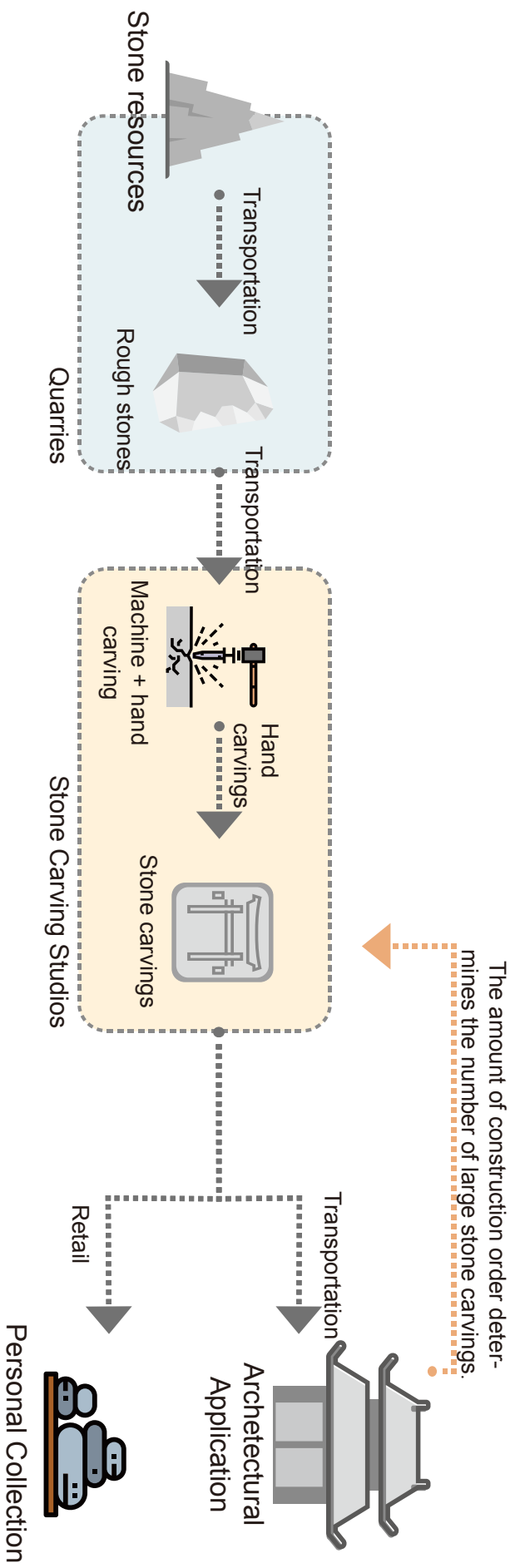


Figure 3.2.9 Flow of the stone carving industry

3.2.4 Related Policies and Regulations

(1) Nation-level policies

Beginning on December 1, 2006, the State began to implement the Interim Measures for the Protection and Management of State-level Intangible Cultural Heritage, to collect, protect and pass on China's intangible cultural heritage. Since May 20, 2006, the State Council has approved a total of 1,530 national intangible cultural heritage lists identified and published by the Ministry of Culture. Huizhou Three Carvings is one of the earliest. At the same time, the state has proposed a new type of urbanization with Chinese characteristics, which emphasized on "people-oriented, simultaneous development, optimized layout, ecological civilization, and cultural heritage". A large number of new cities, including antique cultural buildings and cultural sightseeing facilities, were built. This provided a good opportunity for Huizhou three carvings art, which was historically based on the development of Huizhou architecture.

Article 37 of Chapter 4 of the National Intangible Cultural Heritage Law states that when certain organization makes reasonable use of the intangible cultural heritage as projects, it enjoys the preferential tax regulations stipulated by the state according to law". In 2012, the "China Political Consultative Conference" reported Wang Wen, deputy minister of the Ministry of Culture and member of the National Committee of the Chinese People's Political Consultative Conference, learned from the proposal to reduce or exempt the intangible cultural heritage protection tax policy. "The state has formulated relevant support policies for the cultural industry, and the micro- or small-scale enterprises which produce protection for intangible cultural heritage can refer to these policies to implement." committee member Wang Wenzhang mentioned that the Ministry of Culture proposed in the "2013 Key points of cultural work" that "to cooperate with relevant departments to formulate preferential taxation policies for the protection of intangible cultural heritage".

In the summer of 2015, the Ministry of Culture launched the "China Intangible Cultural Heritage Training Program" and entered universities for pilot projects. In 2017, Huangshan Vocational and Technical College was selected as one of the 78 universities to participate in this project.

(2) Provincial-level policies

In recent years, Anhui Province has continuously deepened its strategic cooperation with the Palace Museum, promoted the inheritance and protection of traditional culture, and achieved remarkable results. The first was to launch shows, in Palace Museum, the "Charm and Mistry of Hui craftsmen-Huizhou Traditional Crafts Palace Special Exhibition" was held, and 85 works including She inkstone, ink of Hui and Huizhou three carvings were exhibited. The second is to develop cultural and creative products. It has co-constructed the traditional craft station of the Palace Museum in Huangshan City, Anhui Province. There are already 13 intangible cultural heritage projects and 40 inheritors working in the station. They also built traditional Hui craftsmanship museum in the Cultural and creative Museum of Palace Museum, open for business, doing research, display, and selling products with outstanding elements of the Forbidden City with traditional Huizhou craftsmanship. There are more than 160 products in the craftsmanship museum. The third is to strengthen the protection and utilization of cultural relics. They cooperated with the

Forbidden City to establish the archaeological workstation of Fengyang Mingzhongdu Site, carried out archaeological excavation and multidisciplinary research, used the academic, resource platform and technical means of the Forbidden City to discover the scientific, artistic and historical value of the Mingzhongdu site, and enhance the protection, usage and display of cultural relics. The fourth is to carry out academic research exchanges. They established the Forbidden City College (Huizhou) and post-doctoral workstations in Anhui Province, and launched a series of forums, lectures and seminars; held the “Hui Artisans into the Forbidden City”, the craftsmanship of the She inkstone, the Huizhou three carvings intangible cultural heritage inheritors training workshop, and trained more than 70 students. .

In 2011, Anhui Province's “Plan of Huizhou Cultural and Ecological Protection Experimental Zone” was approved by the Ministry of Culture and established the Hui Culture Ecological Protection Zone. It is China's second national cultural and ecological protection zone to protect the intangible cultural heritage of the ancient Huizhou area and also the tangible cultural heritage and natural environment it relies on. Hui dishes, Huizhou and Hui ink and Huizhou three carvings are the key protection objects.

In addition, the Anhui Provincial Intangible Cultural Heritage Protection Center will publish a magazine “World of Intangible Cultural Heritage” every year, making it an important platform for the exhibition of intangible cultural heritage protection work.

(3) Municipal-level policies

Huangshan City cooperates with the provincial directives on the cultivation of the three carving talents. Starting from August 2016, She County took the lead in launching the intangible cultural heritage “Masters and apprentices” nurturing project, and established a long-term mechanism for the inheritance and promotion of intangible cultural heritage. The scope of project implementation includes all intangible cultures above the provincial level. For the project, the “master” should be a representative inheritor of intangible cultural projects at or above the provincial level, and the “apprentice” should be a young and middle-aged person who is willing to learn and inherit. In the implementation of the “Masters and apprentices” project, there were 19 “masters” and 88 “apprentices” in She County.

(4) County and local-level policies

The subordinate counties of Huangshan City also pay a lot of attention to the protection and inheritance of Huizhou three carvings art. They often hold some local three carvings contests to encourage craftsmen to participate in. From December 10 to 13, 2018, the first Huizhou Brick Sculpture Art Competition jointly organized by Huangshan City Cultural Committee, She County Government and Anhui Intangible Cultural Heritage Protection Center was successfully held in She County. Nearly 50 players from the three districts of Huangshan City and other nearby cities participated in the competition. The players ranged in age from 18 to 55, about 55% in their 20s. This competition aims to build a platform for Huizhou brick carving inheritors to exchange, learn and compete on. The competition consists of two major assessments: on-site production and theoretical knowledge. The on-site production process

lasts for 20 hours, including the entire process of drawing, drafting, roughing, fining, repairing, coloring and other Huizhou brick carving process.

3.2.5 Huizhou Three Carvings Industrial System

Due to the particularity of the artistic form and inheritance form of Huizhou three carvings Art, the core of the product depends entirely on the craftsmen. Plus the long-term historical development and competition, most craftsmen choose to set up a separate studio, business, etc. Since they don't have the so many intermediaries, and distribution channels, the steps and personnel involved in the three carvings industry are much less than the fully industrialized industrial chain.

Although the materials selected for the three kind of carvings are different, the inheritance, carving skills, product sources, product processing procedures, product sales channels, and customers of the three carvings are roughly the same. Therefore, when summarizing the Huizhou three carvings industry system, The raw materials, craftsmen, customers and consumers involved in the three carvings are unified as one.

From the beginning of the acquisition of raw materials, the workers in the quarry, sawmill and brick factory transport the raw materials needed from the vicinity of Huizhou to the production factories for preliminary treatment of industrialization, such as sawing wood and adobe brick production. And the three carving craftsmen get the raw materials they need to process from these channels. The objective factors affecting this step are mainly the limitation of natural resources. For example, some valuable wood and rare stone resources are limited. This is an objective condition and cannot be changed.

After the raw materials reach the procedure of the three carving craftsmen, it is then designed and carved by the craftsmen. Some designs are based on customer requirements, such as the restoration of ancient buildings, the architectural decoration required for modern Huizhou architecture, etc. Some designs are based on the original design of the ancient building, or customers with customized design drafts. In these occasions, the craftsmen don't need to do the designs themselves. Such large orders are mainly from government officials, entrepreneurs, etc. Under normal circumstances, relatively large projects are only given to local well-known masters.

In some other occasions, the processing of some raw materials is based on the "understanding" and "inspiration" of the craftsman. The same raw materials could be processed into totally different crafts or products in the hands of different craftsmen, which is the manifestation of a craftsman's creativity and fine craftsmanship. The products are often regarded as treasures and collectibles by the consumers and collectors. A well-designed, exquisitely carved and made-of-good-material three carvings product is likely to be highly difficult to obtain in the auction market, but it is also relevant to the personal reputation of the craftsman. Collectors are more willing to buy the crafts carved by a famous master, so naturally the price of his products can be sold higher.

There are also some three carving products designed to be sold to tourists as souvenirs. Many of the products are machine-carved, which contains little technical skills, and the materials are also very common to find. The pricing varies according to each retail store, but The overall price is not high, the selling point is also here - for tourists who

know little about Huizhou three carvings art, they may only be willing to spend a small amount of money to buy a souvenir. This kind of product is for the purpose of mass production, to make up for the shortcomings of the traditional processing method of the three carving craftsmanship, which is solely handmade, and to achieve the goal of small profits but quick turnover.

Table 3.1 summary of Huizhou three carvings industry system

Steps	Raw materials acquisition	Three carvings products processing	Sales of the products
Participants	Factory workers Transporters Three carvings craftsmen	Three carvings craftsmen	Three carvings craftsmen, Three carvings sales people Transporters Government, enterprise personnel, three carvings product collectors, tourists
Location	Vicinity of Huizhou	Three carvings studios(segmented)	Three carvings studios, Three carvings shops Online sales platforms(social media, auction APP)
Influencing factors	Quantity of natural resources	Superior policy, number of orders Creativity and design of products, carving skills	Influence and fame of Huizhou three carvings, retail store locations, influence and audience of the sales platforms Craftsman's personal fame and connections, publicity and marketing

All the above are from a microscopic point of view, from the perspective of craftsmen and customers. From a macro perspective, the factors affecting the entire industry include the cultural environment and superior management policies.

Emphasis on the cultural environment of traditional culture and traditional handicrafts will not only bring more practitioners who are willing to engage in this industry, but also bring a steady stream of consumers and innovative practitioners, because the value of traditional culture is improving, the value of traditional craftsmanship and handicraft products will also be improved accordingly. Such a cultural environment is achieved through tangible and intangible propaganda, education, and guidance.

The superior management policy is a strong “hard” influence factor in addition to the “soft” influence factor of the cultural environment. The government's encouragement policies for the three carvings craft practitioners, such as evaluation and support policies, can encourage more people to participate in the Huizhou three carvings industry from

the beginning The government's tax reduction and industrial management of traditional handicraft inheritors can better help and guide existing practitioners.

3.2.6 Market Characteristics of Huizhou Three Carvings Industry

In order to understand and analyze the characteristics of the new market demand for Huizhou three carvings, Zhao Shide from Huangshan College conducted a survey in local residents and tourists from five districts of the ancient central area of Huizhou (Tunxi, Yi county, Xiuning, Jixi, She county). The survey format were in-house visit and on-street survey. A total of 4,000 questionnaires were distributed and 3,825 valid questionnaires were collected, with an effective rate of 95.5%.

According to his investigation and visit, Huizhou three carvings are relatively well-known in the ancient Huizhou area. Among the 5,851 people being surveyed, 4,000 people knew about Huizhou three carvings, accounting for 68.4% of the surveyed population, of which 96.5% were local residents and 3.5% were tourists., this shows that Huizhou three carvings have a high reputation in the ancient Huizhou area, however the Huizhou three carvings products for tourists are far from being developed.

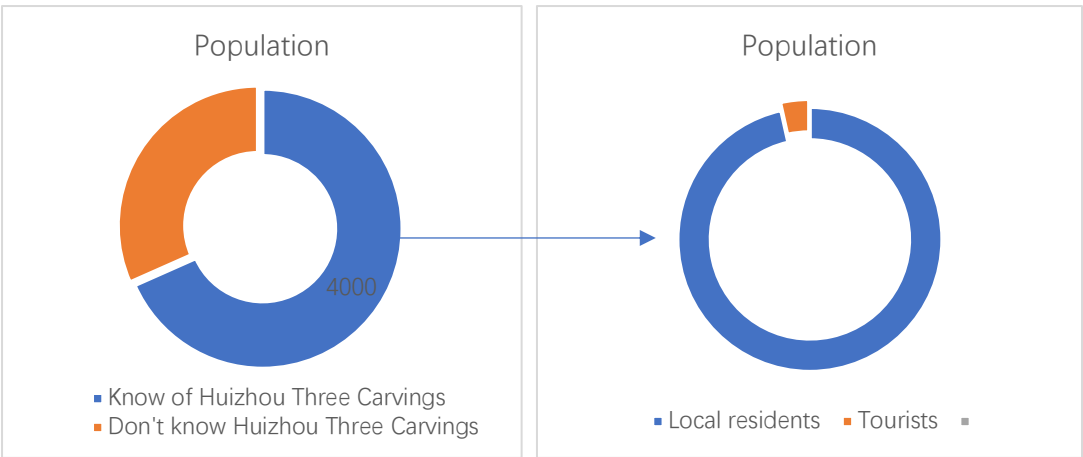


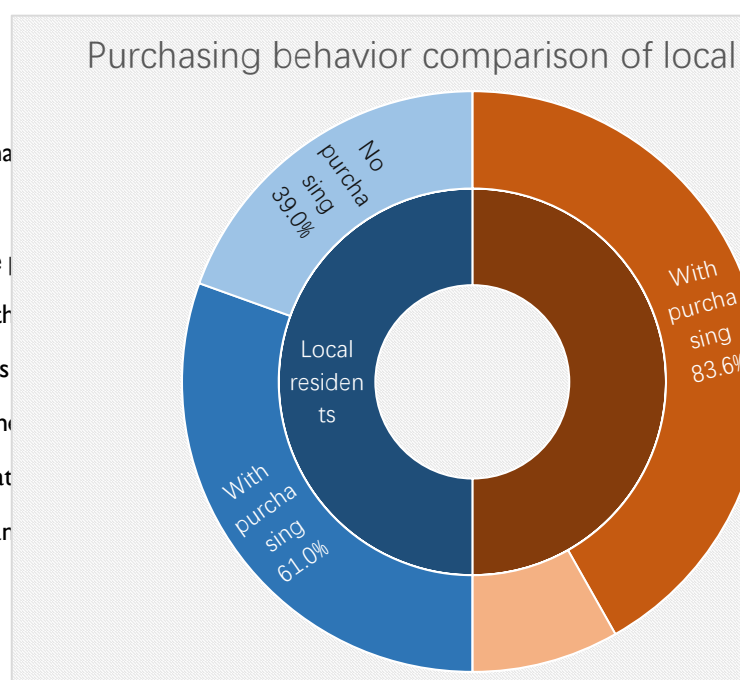
Figure 3.3.1 Popularity of Huizhou three carvings (Source: Author's drawing)

The data showed that the number of people who had purchased Huizhou three carvings products accounted for 61.8% of the total surveyed population, and 95% of them were local residents. However, among the tourists being surveyed, the tourists who purchased the three carvings products accounted for 83.6% of the total number of tourists who knew about the three carvings, and while the purchase rate of local residents was only 61%. This showed that local residents have relatively lower demand for Huizhou three-carving products. For tourists, with the increasing popularity of Huizhou three carvings and the increase in the number of tourists, there will be greater demands for Huizhou three carvings products. However for the current situation, the local residents remain to be the majority of customer and consumer for Huizhou three carvings.

