

**SYNTHESIZING HUNAN CULTURAL CAPITAL FOR
INNOVATIVE FURNITURE DESIGN**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE IN INDUSTRIAL EDUCATION
PROGRAM IN TECHNOLOGY OF INDUSTRIAL DESIGN
SCHOOL OF INDUSTRIAL EDUCATION AND TECHNOLOGY
KING MONGKUT'S INSTITUTE OF TECHNOLOGY LADKRABANG
2024
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Title	SYNTHESIZING HUNAN CULTURAL CAPITAL FOR INNOVATIVE FURNITURE DESIGN
Student	YANG LIU
Student ID	66036109
Degree	Master of Science in Industrial Education Program in Technology of Industrial Design
Academic Year	2024
Advisor	Professor ATTAMA SARIBUTR
Co-Advisor	Associate Professor CHATURONG LOUHAPENSANG

ABSTRACT

The goal of this study is to integrate Hunan cultural capital to innovate furniture design; the goal is to design furniture that conforms to the characteristics of Hunan culture; the goal is to study consumers' satisfaction with Hunan cultural furniture. Three questionnaires were designed according to the three goals, divided into three overall samples. Questionnaire 1: Purpose sampling was used to collect data from 90 people. Questionnaire 2: Design new furniture with Hunan culture as the theme, prepare questionnaires, and invite three expert designers to evaluate the new design. Questionnaire 3: Questionnaires were made for new furniture designs, and customers were asked to rate their satisfaction after viewing the products. Random sampling was used to conduct a consumer satisfaction survey, with a target sample size of 200 people. This study analyzed the history and current situation of Hunan furniture, conducted market research, studied consumer satisfaction, and concluded that the influence of Hunan's traditional craftsmanship, materials, and cultural symbols on modern furniture design. The demand for personalized customized design has risen, and cultural creativity has become the key. Consumers pursue a unique furniture experience, especially in the high-end market, and the combination of personalization and cultural creativity will become a competitive advantage. Hunan's rich culture provides a deep foundation for furniture design. Traditional elements can enhance market appeal, but they need to be combined with modern aesthetics and functions to meet consumers' expectations for diversity, practicality, and beauty. At the same time, environmental protection and sustainable design are gaining more and more attention, and products made of natural materials such as rattan and bamboo are very popular.

Keywords: Hunan culture, furniture, creation, design

ACKNOWLEDGEMENTS

This paper was published in It was done under the careful guidance of Tutor Attama Saributr.

The tutor's profound professional knowledge, rigorous academic attitude, work style of excellence, tireless noble teacher morality, strict self-discipline and lenient treatment of others, simple and approachable personality charm have a profound impact on me. It not only enabled me to set lofty learning goals and master basic research methods, but also made me understand a lot of principles for dealing with people.

From the selection of the topic to the completion of this paper, every step was completed under the careful guidance of the supervisor, and a lot of effort was poured into the supervisor. Here, I would like to express my high respect and heartfelt thanks to the mentor! In the process of writing the paper, I encountered a lot of problems, and under the patient guidance of the teacher, the problems were solved.

So here, I would like to say to the teacher again: Thank you, teacher.

YANG LIU



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CHAPTER 1

INTRODUCTION

1.1 Background

Hunan culture refers to a historical and cultural form that has distinctive characteristics, is relatively stable, and has inheritance relationships. (Zhu Hanmin. 2011) Hunan's history includes the Changsha Kiln, which produced porcelain that was exported to Southeast Asia and Japan. It is also the province in southern China where the most ancient Shang Dynasty bronzes have been found. (Jia, Yonghua. 2007) This can combine ancient and modern furniture and play a role in modern society. Hunan's media has had a huge impact across the country and even the world, which can better promote the furniture in Hunan culture to the world.

The field of furniture design is continuously evolving, driven by the dynamic interplay of cultural influences, market demands, and creative innovation. As globalization progresses, there is a growing appreciation for design that not only embraces modern aesthetics but also reflects and preserves cultural heritage. (Guo Lixin. 2006) In this context, the fusion of regional cultural capital with contemporary design practices has emerged as a compelling avenue for creating unique and meaningful furniture pieces.

Hunan Province, located in the heart of China, boasts a rich tapestry of cultural heritage, including a diverse range of traditions, art forms, and historical influences. (Lin Wei. 2008) This study aims to delve into the depths of Hunan's cultural capital and investigate its potential impact on furniture design. By synthesizing traditional Hunan elements with modern design principles, the research seeks to uncover new dimensions of creativity and cultural expression in the realm of furniture design.

Hunan's cultural identity is characterized by a blend of Confucian, Taoist, and Buddhist philosophies, traditional crafts, distinctive local dialects, and a long history of artistic achievements. These cultural facets serve as a wellspring of inspiration for designers seeking to infuse authenticity and cultural resonance into their creations. Understanding and harnessing Hunan's cultural capital in furniture design not only contributes to the preservation of heritage but also offers a unique perspective that resonates with consumers in an increasingly globalized market.

The globalization of design trends often leads to a homogenization of products, diluting cultural distinctions. Therefore, there is a critical need to explore ways in which regional cultural capital, such as that found in Hunan, can be integrated into the design

create furniture that reflects a sense of place, history, and process to identity.

This study aims to bridge this gap by investigating the relationship between Hunan cultural capital and furniture design, exploring the challenges and opportunities faced by designers in the synthesis of tradition and modernity.

By examining the extent to which Hunan's cultural elements can be seamlessly woven into contemporary furniture designs, this research seeks to provide insights that not only enhance the cultural authenticity of the products but also contribute to the sustainability and competitiveness of the furniture design industry. The collaboration between designers and local artisans, the impact on consumer preferences, and the economic implications for the region are all aspects that will be scrutinized to provide a comprehensive understanding of the study's objectives. (Guo, Y. 2007). Ultimately, this exploration of the synthesis of Hunan cultural capital in furniture design aims to contribute to the broader discourse on cultural sustainability and innovation within the design industry.

From the background of this research, the researcher is therefore interested in study and synthesis Hunan cultural capital for furniture design. To create guidelines for determining the direction of furniture design from Hunan culture. From the application of arts and culture, craftsmen, materials, technology, and various production techniques.

1.2 Research Objective

- 1.2.1 Synthesizing Hunan Cultural capital for Innovative Furniture Design
- 1.2.2 Design furniture from Hunan cultural capital
- 1.2.3 Study consumer satisfaction from furniture design from Hunan cultural capital

1.3 Concept Framework

Through sorting out the history and culture of furniture in Hunan traditional culture and comparative analysis and research on furniture materials, craftsmanship and technology, we summarize the styles and style characteristics of Hunan traditional furniture, explore the factors that formed them, and analyze the motivations for the formation of Hunan furniture styles and styles.

The formation of product type styles and decorative patterns, exploring the

craftsmen's production concepts from Hunan furniture construction technology, the interaction between craftsmen, tools and crafts, thinking about the relationship between crafts and people and the cultural inspiration of crafts and people. Think about the overview, characteristics, production technology, design principles, furniture style, development history, market prospects of Hunan traditional furniture, and the integration of Hunan traditional furniture and modern design.