Figure 3.3.2 Huizhou three carvings customer purchase

From the perspective of purchasing channels, 31.63% of the products from media and tourism propaganda. This shows that the traditional sales methods, and the marketing system and channels

From the point of view of purchasing behavior, 79.76% of the and pattern design, 84.95% bought for the use of inhouse decoration total chose traditional patterns, and 62.8% chose to buy small har



3.2.7 Related industries in Huizhou

(I) Tourism industry situation

In 2018, the number of inbound tourists in Anhui Province was 6.07 million, with an increase of 10.5% over the previous year. Domestic tourism revenue was 703 billion yuan, an increase of 17.1%. The tourism income of Weinan International Tourism and Culture Demonstration Zone was 378.52 billion yuan, an increase of 16.4%.

In 2018, the number of inbound tourists in Huangshan City was 2,627,900, with an increase of 10.6% over the previous year. Among them, 1,592,200 foreigners, with an increase of 9.4%, and the tourists from Hong Kong, Macao and Taiwan was 1,034,700, with an increase of 12.5%. Domestic tourists were 62.238 million, with an increase of 12.4%. The total tourism revenue was 57.276 billion yuan, with an increase of 13.2%. Among them, tourism foreign income was 842 million US dollars, with an increase of 12.2%; domestic tourism income was 51.704 billion yuan, with an increase of 13.3%. At the end of the year, there were 53 A-level and above tourist attractions (districts) in the city,

including 8 in 5A-level scenic spots, 39 in star-rated hotels, 27 in four-star hotels and above, and 193 travel agencies.
(Source: Public Information of Huangshan Municipal People's Government)

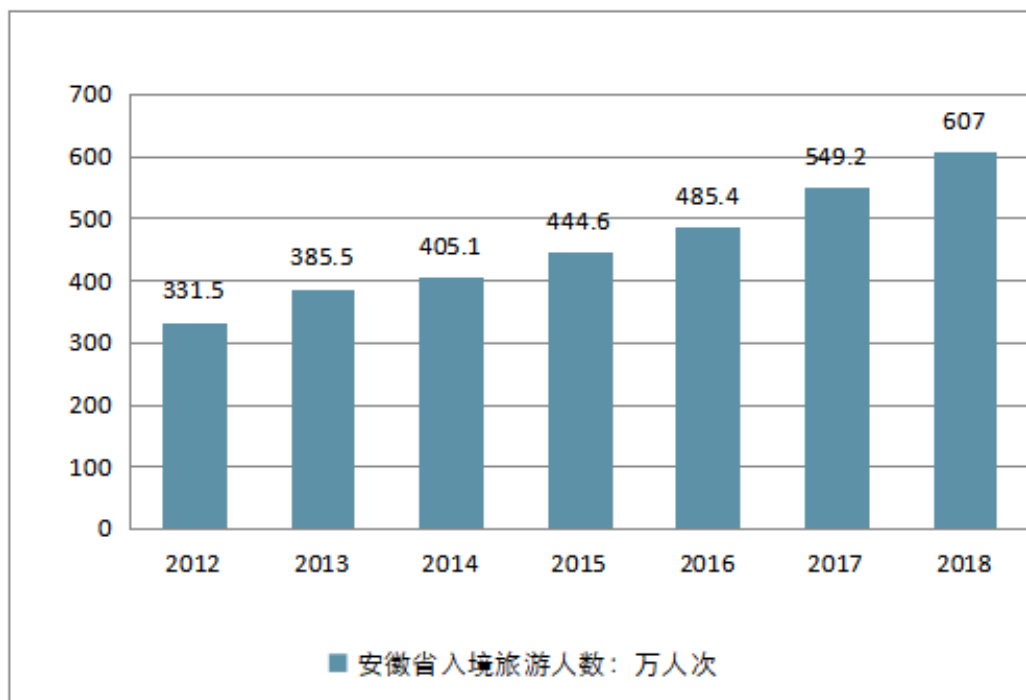


Figure 3.2.3 Number of inbound tourists in Anhui Province in 2012-2018 (Source: China Industry Information Website)

In 2018, the overall tourism in Huizhou District was good, with a total of 5,880,300 tourists, yearly increase of 12.97%, including 253,800 inbound tourists, with an increase of 12.8%; the tourism income was 3.984 billion yuan, a year-on-year increase of 14.06%, with 82.11 million US dollars, an increase of 13.11%. Among them, the two major economic indicators of tourism revenue and inbound tourists ranked first in the city, and the growth rate of total tourists received and foreign exchange earning was second in the city. (Source: Public information of the Cultural Tourism and Sports Bureau of Huizhou District, Huangshan City)

(2) Education industry situation

Anhui province has basically established a local higher education system. The proportion of applied, compound and skilled talents is over 80%. Each year, more than 200,000 undergraduate and above are accepted, and more than 450,000 technical talents are trained. There are 110 colleges and universities in Anhui Province, including 36 undergraduate colleges and universities, 74 vocational colleges, and 1.203 million postgraduate and undergraduate students, ranking 9th biggest in the country. Anhui Province is establishing and adjust the mechanism for the majors structure, guiding the discipline group to dock with industrial groups, special majors connecting with featured industries. In recent years, a total of 128 new majors supporting local main industries and strategic emerging industries have been opened. The newly added applied professional majors account for 42% of the total number of enrollments, and the proportion of applied disciplines is over 75%.

There are 2 universities in Huangshan, Huangshan College and Huangshan Vocational and Technical College. Huangshan College is a comprehensive provincial undergraduate college, approved to build a high-level university in Anhui Province.

3.3 Difficulties faced by the Huizhou Three Carvings Industry

At present, the rapid development of industrialization and urbanization, the shrinking market of traditional handicrafts, and the difficulty in synchronizing the concept of handicraft creation with the times have made China's intangible cultural heritage protection face serious difficulties.

3.3.1 Reduction of inheritors

Huizhou three carving skills require the craftsmen to stay away from impetuosity, calm down, and focus with very little or even no income. The special way of inheritance requires the apprentices to pay high time costs in learning skills, three years from entering the apprentice to being able to stand on their own. During the time, in addition to eating, drinking, and sleeping, the only thing the craftsmen had to do is to grind their work over and over again, or to study carving patterns. This long and repetitive process has discouraged many young people of nowadays. Also, there will be a lot of dust in the process of carving, especially for brick carving. The environment conditions of the production plant is very arduous, the dust, the noise, young people are very reluctant to stay in this environment. Needless to say, even after the apprenticeship, the sales of their works are not guaranteed, and in such a market downturn environment, watching their peers have gone far away from home to work in big cities to earn money, fewer apprentices can stick to their job. Some apprentices who were originally engaged in the three carvings also chose to give up halfway. In addition, there is a realistic problem. Many craftsmen who are concentrating on technology are not good at marketing themselves. Some businessmen value the craftsmanship of some craftsmen and hire them to hand-carve products for their shops, paying cheap manual fees. After the craftsman has finished carving, the merchants will sell the products at higher prices and earn the differences, the reputation of the shops is getting bigger and bigger, while the craftsmen have become the "unknown heroes" behind the curtains. Even some businessmen are afraid that the craftsmen who are cooperating with them will become independent and set up their own brands, they explicitly prohibit them from participating in the selection of provincial and municipal arts and crafts masters or other large-scale competitions, otherwise they will cancel the business cooperation relationship. The craftsman lacks the experience and connections of business, and it is not an easy task to open a shop by themselves and it requires considerable cost and more staff.

At present, the team that is engaged in the Huizhou three carvings skills is not the same as it was before. It is no exaggeration to say that Huizhou three carvings are facing a situation in which there are less and less inheritors. Survey shows that although more than half of young people think that the three carvings craftsmanship is a meaningful business, only 5% choose to study or consider learning local traditional crafts.

In addition, since most of the three carvings artists' studios are small, most craftsmen basically play the role of buyer, processor, and retailer. Meanwhile, in order to become a skilled craftsman, the time and effort to invest in learning and carving is extremely huge, which will inevitably affect the time spent by the craftsman in purchasing and retailing. Therefore, it is difficult for craftsmen to have three roles perfectly played at the same time.

3.3.2 Shrinkage of Demand and Market

In the past, the biggest source of demand for the three carvings was the emblem house construction and furniture, but after Qing Dynasty, the demand for the three-carving decoration shrank, using three carvings for little embellishment. After the establishment of the Republic of China, the three carvings faced the situation of destruction. In modern society, with the development of science, technology and information, new building materials and forms, new industrial daily necessities have replaced the original Ming and Qing architecture and furniture. In the past, the woodcarving chairs and the old-fashioned tables are no longer the necessities for families. Although traditional artisanal techniques continued in production, most people prefer to choose modern products, and traditional handicraft products became smaller in numbers, and used only for special occasions.

3.3.3 Narrow Channel of Propagation

According to previous survey data, only 3.5% of the people who know the art of “Huizhou Three Carvings” are tourists, and the others are local residents. It can be seen that the name “Huizhou Three Carvings” has not yet been established, and has not yet been heard by tourists who come to the local area. As a famous tourist city, the number of tourists coming to Huangshan has greatly exceeded the number of 3.5% of the population. If even the tourists already in Huizhou don't know about the three carvings, how can we make people from all over the country and even the whole world come here to the city because of the " Huizhou Three Carvings"?

3.3.4 Lack of Cultural Identity

The existence and development of the three carvings corresponded to the social and economic development of the time. In the past, Huizhou merchants had strong capital and influence throughout the country. The feudal patriarchal system and the profound Hui culture supported the development of the craftsmanship of Huizhou three carvings. However, with the changes of the times, the influence of Huizhou merchants gradually faded out of the Chinese commercial stage. The New China established a socialist system, the original political system was disintegrated, and reform and opening up led to the introduction of new culture and new Western lifestyles. After the wave of getting rid of the old and welcoming the new, many things that belong to the “old society” have been abandoned. During this period, Huizhou three carvings and many other folk arts and crafts were entered a period of a rare winter. Many old artists were forced to change their careers. Traditional handicrafts lost the foundation of social development. This is also the reason why the government decided to establish policies to protect traditional handicrafts and their inheritors.

3.3.5 Lack of Encouragement and Protection work

Because Huizhou housing construction is dominated by brick and wood structure, Huizhou three carvings were widely spread in folk buildings and carving industry for a long period of time. However, with the development of society and the changes of the times, the inheritance of Huizhou's three carvings skills has entered a shackled situation and faces the survival crisis. First of all, many of the ancient Huizhou three carvings art treasures are lost. Since the founding of the People's Republic of China, for more than half a century, the ancient architecture of Huizhou has always been under insufficient attention and weak protection. As a result, many precious three carving artworks have left its original carrier and became objects of collections, and many have been shipped to other places and even abroad. After 1979, a number of ancient buildings and gardens construction enterprises were established one after another. Some "three carvings" old artists were reorganized and began to teach apprentices. However, due to changes in building materials, tools, and construction cost, traditional carving techniques that are time-consuming, labor-intensive, cost-effective, and difficult to master are increasingly excluded from application, and many techniques have been lost.



Figure 3.4.1 Damaged stone lion of Ming Dynasty

(Source: photo taken by the author)



Figure 3.4.2 Damaged arch

(Source: photo taken by the author)

The author visited several small towns in Huangshan city (Qiankou Town, Zhengcun Town, Yansi Town, Hongkeng Village, Shuyuan Village and Lingshan Village) to inspect some of the existing ancient arches left by the Ming Dynasty and the Qing Dynasty. Many historical archways have been weathered and could not be recognized. One of the archway even stands at the door of an open market, and there is a trash can next to it. The sanitation environment is so poor, and the archway looks like it is coated with a black lacquer. There are also some wooden introduction board on the side of the archway that have been damaged and collapsed, and are placed at a corner far from the archway. If you don't look carefully, you would think it is abandoned wood in the countryside. It is really difficult to match the archway with the introduction board.

In addition, the three carvings in Huizhou generally face the reality of low profits, heavy taxes, and difficult loans. As a typical traditional handicraft, like other traditional arts and crafts, Huizhou three carvings practitioners are mostly individual, family workshops and micro and small enterprises. They are in scattered-production situation, loose structure and strong flow variability. In the previous research interview, the president of Huangshan City Architectural

Survey and Design Institute, Chen Jiteng, said that “the cultivation of Huizhou three carvings is not enough, broken, scattered and small. Everyone, every project, every master has one small world, or an independent studio, workshop, but no large-scale industry. ” Handicraft is not like ordinary industrial production, it is generally difficult to achieve large-scale operation. When they expand the scale, they are mostly faced with the lack of funds. The credit of commercial banks has strict pledge standards. The three carvings are mainly produced in the form of small tools and labor. The biggest resource lies in labor, people. It is difficult to achieve the bank’s loan standards. Wang Wei of the China Academy of Art discovered in the field investigation of the history of Huizhou three carvings that Huizhou three carvings enterprises need to pay 17% of the value-added tax in production and operation, and in addition to enhance the retaining of apprentices, some teachers take the initiative to pay the personal income tax that should be paid by the apprentice. However, due to the materials used in Huizhou three carvings: bricks, stones, and wood are generally from rural areas, it is difficult to obtain invoices when purchasing, and in most cases, VAT cannot be deducted.

3.3.6 Lack of integration with related industries

As mentioned before, the tourism industry in Huangshan and Huizhou in Anhui Province shows a good developing trend, while Anhui has rich educational resources and numerous colleges and universities. Such a good tourism industry environment and educational industry environment will inevitably bring a lot of high-quality talents and strong purchasing power. This is a good opportunity for the development of Huizhou three carvings industry. However, as mentioned in the previous articles, few tourists who came to Anhui know about Huizhou three carvings, not to mention the number of tourists who came for it. This situation is very disappointing. In the education industry, there are few courses in the universities or colleges of Anhui Province that offer the knowledge about Huizhou three carving, not to mention the majors related to it. This is extremely unfavorable for the inheritance and development of Huizhou three carvings. After all, college education is the cradle of youth and an important channel for knowledge diffusion. If local colleges do not offer courses about Huizhou three carvings, there is no possibility of large-scale promotion around the country.

Chapter IV Inheritance and Innovation of Huizhou Three Carvings and Traditional Handicrafts

At present, the state has taken many measures to promote the protection and promotion of non-cultural heritage. Anhui provincial and municipal departments also attached great importance to the protection and inheritance of the three carvings. Under the promotion of such a good policy atmosphere, The craftsmen are also enthusiastic, with the help of the policies, in exploring and innovating all aspects of the three carvings industry.

4.1 Innovative Attempts of Huizhou Three Carvings Industrial System

4.1.1 Integration of Modern Technology and Traditional Crafts

Once, the three carvings craftsmen used carving knives with various shapes, polished the rough raw materials into the final wonderful crafts with different contents and realistic shapes all by hand. Now, with the development of industrialization, science and technology, many machines can already to a great extent replace manual labor, saving manpower and material resources.

Nowadays, for large-scale wood, brick, and stone materials, there are special cutting machines. With the development of science and technology, digital carving machines have also appeared. After the digital molding, the small modeling patterns can even be carved, which saves a lot of time for the craftsmen, so that they can spend more time on more detailed carving techniques At the same time, it has also enabled three carvings products to be produced quickly and in large quantity, providing a basis for their product innovation.

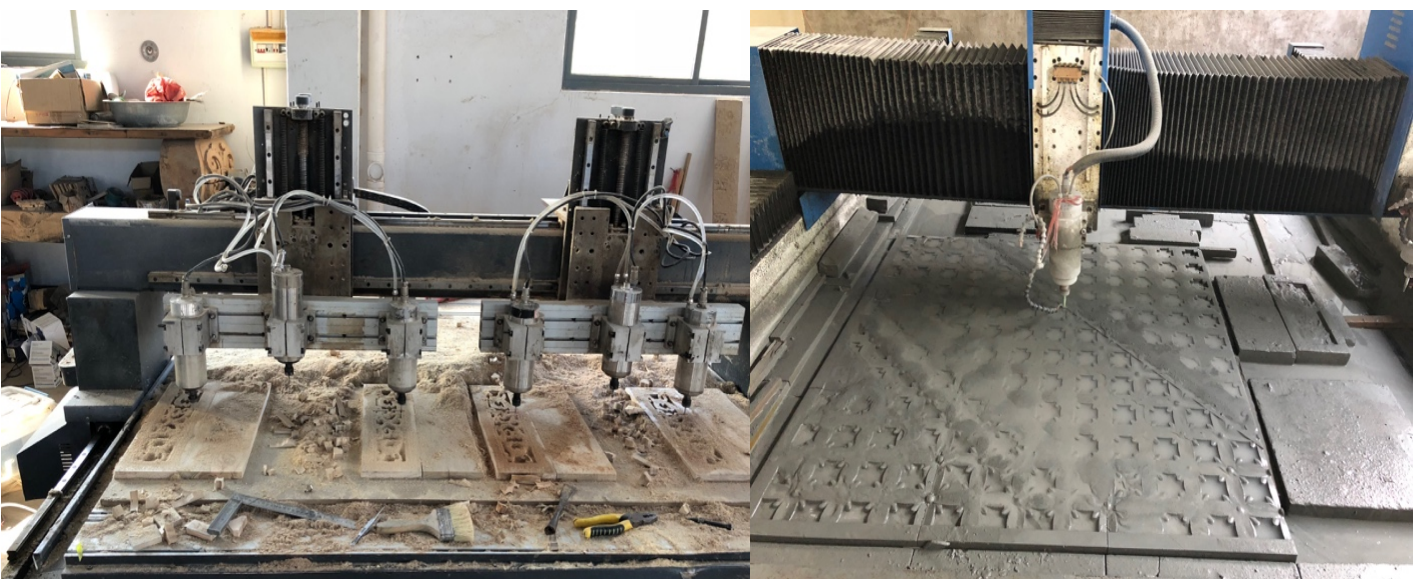


Figure 4.1.1 Carving Machines of Wood and Brick Carvings
(Image Source: Photo by the Author)

4.1.2 Creation of New Product Forms and Carriers

(I) Product form innovation

In the past, because the Huizhou three carvings were the decorations of architecture, the basic three carving products were also related to architecture. But now, due to the decrease in the demand for ancient buildings, many three carving products are also undergoing spontaneous transformation, combining with tourism cultural and creative products and crafts.

Three carving craftsman Jiang Jinyu was one of the first craftsmen who combined three carving art with cultural and creative products. He founded his enterprises in the 1980s, positioning at a series of traditional crafts. In 2003, the company was successfully transformed into Star Craft Co., Ltd. With the rapid

growth of Yi county's tourism industry and the swarm of tourists at that time, Jiang Jinyu combined the two forms of stone carving and wood carving with inlay methods and made The "window of the ancient palace" pen holder, the idea came from the exquisite stone sculpture " three durable plants of winter" in Xidi, a famous scenic spot. This product has been designated as a special gift by governments at all levels and large conferences. It was also used as a national gift in 2006, presented to Mr. Annan, former Secretary-General of the United Nations.

Because Jiang Jinyu was proficient in three types of carving, brick, stone, and wood carving, he was the earliest examples of combining the three types of carving together, using different materials to stitch and inlay, to show the same theme.



Figure 4.1.2 Stone Carving
(Image source: Jiang Jinyu)

During the author's investigation, in the studio of brick carving craftsman Wu Zhenghui, there were brick carving ornaments newly developed by his team. A small piece was placed on the table and carved with traditional Huizhou figures, ancient Scenes in allusions and so on When asked about the purpose and source of this brick carving ornament, Wu Zhenghui said that it was carved out of common sense as an innovative gift and these are samples for testing. This shows that the brick carving industry with Master Wu Zhenghui as the leader is also improving in its own form and carrier.



Figure 4.1.4 Fang Jianchen's inkstone carving
(Image source: Internet)

Woodcarving and stonecarving products also have a certain degree of innovation, such as the innovation of woodcarving ornaments, and the innovation of the style of inkstone carving. For example, Fang Jianchen, a master of inkstone carving, has replaced and misappropriated things that are critical to practicality, nature, and the ego. His carving was totally a new style with creativity and humor.

(2) Product carrier innovation

"Hui Museum" + "Hotel"

In 2006, the head hotel of the chain hotel Xiao was renovated in Hefei. The general manager Xiao Wei believed that the "Huizhou Humanities" and the modern hotel industry could be linked together to create the first "museum" theme hotel in the province. After more than half a year, a restaurant with the most Hui-style decorative features was

unveiled in Hefei, and Huizhou's cultural relics and folk customs were used to graft modern hotel elements to form a modern theme.

4.1.3 Development of Sales Models

(1) Online + offline sales

In terms of sales model, most of the three craftsmen in Huizhou originally set up studios and workshops separately to sell their products. Now, due to the popularity of social media, the new generation of Huizhou three carvings craftsmen are not only relying on their own contacts and reputation to sell their products, but also using online apps as a way of expanding their sales channels. In the era of rapid development of e-commerce, craftsmen display unique works with personal style through new media technology, and consumers can achieve "private customization" through new media technology, which has a very good driving force for traditional craftsmanship to integrate into modern life.



Figure 4.1.5 Dongjia app interface

(Image source: Internet)

(2) Combination sales of multiple products

In the course of investigation and visit, the author found that the shops on the famous "old street" in Huangshan about Huizhou three carving products were basically clearly classified. For example, wood carving products are only

sold in wood carving stores. However, such separate sales will cause excessive specialization, which will narrow the customer's potential choice. For example, tourists want to buy inkstone, if there are Huizhou famous ink, rice paper, wood carving brush pens, then perhaps after appropriate introduction, tourists may want to buy additional souvenirs which will increase sales. However, among the stores visited by the author, no store has adopted the method of selling related products of Hui style together. Occasionally, there will be several shops that sell both wood carvings and other carving art works. Although it is still a relatively conservative selling style, it may be a new form.



Figure 4.1.6 Three Carvings Retail Store on the Old Street (Image Source: Photo by the Author)

4.1.4 Increase of Propagation Methods

(I) Construction of the physical Huizhou Three Carvings Museum, cooperation with other museums, and construction of industrial parks

In Anhui, there is the only museum in China that fully reflects the theme of Huizhou culture—Anhui China Huizhou Culture Museum, located in Huangshan City, Anhui Province, and is the second largest comprehensive museum in Anhui Province. In May 2017, it was named the third batch of national first-class museums. Three carvings are a highlight in the Huizhou Cultural Museum in China. The Anhui Provincial Museum (renamed Anhui Museum on December 28, 2010), which was established on November 14, 1956, also has many exhibits of the three carvings. The website has a full range of information, and the columns displaying Huizhou carvings are very detailed. There are exquisite pictures and an introduction of each sculpture work, and you can also comment and repost (<http://www.ahm.cn/Collection/List/hzdk>) .

In Jixi County, Huangshan City, the "Jixi County Three Carvings Museum" with brick, wood, and stone carvings as its main theme was officially opened to the public in 1996. This was built by the cultural relics department, local

government, and people of insight who value and care about cultural relics in order to rescue the traditional art. The Hui architectural heritage was built in the early 1990s with the Zhou Ancestral Hall, a provincial key cultural relics protection unit. Since the establishment of the Three Carvings Museum in Jixi County, only 200,000 yuan has been used for the collection and protection of cultural relics each year. Based on the principle of less expenditure and more work, the museum has been rushing to buy original cultural relics from the society and the people. By 2004, nearly 600 pieces (sets) of brick, wood and stone carvings were collected, of which 180 were brick carvings, 263 were wooden carvings, 118 were stone carvings and 34 were other cultural relics.

The Yi County Museum is a local comprehensive museum in Huangshan city. It now houses 30,000 specimens of various cultural relics, featuring porcelain, calligraphy and painting, and inkstone. In September 2018, the She county Museum was approved as a national second-level museum by the China Museum Association.

Before the author wrote this article, Master Wu Zhenghui planned to build an intangible cultural heritage brick carving museum in the intangible cultural heritage industry park in She County, and display his collection of brick carvings from different periods as a base for the heritage and research of brick carving skills in Huizhou.

In October of 2017, the Anhui privately-owned Hui Style Carving Museum was opened to the public. The founder, Hong Jianhua, a master craftsman of Anhui Province, Chinese woodcarving, and a representative inheritor of the provincial intangible cultural heritage of bamboo carving in Huizhou. The museum is located in Yansi Temple, Huizhou District, Huangshan City, with a total construction area of 4,500 square meters. It has five exhibition halls to display the traditional Huizhou carving art. Along with the Hui style Carving Museum, there are also a Hui style Carving and Learning Base, Carving Teaching Area, a Hui Culture Experience Park, and a Huizhou Carving Craft R&D Area, with a total construction area of more than 10,000 square meters.

Yuanquan Hui Culture and Folk Museum in Anhui Province was founded in 1981, and was approved by the Anhui Provincial Government as the first non-state-owned museum on June 29, 2003. On May 1, 2009, the new hall officially opened to audience. It covers an area of more than 50 acres and has a community of thirteen halls. It is planned to build thirty museums and museums of ancient cultures to form the largest international community , Serialized, academic museum of Hui culture.

In addition, the three carvings of Huizhou, as a splendid flower in the intangible cultural heritage, are also trying to cooperate with other large museums to hold exhibitions. For example, in April 2017, the Anhui Huizhou Traditional Crafts Palace Special Exhibition was held at the Palace Museum in Beijing. The provincial government and the Palace Museum jointly signed a cooperation agreement to promote the development and inheritance of outstanding traditional culture. The agreement also opened a workshop on "Huizhou Craftsmen Entering the Forbidden City".

From November 18, 2017 to March 4, 2018, "Sacred Craftsmanship-Huizhou Ancient Architecture Carving Art Exhibition" was held at the China Garden Museum. This exhibition was jointly organized by the Anhui Museum and the China Garden Museum. There are 54 ancient cultural relics (sets) in Huizhou.

(2) Combination of publicity for cultural festivals and competitions

In terms of festivals, China has Chinese Cultural Heritage Day and World Cultural Heritage Day. These are all festivals that can be combined with events. In 2006, the launch ceremony of the 11th Chinese Cultural Heritage Day hosted by Anhui was held in Xidi Village, Yi County, Huangshan City, a place of world cultural heritage site and national key cultural relics protection. Activities such as "Entering Yi County", Huangshan City Cultural Relics and Ancient Buildings Picture Exhibition and Huangshan City intangible cultural heritage Picture Exhibition will also be held on the day of the opening ceremony. The Forum on the Protection and Utilization of Ancient Houses and Homestay Development was a highlight of this home event.

In holding the Huizhou three-carving carving crafts competition, the Huangshan City Cultural Committee and the county government are also very active. Each year, various three-carving competitions are held to encourage craftsmen to hone and show their superb carving skills.

(3) Increase in new media propaganda methods

The new media impacts the existing forms and static exhibition modes of traditional handicrafts, so that the traditional handicrafts can be dynamically displayed to people through new media through video and other methods, and the beauty of handicrafts is displayed in a comprehensive and three-dimensional method. Thus creating an environment for the modernization of handicrafts.

Due to the emphasis on traditional craftsmanship in recent years, various documentaries have begun to increase. In 2016, the "Anhui Folk Traditional Crafts" documentary on Huizhou three carvings went online. In 2018, the third season of the documentary "Sophisticated" was broadcast. The documentary tells a group of extraordinary craftsmen who use their deft hands to ingeniously build dreams and stick to them silently, and achieve their professional skills in ordinary job positions. One of the series is focused on Huizhou brick carving and its representative inheritor Fang Xinzhong. During the investigation in Huangshan, the film crew of CCTV's documentary "Flower Blossom of China" went to the woodcarving building in Lu Village, Huangshan City to shoot a documentary about the three carvings in Huizhou.

Websites of major museums, sites for tourist attractions, the official website of the Government Culture Bureau, and even the personal webpages and personal social media accounts of the three carving inheritors in Huizhou have also become a way to promote the Huizhou three carvings. In this era of self-media, both official and personal platforms can become the publishing center of the news media.



Figure 4.1.8 Anhui Intangible Cultural Heritage Webpage, Huizhou Three Carvings Introduction Page
<http://www.anhuify.net/fyproject/TheFirstGY/265.html>

4.1.5 Innovation of Management Models

On October 14, 2018, the "Inheritance of Intangible Cultural Heritage · Carving the Future" sponsored by the China Intangible Cultural Heritage Protection Association, the Wood carving Professional Committee of the China Intangible Cultural Heritage Protection Association was established. On November 18, 2018, Huizhou Brick Carving Art Association of She County was established.

In March 2016, Hefei held the "Internet + Huizhou Three Carvings + Business Model Innovation Seminar". The twenty-seventh generation of Huizhou Three Carvings, the inheritor of intangible cultural heritage of China, Cha Zhan, expressed his desire to build 1,000 of the most beautiful Huizhou three carving art museums in the world, making people feel the power of Chinese culture. Cha's studio is the Huizhou Three Carvings inheritance and demonstration base. He also established the National Huizhou Three Carvings Appraisal and Evaluation Standards Expert Committee and the Chinese Traditional Craftsman and Ancient Construction Engineer Anhui Evaluation Center in Hongcun, Yi County, Anhui Province.

4.2 Western Traditional Handicraft Industry Innovation Cases

In terms of traditional handicraft innovation, many countries in the Western world have undoubtedly made many attempts. For a long time, some fixed development models and management methods have also been formed. Corresponding to Huizhou three carving innovation attempts, each respect has some international traditional handicraft industry innovation cases. Examples will be given in this section.

4.2.1 Innovation in Design Concepts

Tunisia's Leila Ben Gace is creating and launching a grass-roots movement led by students, cultural entrepreneurs, and traditional craftsmen to awaken vitality throughout Tunisia. She did this by creating a real economic impetus that truly reflects her traditions and strengthens the cultural confidence of her people. Leila founded a consulting company, Blue Fish, that analyzes the needs of the creative industries, then develops projects based on identified needs and finds the most suitable funders. Once found, she worked on the project as an implementation consultant, helping small companies build better brands, while also helping them maintain and promote traditional cultural connotations and craftsmanship. One project that Leila has done in the UAE is to initiate local women to re-learn weaving handicrafts (an ancient local handicraft) to form a new and modern industrial chain. The project was a huge success. 200 women have been trained to learn sewing and knitting, calculating prices, maintaining cash flow and color combinations, and have now become a national brand Sougha.



Figure 4.2.1 Sougha brand image and products (Image source: <https://integrity.ae/portfolio/khalifa-fund/>)

Leila's latest project is in cooperation with the Medina Preservation Association, which was established in 1967 to advocate for the preservation of the architectural, cultural and artistic environment of the old Tunisian district. The purpose of this project is to bring some of the country's traditional items back to modern life by connecting young designers with traditional handicraft makers, bringing new life to old handicrafts.

4.2.2 Innovation of Product Form and Carrier

The international brand "Hermes" established the "Shang Xia" brand in China, meaning "as long as the 5000-year history in China", as its brand slogan to convey the beauty of culture and craftsmanship. The aim is to use the traditional Chinese handicraft culture as the basis of the creation concept and design high-end consumer goods that conform to the meaning of Eastern aesthetics. The fundamental thing is to carry out contemporary "redesign" on the basis of traditional craftsmanship. For example, the bamboo filament with porcelain is a national intangible cultural heritage. It is made of green bamboo filament close tied to the surface of the porcelain, and the tentacles are smooth. The knot cannot be found. This kind of bamboo is only available in Sichuan Qingshen. The unit price is higher than sterling silver. Because the bamboo material is 66 cm long, which is much higher than ordinary bamboo, that's why the extracted bamboo filament is long and strong enough. "Shang Xia" used it as tea ware products.



Figure 4.2.2 "Shang Xia" brand bamboo filament with porcelain tea ware (Image source: Internet)

The famous American Chinese product designer Shi Dayu creatively interpreted the connotation of bamboo products' modeling and contemporary form by using traditional and modern thinking. Since 2007, he has tried to design and develop cultural and creative products by himself and carried out cross-disciplinary art creation. He has introduced originally-designed products to the international market. His works "Chair Gentleman" and "Chair, guqin, sword (古琴剑)" used traditional bamboo processing techniques, and incorporated the formal aesthetics and mechanical principles of contemporary modeling. It is a model of "redesign" combining traditional materials with contemporary aesthetic concepts.



Figure 4.2.3 "chair, guqin, sword"
(Image source: Internet)

4.2.3 Innovation in Sales Model

(I) Establishment of electronic sales platform:

TOTO Express is an Indian design agency that provides advanced technology to enable rural artists in remote areas to digitize their work so that they can open new digital channels and global markets with minimal investment. They use digital technology to increase the transparency and reliability of Indian rural artisans' business. Their

technology reduces the transaction costs of shipping, receiving funds, and contracting with global buyers, linking rural artisans to corporate institutions across the country.

(URL: <http://www.totoexpress.org/>)

(2) Cultural tourism + sales:

The World Tourism Organization estimates that cultural tourism accounted for about 40% of international tourism in 2006, making it one of the fastest growing sectors in the world. There are 2 million artisans working in Thai handicraft industry, with an annual income of \$ 4.55 billion. In Mexico, 6.5 million artisans are involved in the handicraft industry. Colombia's handicraft industry generates \$ 400 million in annual revenue, including about \$ 40 million in exports.

The main channel for tourism marketing handicrafts is to sell crafts through cultural tourism. The most popular ones are local crafts. Therefore, linking the handicraft business with the tourism industry is one of the most effective ways to revitalize the handicraft industry. Recent statistics show that the craft sector can attract about 20% of the tourism market in developing countries. According to statistics, an average of 55 million tourists visit Spain each year. Some tourists may spend \$ 100 during their stay, while others may spend \$ 5,000 or more. Assuming an average of \$ 1,000 per tourist, Spain's tourism industry has nearly \$ 55 billion in annual revenue. Most tourist groups visit Andalusia and the Alhambra, especially when they see many types of handmade works made by medieval artisans, such as arabesque decorative woodwork, glass and tile works, which will stimulate their demand for the purchase of handicrafts. More than 20% of the income of the tourism market flows into the handicraft industry, such a figure is very considerable.

Traditional Japanese crafts Aoyama Square gathers together traditional Japanese crafts. Lacquerware, pottery, silk, and Japanese paper are designated to be sold here by the Minister of Economy, Trade and Industry. Traditional crafts Aoyama Square has permanent exhibitions and special exhibitions that are changed every two weeks. They regularly invite artisans from all over the country to organize participatory experience activities. The website of the square has information about all exhibitions, exhibitors, handicrafts, and handicraft manufacturers. You can see the information of each manufacturer, and you can buy products online, which provides great convenience for all potential customers. (<http://kougeihin.jp/aoyama/>)



Figure 4.2.4 Aoyama Square in Japan (Image source: Internet)



Figure 4.2.5 Traditional Crafts in Iwate Prefecture-Southern Ironware

(Image source: Internet)

Tartu in southern Estonia (the second largest city in Estonia) has craftsmanship as a feature of its innovative tourism route, which is divided into four sections: sustainable development solutions and innovation, communities and networks, timber and handicrafts, Local cuisine. Among them, in the wood and handicrafts section, the tourist road map shows all the wood handicraft workshops and research centers, and the addresses are marked so that tourists can find each workshop based on the address and map.

In this way, the systematic design of tourism routes has made each wood handicraft workshop into a single wood handicraft system, and combined with other local resources such as food, museums, communities, etc., to provide tourists with more choices.



Chips are flying. A bagpipe maker from the younger generation, Andrus Taul, working very hard at Torupillitalu. July 2014, Valga County.

Wood and Handicraft

Master wood and handicraftsmen can probably be found in every village and community in South Estonia. In some places they have even joined their forces to kick start their projects. For instance, in the Avinurme Living Centre and Wood Warehouse, the handicraft houses of Alatskivi Castle, the Emajõe Lodjaselts and the Luke Manor handicraft house there are such men who can make anything out of wood.

There are countless communities and enterprises that are focused on handicraft, some more known than others but all dedicated to their activity. Step in and take a look at what Rõuge Sepp, the master of the Old Jüri Soap Workshop, the Maavillane community in Karula, the Bagpipe Farm as well as the people of the Wiera candle house, Anthony's courtyard or the Räpina Centre for Creative Industries have to offer. Come closer and make a bargain – you will never have to regret, only be surprised and glad!

1. Avinurme Wooden Handicrafts Centre

wooden handicraft, tourist centre, workshops

Võidu 3, Avinurme
Ida-Viru County
www.puiduait.ee
+372 527 5762
58° 59' 9" N : 26° 51' 54" E

2. Avinurme Lifestyle Centre

handicraft, development of regional lifestyle, workshops
Avinurme
Ida-Viru County
www.elulaadiakeskus.ee
+372 552 1331
58° 59' 5" N : 26° 51' 49" E

3. Wood Sculptors

wooden sculptures, special structures, clever resource management
Kadrina village

14. Houses of Olustvere Manor

handicraft and wool house, bread house, ceramics house, clay house, vodka factory, workshops
Olustvere
Suure-Jaani rural municipality
Viljandi County
www.olustveremois.ee
+372 347 4280
58° 33' 16" N : 25° 33' 44" E

15. Workshops of Bonifatius Guild

clothing workshop, shop, smithy, stained-glass workshop, paper workshop, workshops
Väike-Turu tänav 8, Viljandi
www.bonifatiusgild.ee
+372 5814 7783
58° 21' 50" N : 25° 35' 50" E

16. Loodi Manor

study centre for traditional wood processing

27. Aila Näpustudiod

hobby school, workshops and training courses
Jüri 19a (3rd floor), Võru
+372 507 9920
57° 50' 49,03" N : 27° 5' 42,81" E

28. Competence Centre of Wood and Furniture

collecting and sharing of know-how from the wood and furniture field, innovative technologies
Väimela, Võru rural municipality
Võru County
pmkk.vkhk.ee
+372 5661 1776
57° 53' 29,91" N : 27° 0' 47,94" E

29. Tuti Farm

handicraft trainings, workshops
Rummi village
Sõmerpalu rural municipality
Võru County
www.puhkaestis.ee/et/tuti-talu

Figure 4.2.6 Carpentry route of Tartu creative tourist route



Figure 4.2.7 Complete Roadmap (<http://visitsouthestonia.com/wp-content/uploads/2013/09/ras-innovatsioonivoldik-690x494+3-eng-netti-09-09.pdf>)

(3) Export sales:

Bangladeshi handicrafts are a big contributor to export trade. Judging from Bangladesh's experience in exporting handicrafts, packaging is an important factor that exporters of handicrafts should pay attention to, as it plays a pivotal role in marketing: According to the nature of the handicrafts packaged, whether waterproof or moisture-proof packaging should be decided to be used. Use national local patterns / designs on the packaging, it will make the exported products more representative. Exporters have noticed a number of space-saving and volume-saving measures to make packaging more compact.

In addition, exporters can visit foreign and international trade shows and get in touch with commercial buyers, agents and distributors to collect export orders. This will become one of the lower-cost promotions in the target market.

4.2.4 Innovation in Propagation

In Chonburi, Thailand, there is a traditional bamboo art center. In 1978, the project of Queen Sirikit's Mutual Aid Foundation went to Phanat Nikhom to protect the traditional handicraft of bamboo weaving. This project is to protect the extraordinary folk arts and crafts from generation to generation and improve the quality of life.

The mayor's wife, Pranee Borriboon, established a weaving workshop in her residence. She went through great efforts to find and gather the community's traditional expertise in bamboo weaving. Today, her son Komkrit continues to realize her mother's dream, promote the traditional handicraft cultural heritage of bamboo weaving, and create new and more beautiful bamboo weaving.

The traditionalism center often organizes some activities, such as uniting the local government and community schools to provide students who are studying bamboo weaving with the opportunity to learn with masters.

Center website: (<https://www.tbhcl1978.com/>)

On November 20, 2016, the Italian luxury car brand Maserati and the innovative public welfare organization dedicated to the inheritance and sustainable development of traditional Chinese handicraft culture and Rare Defence Action jointly launched the intangible cultural heritage-Jinling Gold Leaf Handicraft Creation Support Project. Since 2014, Maserati has launched a public welfare partnership with the Rare Defence Action to discover precious Chinese culture and skills and support new forces in the art world. Based on the "sustainable development" public welfare model, the two sides continue to invest in new product creation through joint development of artworks with both ancient Chinese handicrafts and modern styles, and continue to support handicrafts to regenerate the soul of art and promote Chinese traditional handicraft culture can be truly inherited. For two consecutive years, Maserati and Rare Defence Avction have launched chinese plates of classic Maserati models and limited edition filigree safety buckles. This year, the two sides once again took Jinling Gold Foil as a carrier, launched a series of related projects such as public education and joint market development of derivatives, condensed a healthy and renewable social welfare energy, and allowed traditional handicrafts to drive unlimited possibilities through contemporary design and creation.

4.2.5 Innovation in Industrial Management

(I) United Kingdom

UK is a world leader in creative industry. UK's rich and long-standing intangible cultural heritage resources are themselves an important source of "creativity". The protection and inheritance of intangible cultural heritage itself is not contradictory to the development of creative industries, but complementary.

Large number of British museums are the backbone of the protection of intangible cultural heritage. Museums often rely on specific areas to research, protect and develop intangible cultural heritage within the area. Museums and galleries have become an important channel for awakening public protection awareness and expanding public participation. Britain's traditional handicraft industry also has multi-channel funding support. The government has direct financial appropriations for the specialized agencies set up by the legislature, and the specialized agencies also set up different funding projects for each link of the dissemination and development of intangible cultural heritage.

In the United Kingdom where the degree of marketization of handicrafts is very high, they have their own tricks in developing brocade industry. After wealthy businessmen invest in the brocade industry and build up production factories, they will carefully package the factories and open the entire handicraft production process to the public. The exhibition method uses ticket income as the reinvested capital of the enterprise, thereby forming a virtuous circle. "We cannot protect for protection. The purpose of protection should be for the better development of the handicraft, which is a "factory museum "mode.

The United Kingdom has the Heritage Crafts Association, a UNESCO non-governmental organization (NGO), which aims to support and promote traditional crafts. The charity organization was launched in March 2010 at the Victoria and Albert Museum. It works with governments and major institutions to provide a platform for craftsmen, groups, societies and industry associations, as well as individuals concerned about the loss of traditional craftsmanship. Membership programs are provided for people who support traditional craftsmen and are committed to building a healthy and sustainable future development framework.

In order to protect various traditional crafts, the association has organized many interesting events, such as the "Making it! HCA / QEST event" handmade workshop event in London Craft Week, inviting visitors to participate in the process of making crafts with traditional craftsmen, experience the feeling of being a creator.



Figure 4.2.8 On-site pictures of the handmade workshop
(Source: Internet)

The association's website sets up a roster for registered craftsmen, categorizes all handicraft works / products, and edits catalogs and introductions. In addition, the products of different artisans can be sold online. This not only allows people to understand the British traditional craftsmanship and traditional craftsmen systematically and comprehensively, but also understands one or more craftsmen in detail and individually, and sees his or her representative works. If you like, You can also buy his or her handicraft products directly online. This platform is a convenient, fast and win-win service tool for craftsmen as well as tourists and consumers.

Website: <http://heritagecrafts.org.uk/> ; <https://themakers.directory/>

(2) Japan

After the end of World War II, along with the opening up to the outside world, Japan's urban and rural areas also experienced the crude production of traditional handicrafts, but they soon realized that if not handled properly, not only would they lose the traditional handicrafts, but they would also lose national confidence in the face of industrial powers. So they started with the development of folk art and promoted the "one village, one art" movement. As a bridge connecting cities and villages, they widely publicized the role of traditional culture in the daily life of the people,

explaining the importance of the coexistence and mutual benefit of traditional craftsmanship and industrial civilization. The Japanese government paid great attention to protecting its traditional craftsmanship and talents. They value traditional craftsmanship, hold craft exhibitions nationwide, and name outstanding master craftsmen as "national treasures on earth." These protection policies and development measures have inspired a large leap in modern Japanese handicrafts, and gradually established their place in the world of modern handicrafts.

Legislation to protect and promote is a successful experience in Japan's heritage of traditional handicrafts. According to Ji Guolong, president of the Japan Silk Industry Association, the Japanese government promulgated the "Traditional Handicraft Industry Development Law" as early as 1974. According to the law, Japan specified the types of traditional handicraft industries that needed to be protected and supported in order to change its stagnant status. One of its recognition standards is "it must be mainly completed by hand, and its skills must have been extended for more than 100 years." To achieve this, the government has adopted a number of specific supportive policies: for example, strengthening education to protect inheritors, writing monographs, writing art records for protection, launching promotional exhibitions, etc. In addition, some government projects are given certain government funding. With the support of the government, a traditional handicraft exhibition center has been established. All designated handicrafts are exhibited here for a long time, and some special exhibitions are also held here. At present, the Japanese government has designated 209 types of handicrafts. Many endangered traditional products have passed the "escort" of the law and have been revitalized.

JAPAN HANDMADE is a brand from Kyoto, which brings together six traditional artisans, including local craftsmen and traditional handmade brands. These six traditional workshops and handicraft artists include: Bamboo product brand founded in 1898: Kozaisai Kosuga Komba; the chief magistrate, who specializes in making tins (tinplate) and making pots such as tea pots, the KAIKADO founded in 1875; Established in 1688, the old-fashioned shop listed in the intangible cultural heritage of Japan; Traditional metal weaving craftsmanship brand Kanaami Tsuji, an old-fashioned shop used by Dior stores for interior decoration; Fine-tailed fabric Hosoo, , NAKAGAWA MOKKOUGEI woodware, 400-year-old Uji old shop ASAHIYAKI, etc.

The task of JAPAN HANDMADE is to push these traditional design products to the international market through design and commercial means. Previously, JAPAN HANDMADE cooperated with Danish design company OeO to produce a series of "new designs that uphold tradition while meeting the global market today". OeO is responsible for brand building, and has carried out detailed design and planning from visual, display and publicity to ensure the high quality and internationalization of JAPAN HANDMADE. These six traditional workshops did not hesitate to cooperate with international designers to update their product lines, combined with their own materials and craftsmanship, to develop new modern design products in preparation for internationalization. However, all the efforts are aimed at making Japanese traditional crafts to be more accessible and attractive to consumers around the world through new designs.

KAIKADO is located in Kyoto, with workshops and small-scale production models. KAIKADO's tea pot has bottle body and the lid stitched perfectly, no air is allowed to enter. This time, they cooperated with Stellar Works to

design new products. They designed a series of western-style utensils and provided tea caddies to Postcard Teas, a famous boutique tea shop in London.



Figure 4.2.9 Western-style utensils cooperated by Kaikado and Stellar Works (Image source: Internet)

Kanaami Tsuji is one of Japan's most exquisitely crafted wire mesh appliances. The Japanese are very particular about cooking utensils. When eating hot pot dishes in Kyoto, the table is always equipped with wire mesh appliances, which are convenient for cooking tofu and other food. The production of metal wire mesh takes a long time and the process is rigorous. Currently, there are only four old shops in Kyoto that insist on hand-woven wire mesh appliances. Among the products cooperating with Japan Handmade, artisans try to make a large proportion of wire mesh and apply it to chairs as seat cushions.



Figure 4.3.1 The chair cushion made with Stellar Works (Image source: Internet)

As the thousand-year-old capital of Japan, Kyoto has always been a place of exquisite craftsmen. However, even if it has a long history and tradition, the Kyoto handicraft industry still faces the problem of being unable to internationalize and enter the modern life. It is difficult for small-scale artisans to develop international reputation. Government-supported Japanese handicraft projects rely on cross-border design teams and brand-building companies for various assistance, gradually changing this situation.

(3) Italy

Italian scholars have launched a new type of tourist accommodation which combines local resources together, Albergo Diffuso (AD). The concept it proposes is to protect or restore the cultural heritage of small towns without affecting the local culture, environment, and community characteristics, and encourage local residents to cooperate in providing tourist accommodation (Dall'Ara, 2015). By promoting and restoring local traditional artisanal activities and promoting traditional products, encourage more direct contact between tourists and local residents, and making full use of local unused resources (Dichter & Dall'Ara, 2011).

AD is completely different from other "alternative" accommodations, such as holiday farmhouses or B & Bs, which consist of one accommodation unit, but the rooms are located in different buildings throughout the town, usually no more than 200 to 300 square meters away from the central transportation hub. The central hub acts as a reception, positioning and service center for tourists. In contrast, AD is not only a substitute for traditional forms of tourism, but also represents a sustainable form of global regional development, especially in small communities where tourism and other activities such as agriculture or handicraft coexist. In the center of small rural areas, the construction of new tourist accommodation structures will inevitably have a damaging impact on the environment and urban planning. AD's strategy is to convert pre-existing buildings (such as houses, farmhouses, or abandoned factories) into tourist accommodation.

The defining characteristic of AD is that it is located in an inhabited area, rooms are located in several different buildings. AD is particularly suitable for small villages, such as those established in agricultural areas, whose historical and architectural features are worth retaining. AD protects the area's landscape, environment, and society, and these features can become major attractions for sustainable tourism.

AD uses traditional and local resources to provide tourists with the same lifestyle as local residents in a more culturally and historically meaningful environment (Camillo & Presenza, 2015). In a broad sense, AD is a resource update based on a thorough understanding of the local history. For example, the original main features of the building are preserved, the processes and ingredients of the ancient recipes of local cuisine are preserved in order to preserve the purest taste of these places. But in the reuse of buildings, in addition to following local traditions and respecting the characteristics of original buildings and furnitures, more things will be done: the accommodations operated by a family are integrated with other accommodations and convenience facilities in the surrounding area. It is part of the entire "story", offering visitors a zero-distance experience of the small village and its cultural heritage.

Recently, this concept has attracted the interest of tourists, professionals and institutions, and it has become a new form of "small tourism enterprise" (STE) and a subject studied by many Italian scholars. (Confalonieri, 2011; Panicia, 2012; Camillo & Presenza, 2015; Abbate, Presenza, & Viassone, 2017; Presenza, Camillo, & Camillo, 2017). This work is also relevant to the broad tourism industry. Recently, the demand for "authenticity" of tourists has been increasing, that is, consumers are seeking "to obtain original and authentic experiences and products, not fake or deliberate experiences."

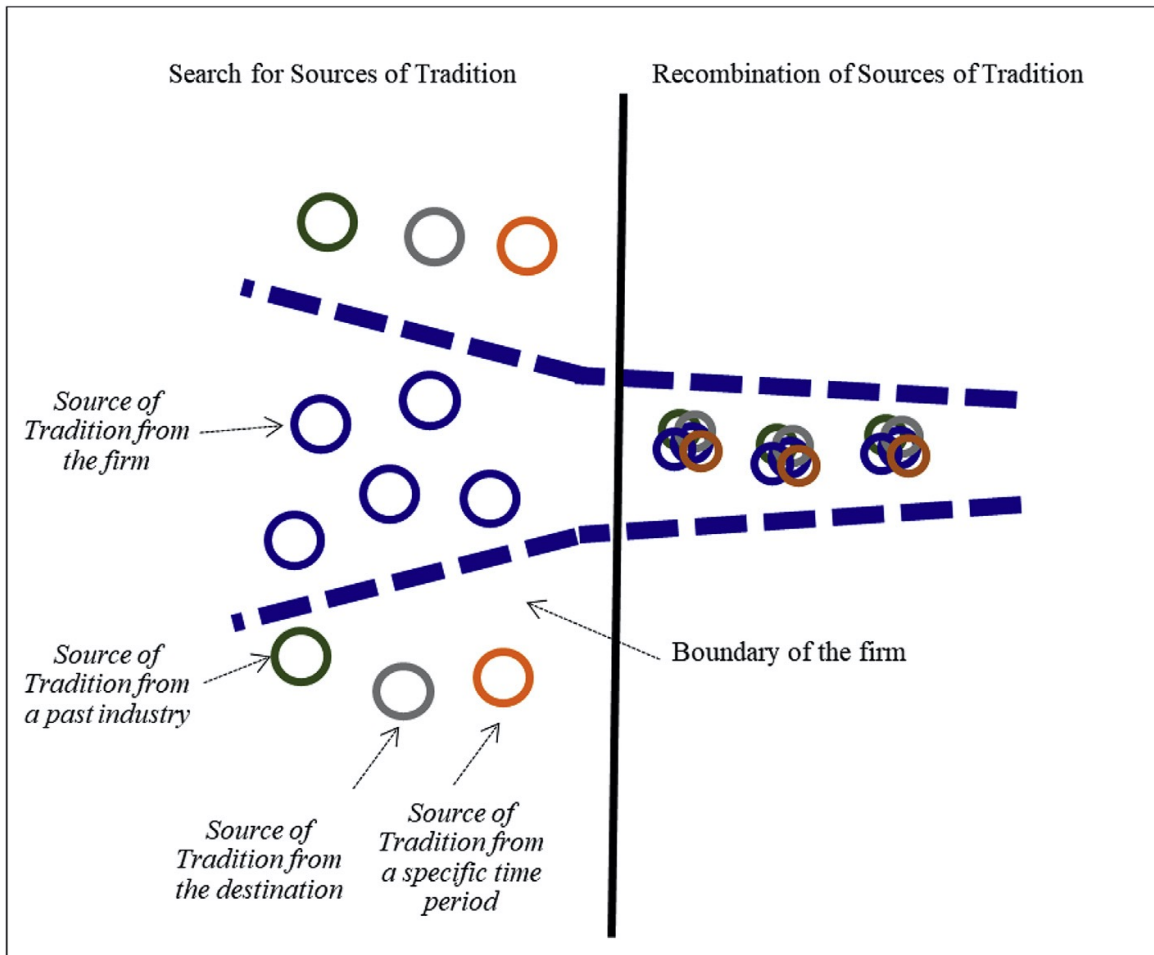


Fig. 4.3.2 Conceptual model: Process of using a tradition-based strategy for innovation

Fig. 4.3.2 is a conceptual model that illustrates the process of using a tradition-based strategy for innovation. The four sources of tradition identified are: the firm; the historical past of an industry; a specific time period; and the objective. The boundary of the firm is represented by dotted lines to reflect sources of tradition originating from inside as well as outside of the firm. In the search for sources of tradition, the firm has to identify and accumulate resources of value and focus on them. At the same, the firm has to develop capabilities that enable it to combine and exploit those resources. This process of recombination generates new products or even entire new business models that allow the firm to adapt itself in a way that differentiates it within the environment in which it operates. To succeed in doing so, the firm must be able to process, interpret, encode, manipulate and access information in a purposeful and goal-oriented manner.

In terms of policy, the Italian government stipulates that all capital and labor income and independent labor income tax shall be reduced or exempted. This has greatly promoted the development of craftsmanship, and is also an important reason why Italian craftsmanship can occupy a place in the world. The European Union and the Italian government support distinctive and competitive handicraft companies, and subsidize them to participate in exhibitions and sell products abroad. In the Lazio region, local products are only charged 10% VAT on products that meet the standards of the handicraft industry, while general corporate products are levied 21% VAT. Venice even exempts VAT on products sold by traditional handmade glass products companies in core tourist areas. In addition, some regions also offer discounts on electricity bills and rents to sellers of crafts.

With the development of Italian handicrafts, more and more people are now studying at handicraft schools. National and local governments provide financial support and free land to handicraft schools, encouraging schools to train craftsmen, and rescue traditional crafts that are about to disappear. The Stradivari Violin Making School in Cremona is world-renowned. The government began funding the school as early as 1938 and currently supports up to 600,000 Euros per year. The support from banks and corporate to handicraft schools is much higher than the government. Some banks sponsor handicraft schools related to music and culture every year. Most of the raw materials for handicrafts produced by the Veneto Handicraft School have been given away free of charge by the companies concerned.

The ubiquitous museums have become one of the best ways to protect traditional handicrafts in Italy. Governments at all levels have established many museums to ensure the protection and development of traditional handicrafts in various places, and even some private museums have a much richer handicraft collection than government-managed museums. The Violin Museum, funded by the Cremona Municipal Government, purchased the most famous violins at home and abroad for preservation and display. It is said that some violin is worth more than 1 million euros. Some local people also donated their own violins. Many museums not only do research on the collections, but also provide producers with concert halls to listen to the violin. In Italy, museums have become a heritage complex that connects the past and modernity.

Veneto Crafts School has only 45 full-time teachers, and employs more than 100 masters (old artists, old craftsmen) in handicraft companies or workshops. There are 100 handicraft masters named by the government in Lazio. They are encouraged to enter the school to make handicrafts, and students can watch the whole process from no distance. These masters have high salaries and receive special subsidies after retirement. In this way, under the employment of Italian governments at all levels and vocational schools, those handicraft masters who have no diploma but have decades of experience can teach at schools.

In order to promote the development of handicrafts, Italian governments at all levels and industry chambers of commerce or museums often hold various handicraft exhibitions, sponsor developing handicraft companies to participate in exhibitions, and support them to open up international markets. The City of Cremona and the Violin Museum hold violin production exhibitions every three years, Florence hosts the national handicraft creative

exhibition each year, and Milan holds the international handicraft fair every year ... These exhibitions are a very important driving role to promote the protection and development of traditional handicrafts.

4.3 Limitation in the Innovation of Huizhou Three Carvings Industrial System

It can be seen that, whether from top down or bottom up, the Huizhou Three Carvings industry has a certain degree of innovative attempts, using certain scientific and technological means; there are certain new attempts in product forms and carriers; and in sales models, actively adopting a combination of online and offline methods; establishing more museums in terms of publicity, organizing events and competitions based on festivals, etc., and also using online media to try to let more people understand the art of the three sculptures of Huizhou; In terms of management, there are also some associations and organizations that are slowly being established and are gradually developing to the direction of industrial gathering.

Although the Huizhou three carvings industry has made a certain degree of industrial adjustment and upgrading in the face of the current difficulties, with such industrial innovation, if the Huizhou three carvings industry is about to restore its former style and even in the new era, to shine on the international stage, the current situation is far from enough. Compared with foreign cases, it is not difficult to see that in these aspects, there is still a lot of room for innovation in Huizhou three carvings industry.

First of all, when combining the Huizhou three carvings industry with modern technology, it should not only combine with new industrial technologies. With reference to the case of cooperation between Blue Fish and the UAE weaving industry, the art of hand weaving, which was dying out before, has been able to return to life and create a new brand effect because it has professional creative companies and organizational personnel, not only train craftsmen to possess professional skills, and they have imparted knowledge of color combinations that are consistent with modern aesthetics and fashion tastes. At the same time, they have also developed the corresponding financial knowledge and skills, so that craftsmen can not only be skilled in using crafts, they can also convert funds. The focus of another project in Tunisia is to involve young designers in the design process and bring new life to the old handicrafts. This case is characterized by the integration of new design concepts into old handicrafts and their products. Among them, the thinking ways of craftsmen and designers are different, with the participation of emerging designers, adding vitality to traditional craftsmanship from the beginning, so that their products can bring the characteristics of the new era. Referring to such a case, while combining the modern technology with Huizhou three carvings industry, it should also pay attention to its knowledge of the new era and its understanding of product design concepts. It also needs to understand the relevant knowledge of the entire industry, such as corresponding financial knowledge. And marketing methods to meet the final sales needs of the product.

Secondly, from the perspective of the innovation of the form and carrier of the three carving products, it is not necessary to be restricted to woodcarving, brick carving, or stone carving itself. The "ShangXia" brand established by Hermes in China is basically a redesign based on traditional Chinese craftsmanship, combined with western design methods and concepts, combining traditional craftsmanship with fashion into high-end consumer goods. This

combination of innovative cooperation with luxury brands is probably another development perspective for Huizhou three carvings industry. Traditional bamboo processing techniques incorporated into modern aesthetics and mechanical principles to create a "redesign" model, can combine traditional materials with contemporary aesthetic concepts. The product design of the Huizhou three carvings can also incorporate these elements. The self-innovation of Japanese handicraft brands is also a "transboundary" innovation with a self-breakthrough nature. The same materials are used to make completely different products.

From the perspective of the sales methods, the sales channels of Huizhou three carving products are too segmented. On the whole, there is a lack of system integration, combined with other industrial chains, and a wider sales channel to more audience. The TOTO Express example shows how a wide-covering, international, transparent and convenient platform can connect rural artists in remote areas with corporate institutions around the world. Spain, Colombia, Thailand, Mexico and other countries are also typical examples of combining cultural tourism and sales of handicraft products to create more revenue. Japan's Aoyama Plaza is a place where Japan's traditional crafts are collected and sold. It is precisely because of its scale effect that Aoyama Plaza became a must-go shopping mall for tourists when purchasing souvenirs. Combined with regular artisan experience activities, this Plaza not only undertakes the function of selling products, but also the function of promoting traditional crafts and bringing people closer to traditional craftsmen. Its website is also very exquisite, rich in content and complete in information at a glance. The case of Aoyama Plaza illustrates the impact of the clustering effect. The design of wood craft workshops in Tartu, Estonia as one of several tourist routes, illustrates the importance of systematization and integration with other industrial chains. In addition, the sales of the three carvings industry in Huizhou should not only focus on the domestic market. It is also necessary to open up overseas markets.

In terms of publicity and promotion, the marketing methods of the Huizhou three carvings can also open up its horizons, not only limited to traditional publicity and promotion methods, but also actively cooperate with different institutions and brands. The Bamboo Art Center in Chonburi, Thailand was established by the support of the royal family and led by the mayor's wife. Now it serves as a platform and a link, providing both livelihood and training for traditional craftsmen and also the base of social practice for local students. The case of Italian luxury car brand Maserati fostering the heritage of traditional Chinese handicraft once again shows that as a traditional handicraft with great artistic charm, traditional cultural connotation and craftsmanship, Huizhou Three Carvings can actively try to cooperate with large international brands. The collision between "tradition" and "fashion" is sometimes not necessarily contradictory, but complementary.

Moreover, from the perspective of the entire industrial management, Huizhou three carvings industry generally lacks systematic management. Judging from the case of the United Kingdom, the Heritage Crafts Association manages craftsmen, groups, societies and industry associations throughout the UK. This platform integrates all resources and organizes activities. People who have interests in the traditional handicrafts can have opportunities to participate in. From the case of Italy, industrial management has both bottom-up management and top-down management. Albergo Diffuso, a new type of tourist accommodation, makes full use of the people in villages, local traditional culture and

handicrafts, so that they spontaneously form a small "community", and the connections between communities, families, and craftsmen are changed, they become very close, providing tourists with a new travel experience. Such industrial management updates are from bottom up, and for top-down, the government has also created an excellent development platform and environment for traditional crafts. For example, they have provided financial support and free land supply for the handicrafts schools, built museums everywhere, also stroke emphasis on the resources of handicrafts school teachers. Meanwhile, the cooperation between craftsmen and schools, craftsmen and government, or various handicraft fairs and exhibitions are increasing on scales and numbers. With such a top-down cultivation for traditional craftsmanship, it has enough nutrition to flourish. Compared with the traditional handicraft industry in Britain and Italy, the industry of the three carvings in Huizhou lacks not the spirit of craftsmanship, traditional cultural connotation or local characteristics, but the lack of guidance for craftsmen and systematic and standardized management of the entire industry.

After analyzing the foreign cases, realizing the deficiencies in the innovation of the Huizhou three carvings industry, the following paragraph are to put forward specific innovation proposes in corresponding aspects.

Chapter V Redesign of Huizhou Three Carvings Industrial System

After the above analysis, it is noticed that there are much deficiencies in the innovation industry of the Huizhou three carvings and the necessity of redesign. In this chapter, a specific innovation plan based on the concept of systemic design will be put forward.

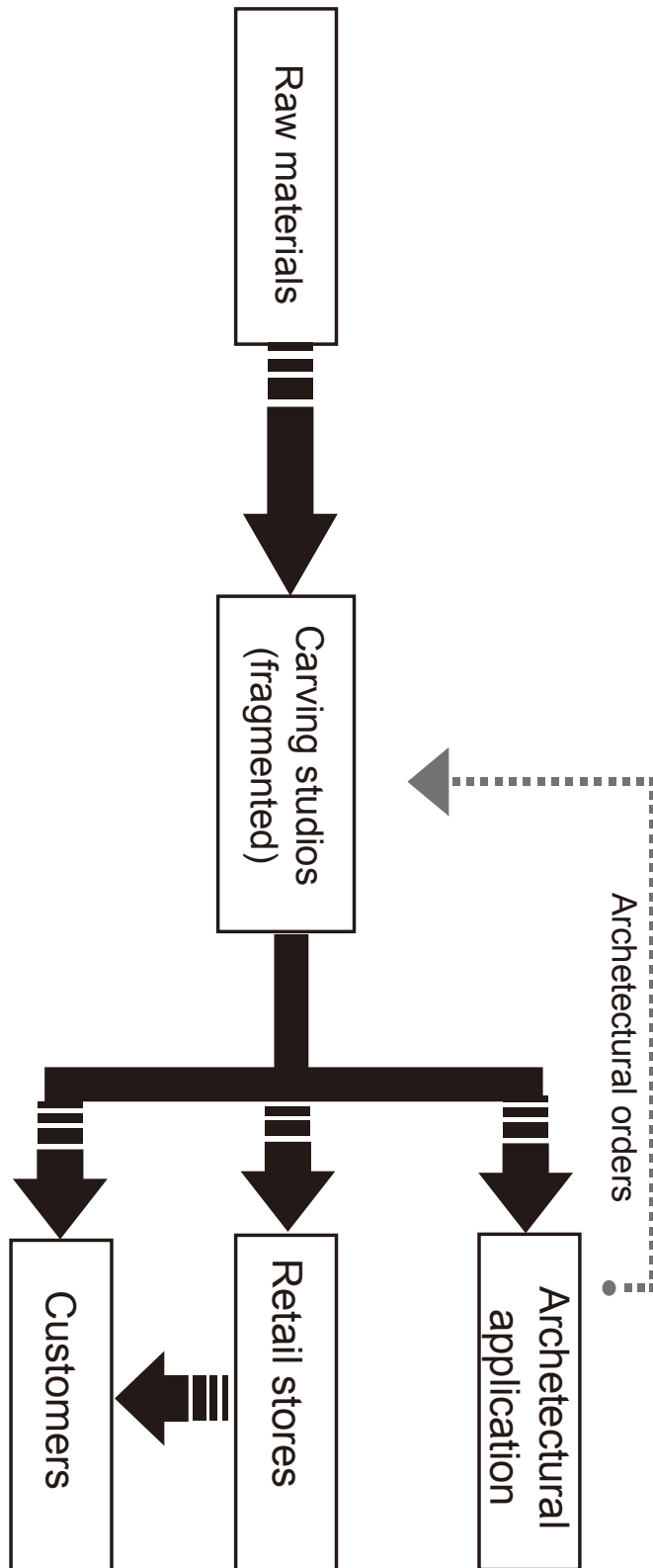


Fig.5.1 Key steps of Huizhou three carvings
Source: made by the author

5.1 System Positioning of Huizhou Three Carvings Industry

According to existing research, the key points and steps of the Huizhou three carvings industry can be summarized in Figure 5.1: the raw materials factory provides the required raw materials, the three carvings craftsmen's respective studios can either go to the locations to purchase raw materials, or order in batches at a distance (depending on the amount of materials used). After being processed by the craftsman, the raw materials become products, or used in large buildings, or sold to customers through self-sale or resale in retail stores.

The systemic reorientation of the Huizhou three carvings industry must be considered from three aspects: width, breadth, and depth of the entire industry. First of all, increasing the width of the three carvings industry is to increase the economic volume of the industry. More participants, more inputs and outputs are needed to have more conversions in economics. Secondly, increasing the breadth of the three-carving industry is to increase the influence and popularity of the industry, making the three carvings industry not only a local feature, but also a charm on the international stage. Furthermore, to enhance the depth of the three carvings industry is to dig into the industry itself: the improvement on the craftsmanship, the cultural connotation and creativity of the product, the general public's understanding, and so on.

5.1.1 Huizhou Three Carvings Industry Market Prospects

As one of the first intangible cultural heritages in China, the Huizhou three carvings have rich cultural connotation and historical significance. Together with the unique carving skills and styles of the craftsmen, their products have great collection value. On the one hand, with the implementation of more ancient building restoration and protection work and the construction of new industrial parks, the requirement for Huizhou three carvings on buildings will increase. On the other hand, after innovation, redesign, and good marketing of Huizhou three carvings products, they will develop a wider market and application scenarios. Therefore, the market prospects of the three carvings should be very bright. Meanwhile, the future market should not only be set on domestic collectors, but also overseas, to fully express to the world the charm of Huizhou three carvings.

5.1.2 Huizhou Three Carvings Industry Development Goals

- (1) Increase output value, create more employment opportunities and economic income
- (2) Become a representative local characteristic, generate brand effects
- (3) To achieve better integration and mutual promotion with local tourism, cultural and creative industries and educational resources
- (4) Greater regional influence and international popularity

5.2 Innovative Systemic Design Principles of Huizhou Three Carvings Industry

5.2.1 Principle of Geographical Representation

The Huizhou three carvings originated from and developed in Huizhou, combining the long history, the rise and decline of Huizhou merchants, and are inseparable from the land of Huizhou. Therefore, the three carvings industry should always prioritize the principle of regional representation and become the representative flag of Huizhou.

5.2.2 Principle of Epochal Innovation

(1) Product innovation

The product innovation of Huizhou three carvings is the requirement of the times. Better products are at the core of industrial competitiveness. The products should be of better performance, appearance and in line with the requirements of environmental-friendliness.

(2) Technology innovation

Technology innovation refers to the use of new production methods or new raw materials to produce products to achieve quality assurance, reduce costs, protect the environment, or make the production process safer and labor-saving.

(3) System innovation

The enterprise system mainly includes three aspects: property rights system, operating system and management system. The direction of system innovation is to continuously adjust and optimize the relationship between the owners, operators, and workers of the enterprise, so that the power and benefits of all aspects are fully reflected, and the roles of various members of the organization are fully exerted.

(4) Functional innovation

Functional innovation is to adopt new and more effective methods in management functions such as planning, organization, control, and coordination.

(5) Structural innovation

Structural innovation refers to the design and application of new and more efficient organizational structures. Structural innovation can be divided into two types of technological structure innovation and economic and social structure innovation according to the scope of its impact.

(6) Environmental innovation

The environment is the soil for business operations, and it also restricts business operations. Environmental innovation does not mean that the enterprise adjusts its internal structure or activities in order to adapt to external changes, but refers to the transformation of the environment through the active innovation activities of the enterprise to guide the environment to change in a direction that is conducive to business operations. For example, through the company's public relations activities, it affects the formulation of community government policies; through the company's technological innovation, it affects the direction of social technological progress, and so on. As far as

companies are concerned, the main content of environmental innovation is market innovation. Market innovation mainly refers to guiding consumption through the activities of enterprises and creating demand.

5.2.3 Principle of Participation and Experience

To further develop the Huizhou three carvings industry, it is inevitable that the public needed a deeper understanding and recognition from the inside out of the industry. If this is to be achieved, it will be necessary for the general public to get a deeper understanding through participation and experience.

(1) Sensory

Sensory marketing is the creation of sensory experiences through sight, hearing, touch and smell. Its main purpose is to create conscious experience.

(2) Emotional

Emotional marketing is to touch the inner emotions of consumers and create emotional experiences during the marketing process. The scope can be a mild, tender positive mood, such as joy, pride, and even strong emotional emotions.

(3) Thinking

Thinking marketing is to inspire people's intelligence and creatively allow consumers to gain an experience of understanding and solving problems.

(4) Mobile

Mobile marketing is inspiring consumers through idols, roles such as movie stars or famous sports stars

(5) Correlation

Correlation marketing consists of a combination of senses, emotions, thoughts and actions.

5.2.4 Principle of Practicability

The innovation of Huizhou three carvings industry should follow the principle of practicability. It should take into consideration the basic local conditions and make plans and designs that conform to the actual situation.

5.3 System Redesign Method of Huizhou Three Carvings Industry

Based on all the above investigations and case comparisons, following the method of systemic design and the above design principles, the following redesign schemes for Huizhou three carvings industrial system can be summarized.

5.3.1 Optimization of Huizhou Three Carvings Industrial Chain

From the analysis in Figure 5.2, there is room for improvement in the links with annotations.

First of all is the problem of the lack of management and channels for the raw materials to reach the three carvings craftsmen's Studios, especially for the three carvings craftsman in small studios, going to different raw material processing plants to purchase materials will necessarily require manpower and material resources, and may not necessarily find the raw materials needed. In addition, many three carvings craftsmen also use their studios as retail stores to sell products. They are scattered in large and small counties and hidden in wide and narrow streets. If the operator is not a well-known local master, customers who come to purchase the products are just random visitors. The difficulties to find raw materials and storefronts and other related problems can be solved through resource integration.

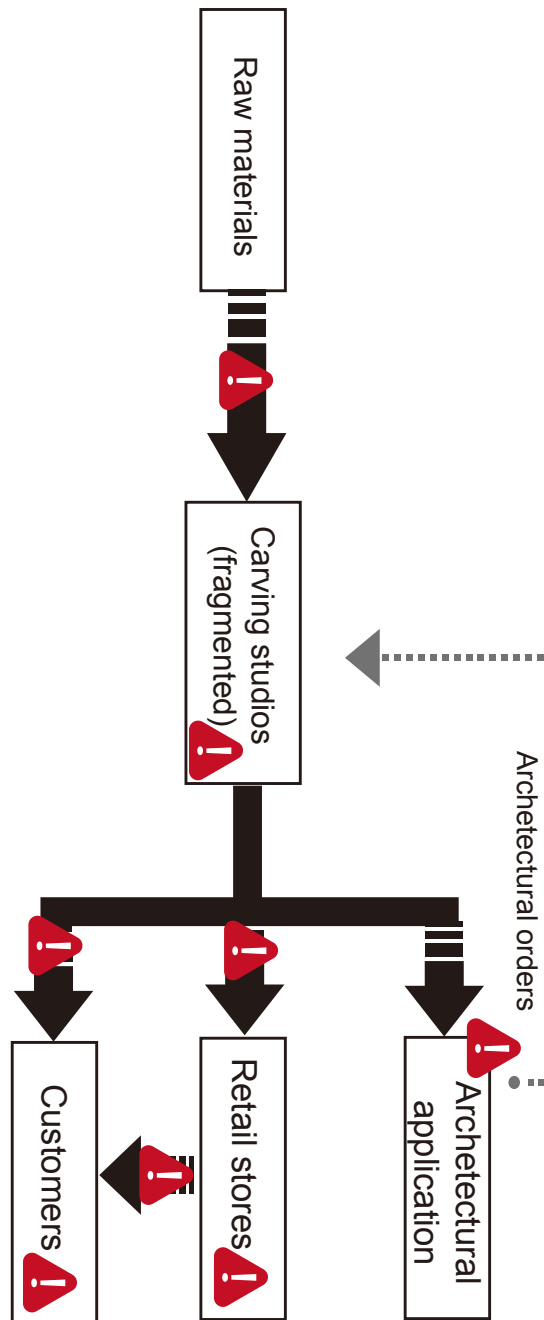


Figure 5.2 The possible improvement points of Huizhou three carvings industrial chain
(Image source: author's drawing)

Referring to cases abroad, the Heritage Crafts Association in the United Kingdom, the Bamboo Arts Center in Chonburi, Thailand. The Brick Carving Art Association has just been established in She County, however, there has never been an association that involves all the three carvings in Huizhou. The Huizhou Three Carvings Craftsmen should be united, a Huizhou Three Carving Crafts Industrial Park should be set up, to provide policy support and encourage the three carving Craftsmen to move in, which can form an aggregation effect.

As shown in Figure 5.3, area between the yellow lines represents the mainstream of the industry and the main source of the value of the three carvings industry. At present, the distribution of the three carvings industry is very scattered. The studios of several local masters are developing well, but some ordinary craftsmen's studios can barely support their livelihoods, and they cannot adopt new technologies or access new design concepts. Many procedures are still the same from before.

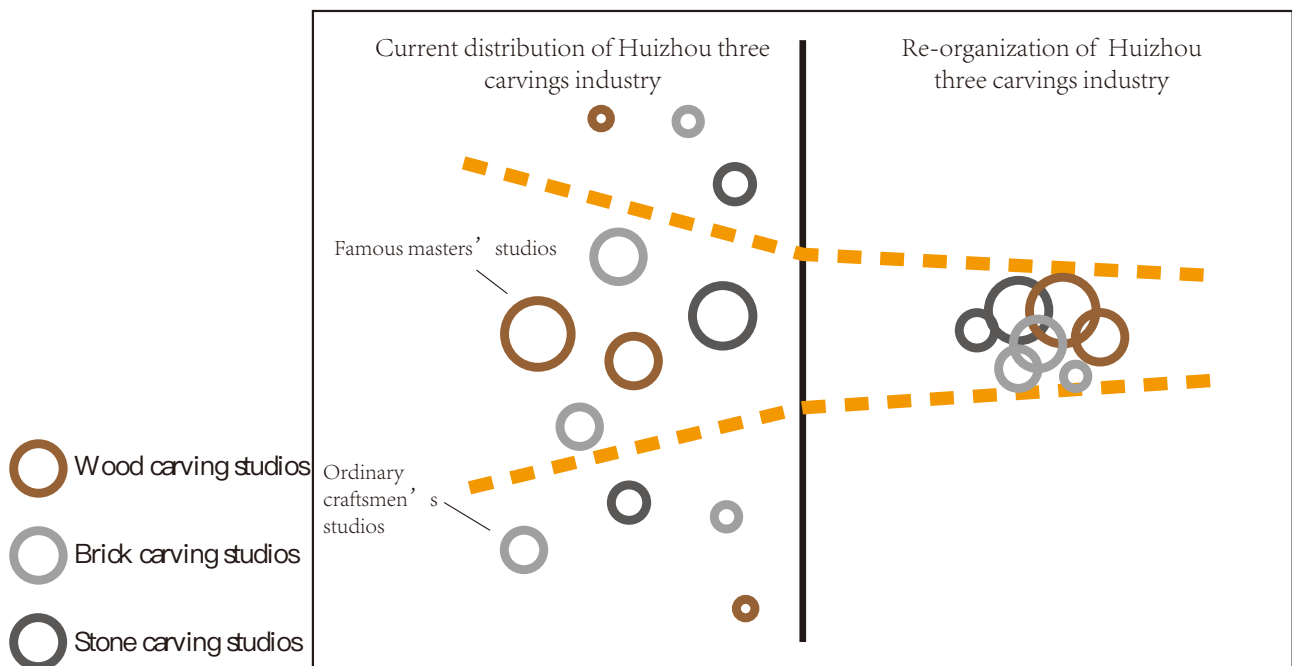


Figure 5.3 Reorganization of the Huizhou Three Carvings Industry (Image source: author's drawing)

After the reorganization of the three carvings industry, on the one hand, the three carving techniques can learn from each other. Many products do not necessarily have only one kind of material. The three carving materials are originally complementary to each other in architecture. Therefore, the products can naturally be combined with each other. On the other hand, advanced technology and skills also have a driving effect. The three carvings industry needs to actively use new technologies and introduce better advanced machines in order to drive the entire industry to develop rapidly.

Industrial clustering can increase labor productivity. British economist Marshall found that aggregated firms are more efficient than a single isolated firm (external economy). The geographical concentration of enterprises in related industries can promote the division of labor and cooperation within the region. The clustered Three Carvings Industrial Park will help both upstream and downstream industries to reduce the cost of searching for raw materials and transportation costs, therefore significantly reduce the production costs.

At the same time, the concentration of industries can also promote innovation. In the industrial clustering of the Huizhou three carvings industry, new craftsmanship and new technologies can spread rapidly. It is easier for companies to find gaps in products or services, be inspired, discover market opportunities, and develop new products. Industrial clustering will inevitably intensify competition, and competition is an important source for enterprises to obtain competitive advantages, which brings motivation and innovation.

5.3.2 Optimization of Huizhou Three Carvings Marketing Model

From the perspective of the three carvings industrial chain, the sales is involved several links: one is architecture-related decorations produced by three carvings studios; the other is that the products made by artisans sold to customers through retail stores; the third is products sold directly to customers.

On the one hand, new offline marketing models need to be created, such as integrated marketing and experiential marketing. After the three carvings industry has formed an aggregation effect, integrated marketing can form a characteristic three carvings sales center. Here, it can provide customers with experience activities and private custom services, as well as holding meetings of crafts masters and school student practice activities, which brings more traffic and forms local features.

On the other hand, online marketing of Huizhou three carvings also requires good integration and management. There should be a matching online sales platform and a database/online museum of three carving arts, products, and craftsmen. Because the online platform is not restricted by any time and place, it can achieve a wider marketing effect and attract more audience, and let more people know the story of the three carving arts and the craftsmen.

5.3.3 Optimization of Huizhou Three Carvings Propagation Methods

Huizhou three carvings need to pay more attention to the communication to the outside. The craftsmen in the industry and those who understand the three carvings of Huizhou are well aware of their artistic value and cultural connotation, but the people outside of the situation know little about the three carvings of Huizhou. Only by allowing it to spread better to the outside, can more people realize its value, and thus serve the purpose of revitalizing the industry.

On the one hand, the relationship between the three carvings industry and the tourism industry should be strengthened, and the traditional culture and tourism industry should be better integrated with reference to the AD model in Italy. At the same time, the government should better build and use the museum resources, and the well-preserved ancient buildings can themselves be the best museum carriers. Referring to the case of British museums, the most direct and effective way to show the traditional culture of a place is through countless museums. Many of the existing local private museums are difficult to operate because they do not receive any government support. These valuable resources should not be wasted.

On the other hand, Huizhou three carving arts should seek cooperation opportunities with fashion brands and large institutions. Many major international brands are promoting the organic combination of traditional culture and

contemporary design. As one of the representatives of Chinese traditional culture, the Huizhou three carvings art have enough content waiting to be found.

In addition, the craftsmen of Huizhou three carvings should actively open their horizons. There are many carving competitions, exhibitions and so on around the world. These are great opportunities for the craftsmen to promote themselves and the art of Huizhou three carvings.

5.3.4 Optimization of Huizhou Three Carvings Protection and Management Standards

Regarding the protection and management of the three carvings in Huizhou, we should start from political, cultural, economic, and social aspects.

In terms of policy, try to give the three carvings craftsmen some support and rewards, and encourage the three carvings craftsmen to innovate and achieve industrial clustering. At the same time, it is also necessary to strengthen the restoration and protection of existing ancient cultural buildings, and encourage private capital to invest in the construction of functional buildings such as special emblem hotels and restaurants.

At the cultural level, on the one hand, the three carvings craftsmen should be educated to improve their aesthetic and cultural connotations, so as to fundamentally improve the quality of the products. On the other hand, education for the general public should also be strengthened. The knowledge and skills of the three carvings of Huizhou can be combined with the education of the school. Local schools offer special courses to teach students the skills and knowledge of the three carvings. This is the source of helping the public to get a sense of cultural identity and intimacy with Huizhou three carvings. This also provides new cooperation opportunities and income sources for the craftsmen of Huizhou three carvings. Furthermore, according to different festivals and cultural days, corresponding cultural activities should be held to encourage and promote the spread of Huizhou three carvings.

On the economic side, on the one hand, industrial clusters should be formed to reduce taxes and provide preferential policies from the outside; on the other hand, good channels and sales platforms should be built to increase its output value and sales from the inside.

At the social level, what needs to be cultivated is the respect for the artisans in the entire society. This requires a sufficiently developed social environment. In order for the public to realize the importance of traditional culture and traditional craftsmanship, it requires sufficient education and cultural foundation.

5.3.5 System Redesign Model of Huizhou Three Carvings

As shown in Figure 5.4, in Huizhou three carvings industry system, the key points that may have problems were marked with connotations. The relevant influencing factors, intervention factors have also been remarked, along with specific improvement measures.

In the step linking raw materials to the three carving craftsman studios, considering that the Three Carvings Craftsman Studios are scattered and the industry is not clustered, the support of government policy is thus needed, to establish an industrial park and form a clustering effect. At the same time, in products making process, people involved

should open up horizons, actively use new technologies, and actively seek cooperation with big brands to improve their self-level.

With regard to building materials, with the strengthening of the protection of ancient buildings, the rise of Huizhou style museums and commercial buildings, more orders for Huizhou three carvings will be sent to the studios of Huizhou three carving craftsmen. At the same time, the government's support for private museums and the construction and promotion of local cultural museums must be strengthened.

In the process of selling the three carvings products, what is lacked are good channels, sufficient marketing and publicity, and the public's enthusiasm. Upgrading retail stores, opening up experience events, holding lectures, and organizing cultural festivals based on current festivals are all possible promotion measures. Promote the “culture + tourism” model, and at the same time strengthen the cooperation between schools, social institutions and the Huizhou Three Carvings industry. Such measures can better strengthen the knowledge and understanding of Huizhou Three Carvings of local residents and tourists from around the world. In addition, it is necessary to open up new sales channels so that new and era-friendly products can get their due display and sales platform.

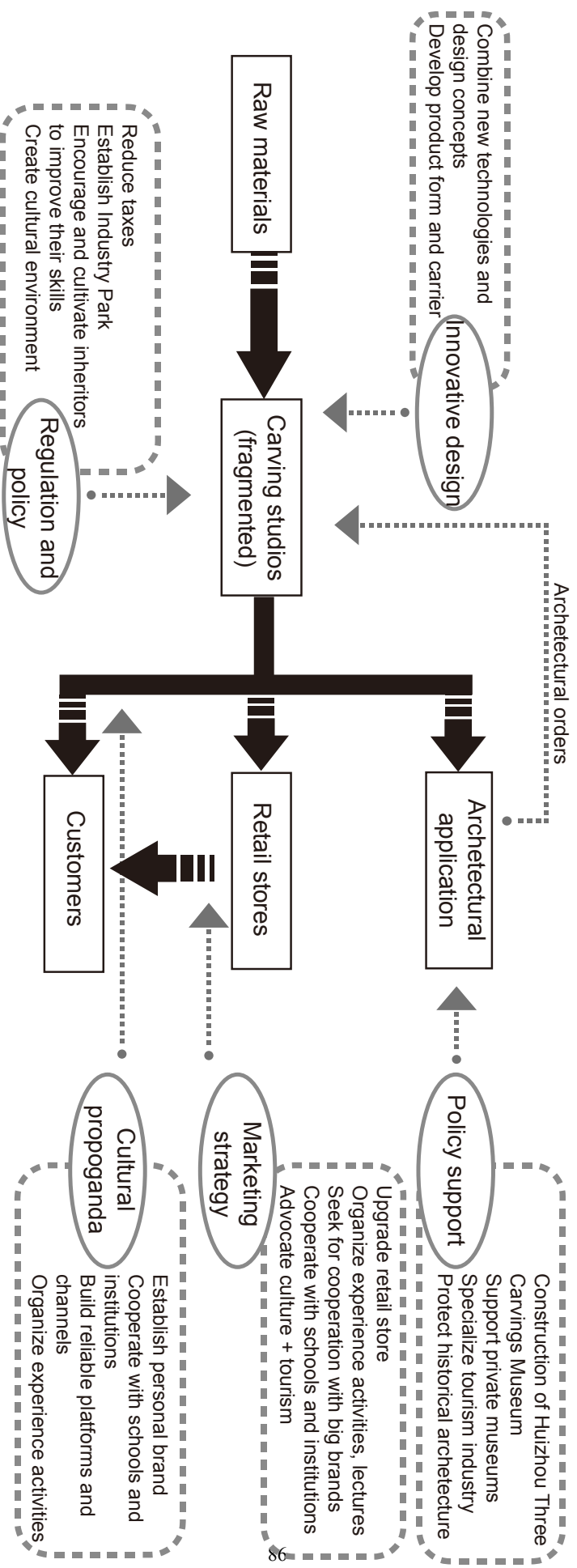


Figure 5.4 Redesign of the Three Carvings Industrial System

5.3.6 Integration of local industries

Applying the idea of system design to establish the industrial systems in Huizhou area, several steps should be implemented following these methodologies:

1. Output becomes input: with this point in Huizhou Three Carvings industry, more consideration is given to other areas in which Huizhou Three Carvings products can be applied, as well as opening up this industrial chain and combining more industrial chains to achieve mutual promotion and upgrading between industries.
2. Relations generate the system: As relationships increase, regional systems become stronger and more resilient. When this principle applies to the Huizhou area, it is mainly the combination and connection of various industries, which will have a beneficial impact on the overall local economic development and create more opportunities.
3. The system is self-generating: Rural contexts are usually very reluctant to change, however to go towards a new sustainable development they need to be flexible and adapt to new situations. In the context of the new era, the Huizhou area should pay more attention to advancing with the times and introduce new talents and technologies.
4. Actions are local: The operational context is prioritized, by wisely using local resources. Industrial integration in Huizhou is bound to be formulated in light of its own circumstances.
5. Human being is at the center of the project: The relationship between man and context is the heart of the project, not in an anthropocentric way. The purpose of the industrial integration in Huizhou is to make good use of the original resources, to better upgrade the regional economy, and to better protect, inherit and develop the intangible cultural heritage.

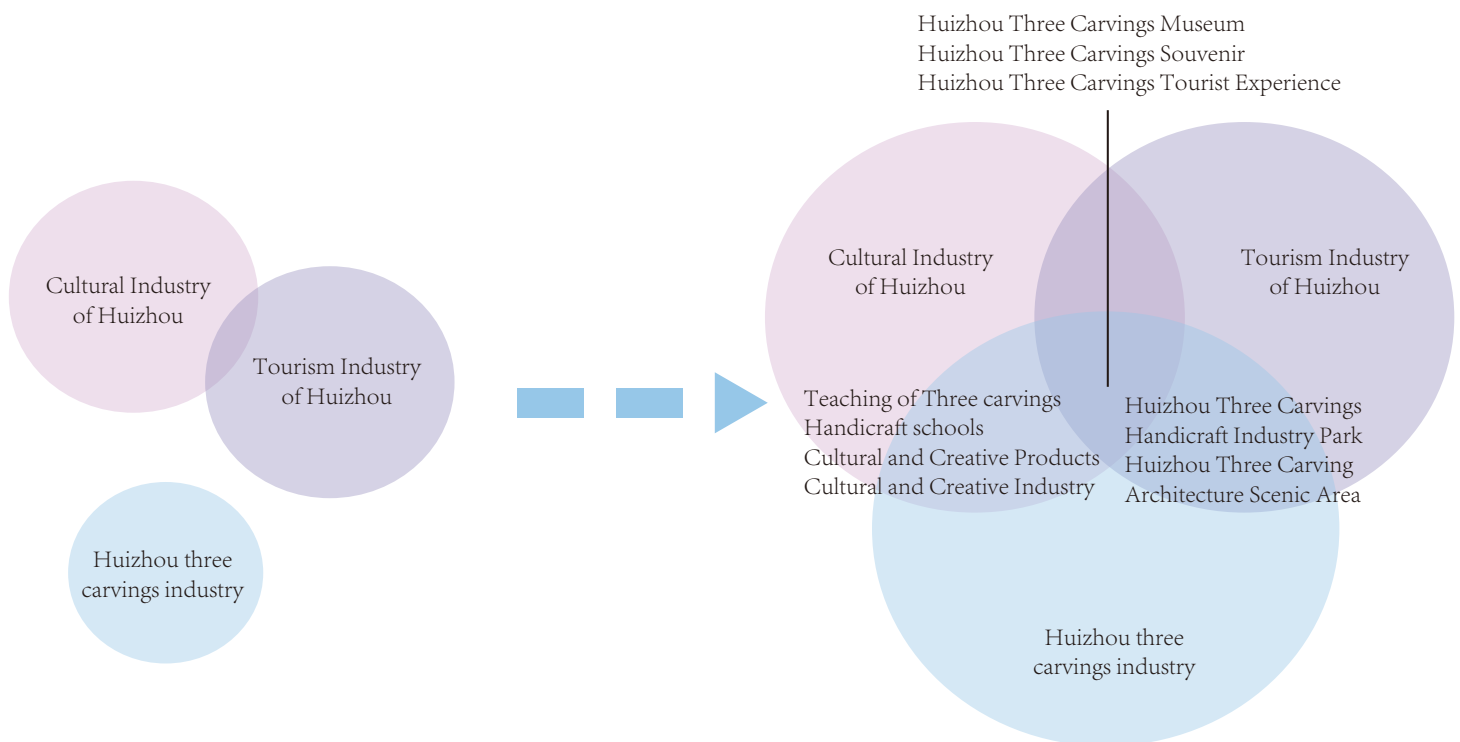


Figure 5.5 Example of industrial integration in Huizhou area (Image source: author's drawing)

When thinking about the industrial integration in Huizhou, we mainly start with the relevance and possible integration of the cultural industry, the tourism industry, and the three carvings industry. The current three carvings industry is relatively separated from other industries in Huizhou area, and it is not highly inter-connected. Through system design methods and ideas, combining them with other industries can achieve the effects of industrial integration and mutual promotion.

When combining the three carvings industry with the cultural industry, the main consideration is to rely on the education industry and cultural and creative industries. In the education industry, local colleges and universities can add courses and majors related to Huizhou three carvings, or establish schools and institutions with craftsmanship as the main focus. Considering that cultural and creative industries can involve many levels, cultural and creative industrial parks can be gradually developed from cultural and creative products with the theme of the three carvings.

When Huizhou three carvings industry is combined with the tourism industry, since Huizhou itself has a lot of historical Hui-style buildings, they should be fully utilized to create a cluster of Huizhou three carvings architecture scenic areas or ancient architecture appreciation lines to facilitate a tourist route and form a tour system. The Huizhou three carvings industrial park should also be established, so that the three carvings craftsmen can form a scale and gathering effect, and the park itself can also be used as a tourist attraction to attract foreign tourists.

The combination of the three industries mentioned above has created a cultural tourism industry related to Huizhou three carvings, which can include museums, cultural and creative products for tourists, and tourist experience services of Huizhou three carvings.

5.4 Huizhou Three Carvings Online Platform Design

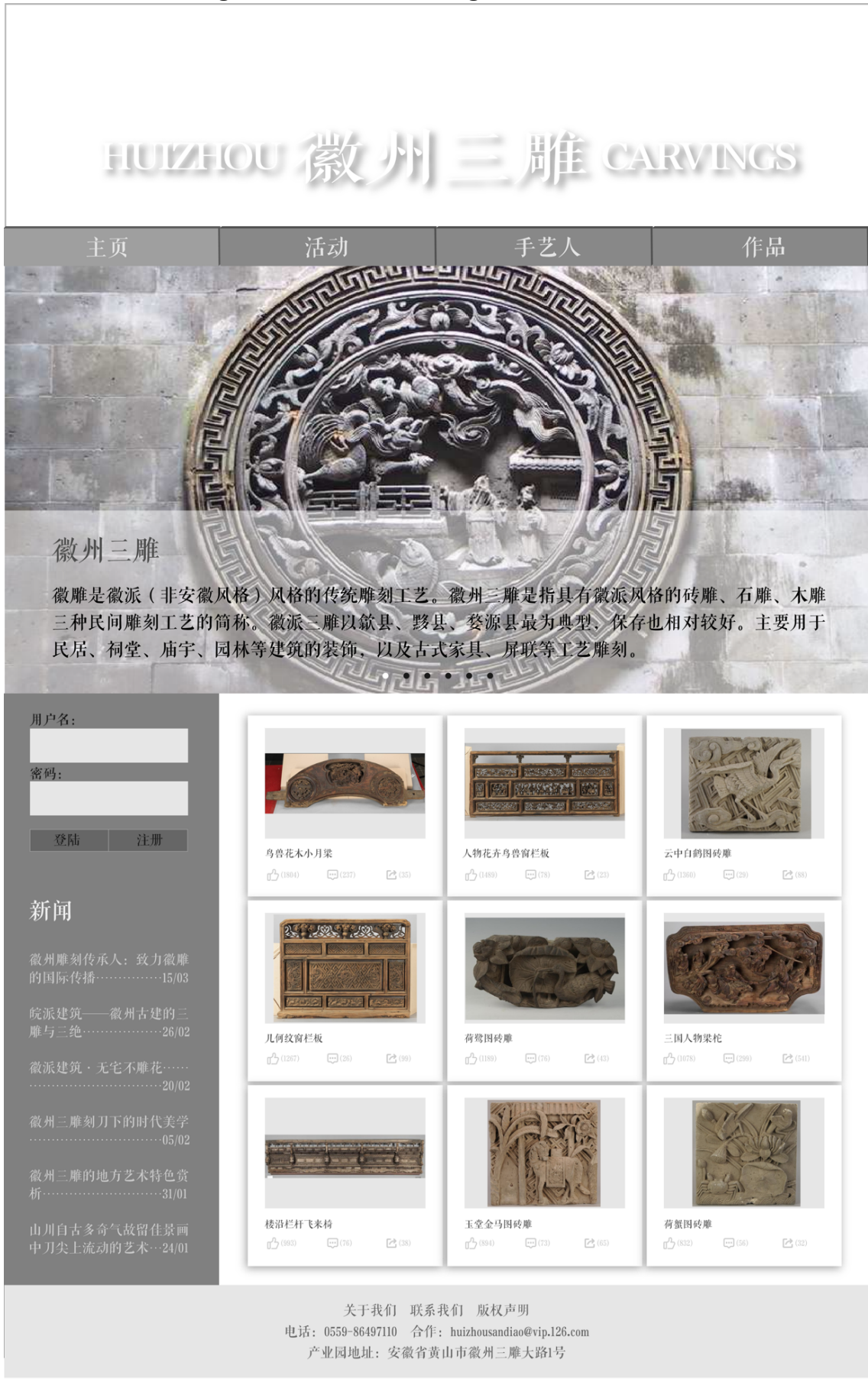


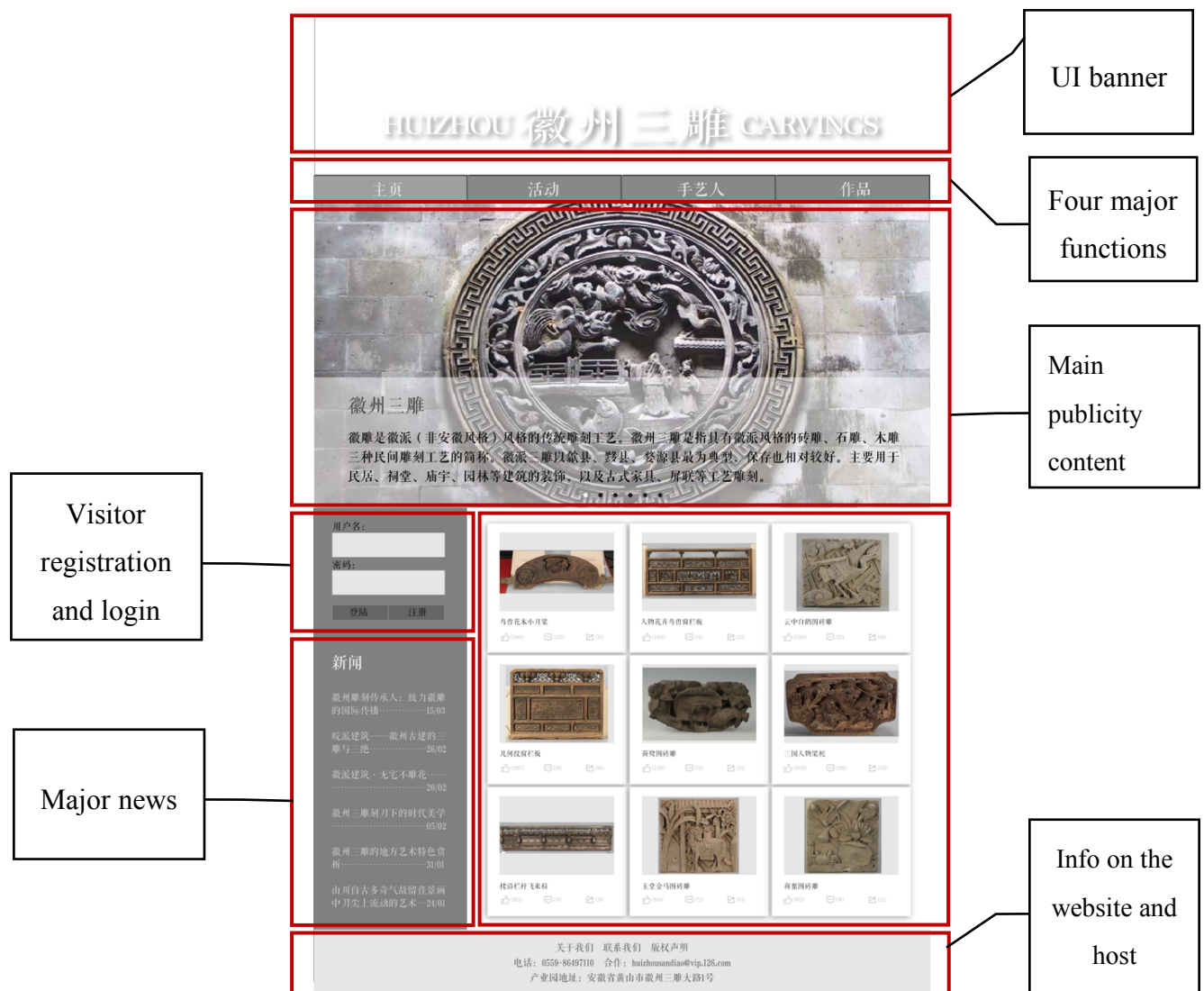
Figure 5.5.1 Online platform homepage (Image source: Author's drawing)

In the previous section, specific schemes for optimizing the industrial chain have been given, among which there is the item of building online resource platform. According to the system innovation principle of the Huizhou three carvings industry, the author has designed an online resource integration platform for the Huizhou three carvings industry. The homepage is shown in Figure 5.5.1.

The overall style of the homepage is concise, without any complicated interfering factors. The selection of fonts and colors adopts an ancient style with a shadow, imitating a carving style, which makes the visitors understand the theme of Huizhou three carvings at a glance.

The functional area distribution of the web page is shown in Figure 5.5.2:

Figure 5.5.2 Introduction of the main function area of the homepage (Image source: Author's drawing)



The main function of the website integrates promotion and sales. The main publicity content generally involves the introduction of Huizhou three carvings, such as the historical stories, development status, and recent events. They are presented in a rolling form and can display information on and on. The main news report column is set on the left,

which is used to release some information related to the three carving industry in Huizhou, such as activities, competitions, and policies.

The website displays and sells three carvings products at the same time, and there will be many three carving works displayed in the lower right corner of the homepage. Visitors are registered and logged in to comment and like, and to facilitate the purchase of goods. At the same time, they can also make an appointment to participate in some experience activities or parties related to Huizhou three carvings.

The activity page is shown in Figure 5.5.3:



Figure 5.5.3 Activity interface function introduction (Image source: author's drawing)

You can search for the content of the event in the upper right corner of the page. Recent events will be displayed at the top of the page. Larger events will be placed in the most conspicuous position. There should always be some highly engaging and experiential activities to give more people a chance and develop interests in, understand and even experience the charm of Huizhou three carvings.

The lower half of the column is a review of the previous events. Visitors can learn about the previous events and learn more about the culture and related knowledge of the three carvings.

HUIZHOU 徽州三雕 CARVINGS

主页

活动

手艺人

作品



近期活动



匠心—文物背后的匠人精神

回首中华文明的历史长卷，有一个群体，他们很少留下姓名与故事，很少出现在历史的记载中，但他们却是文明的重要缔造者。他们靠着探索与钻研，凭着专注与坚守，带给世人一件件精美绝伦的“中国制造”...



“欢欢喜喜过大年”暨非遗展示送春联活动.....2019/02/10



国际志愿者日系列活动安排.....2019/02/02



安徽文博讲堂——中国改革：从安徽开始.....2019/01/31

往期回顾

匠心—文物背后的匠人精神

回首中华文明的历史长卷，有一个群体，他们很少留下姓名与故事，很少出现在历史的记载中，但他们却是文明的重要缔造者。他们靠着探索与钻研，凭着专注与坚守，带给世人一件件精美绝伦的“中国制造”...



主办单位: 安徽省文化厅
展出时间: 2018/12/02-2018/12/31
展出地点: 安徽博物院新馆

关于我们 联系我们 版权声明
电话: 0559-86497110 合作: huizhousandiao@vip.126.com
产业园地址: 安徽省黄山市徽州三雕大路1号

Figure 5.5.4 Interface of activities (Image source: made by the author)



Figure 5.5.5 Craftsmen interface function introduction (Image source: made by the author)

As shown in Figure 5.5.5, the interface of craftsmen is mainly designed to show the styles of craftsmen, because for the traditional handicraft of Huizhou Three Carvings, its inheritor is actually the representative of the traditional culture itself. The attention given to the inheritors is just as important as the one given to the artworks. Telling the stories of craftsmen is more likely to arouse the readers' interests and more likely to produce empathy.

As shown in Figure 5.5.6 is the artwork/product interface, the main purpose is to display the works and generate sales of the three carvings. There are general product categories on the left side of the page, and a "private customization" category has been added to facilitate consumers in need to contact the craftsmen through private message. Visitors who browse casually can enjoy the latest masterpieces through the category of works.

HUIZHOU 徽州三雕 CARVINGS

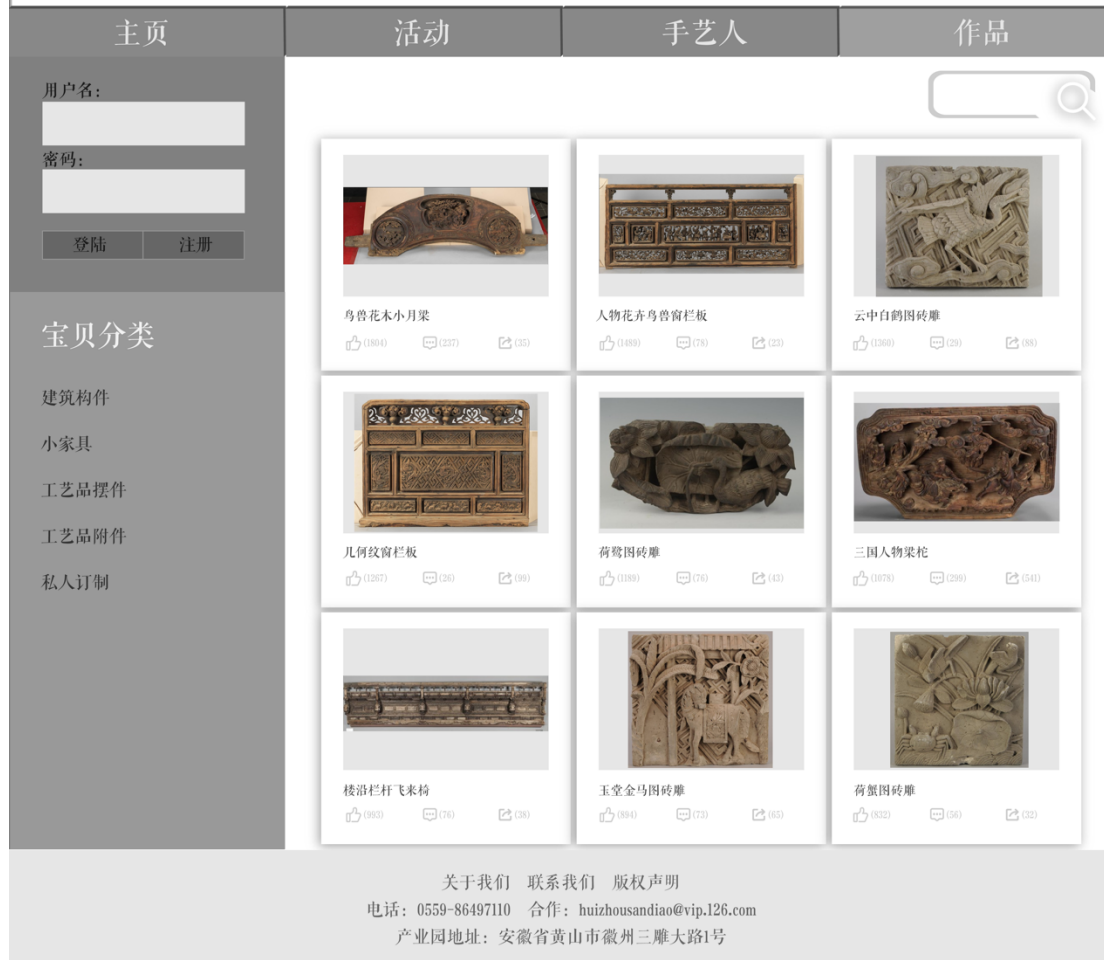


Figure 5.5.6 Interface of Artworks (Image source: made by the author)

If the visitor is interested in one of the works, he/she can click on the detailed information, as shown in Figure 5.5.7, which contains the detailed picture, price, size, author, and detailed introduction of the work and “like”s and comments by the other visitors. Consumers can choose to add to the shopping cart or buy immediately.

HUIZHOU 徽州三雕 CARVINGS

主页

活动

手艺人

作品

用户名:

密码:

登陆注册

宝贝分类

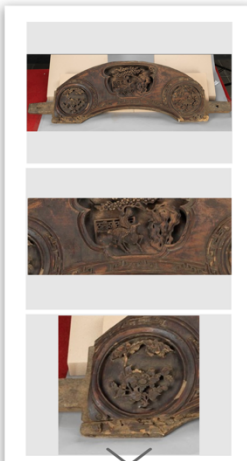
建筑构件


小家具

工艺品摆件

工艺品附件

私人订制





鸟兽花木小月梁

售价: 6888 元

1804 237 35

加入购物车立即购买

作品详情:

尺寸: 20cm*8cm

作者: 佚名

雕刻方法及内涵: 状如一弯新月, 故名, 起到柱间联系并承重的作用。小月梁雕刻主题图案为“鹿鹤同春”和“麒麟喜鹊”, 寓意天下皆春, 抬头见喜, 反映徽州建筑实用与审美相结合。

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Figure 5.5.7 Work details page (Image source: Author's drawing)

Chapter VI Conclusions and Outlook

From the perspective of system design, this paper investigates the process of Huizhou three carvings from production to output and sales, and finds places in the system that are not scientific or can be improved, such as the use of raw materials, production methods, marketing channels, Sales methods, promotion models, etc. Through the reference of other traditional handicraft innovation models, the theory is applied to the art of three carvings in Huizhou, and specific cases are analyzed to make a feasible system upgrade plan for the three carvings industry.

From a micro perspective, research in this area can help the development of local craftsmen. On the one hand, they can create products that advance with the times, and on the other hand, the industrial chain can be more efficient. From a macro point of view, this is not only a practical method that Huizhou Three Carving can use, but also a methodology that many traditional craftsmanship in China and the world can learn from. It has a reference significance for the protection, promotion, inheritance and innovation of traditional culture.

6.1 Main Research Conclusions

After investigating the three carvings industry, craftsmen, inheritance, management institutions and policies, sales channels, and publicity platforms in Huizhou, this article systematically analyzed the three carvings industrial chain and its related influencing factors in Huizhou. After that, this thesis found the deficiencies in these aspects of the current Huizhou three carvings industry innovation from the aspects of design concept, product form carrier, sales model, publicity model, and industrial management, combined with advanced foreign case studies, and proposed corresponding industrial upgrade suggestions.

After analyzing the system design method, the author puts forward a redesign plan of the Huizhou Three Carvings Industry System. The three carvings industry should be regrouped to form a clustering effect, promote the combination and development of new technologies, new concepts and traditional crafts, and promote competition and innovation. For the marketing model, on the one hand, new marketing models need to be created offline, such as integrated marketing and experiential marketing. On the other hand, online marketing also requires good integration and management. Aiming at the way of communication, the Huizhou Three Carvings industry needs to strengthen its relationship with the tourism industry, and at the same time seek opportunities for cooperation with fashion brands and large institutions to organize exhibitions and more.

Finally, the author designed and produced the Huizhou three carvings online platform, which focuses on the key point of the lack of resource integration and promotion and marketing platforms in the industry. The functions of propaganda, product sales, and popularization of the emblem culture are integrated, the purpose of which is to gather together the entire Huizhou three carvings system.

6.2 Innovation of Thesis

The innovation of this article is first of all to optimize the industrial chain of the three carvings by using systemic thinking to form an industrial cluster. After the reorganization of the three carving industry, on the one hand, the three carving techniques can learn from each other. Many products do not necessarily consist of only one material. The three carvings materials are originally complementary to each other in architecture. Therefore, products can naturally be combined with each other. On the other hand, advanced technology and skills also have a driving effect. Furthermore, the idea of system design requires that the optimization of the industrial chain also includes redesign at the political, economic, cultural, and social levels, including all factors that may affect the industrial chain.

The second is the innovation of its marketing model from the perspective of system design and experience services. On the one hand, new marketing models need to be created offline, such as integrated marketing and experiential marketing. After the three carvings industry has formed an clustering effect, integrated marketing can form a characteristic three carvings sales center. Here, it can provide customers with experience activities and private custom services, as well as hold masters' meetings and school students practice activities, which brings more traffic and can form local characteristics. On the other hand, online marketing also requires good integration and management. Establish a online sales platform and a database / online museum of three-carving arts, products, and craftsmen. Because the online platform is not restricted by any time and place, it can achieve a wider marketing effect and attract more audience, let more people know the story of the three carving arts and craftsmen.

6.3 Research Outlook

The theory and research of systemic design is still in its development, and different design schemes will be generated when applied to different cases. The author applies the ideas of systemic design to the redesign of the Huizhou three carvings industrial system, from the industrial chain, marketing, communication, many aspects of protection management have been systematically redesigned, and an online resource integration platform corresponding to the three carvings industry in Huizhou has been established. However, the following aspects need to be further studied and practiced to complement the ideas and strategies proposed in this article:

(1) This article proposes that the product, design and production technology of the three carvings in Huizhou need to be more innovative, and the direction and method are also proposed. However, the specific application in practice requires specific operation and design schemes, and it needs to be tested by the market. This requires future research and practices to explore step by step.

(2) Due to the large implementation cost, the long period, and the large number of units and personnel involved, the author was unable to allow the Huizhou three carvings Industry to truly achieve industrial clustering during this period. Although there are some methods now, there will definitely be many difficulties in policy and implementation. Later theoretical research needs suitable correction and management methods based on actual conditions.

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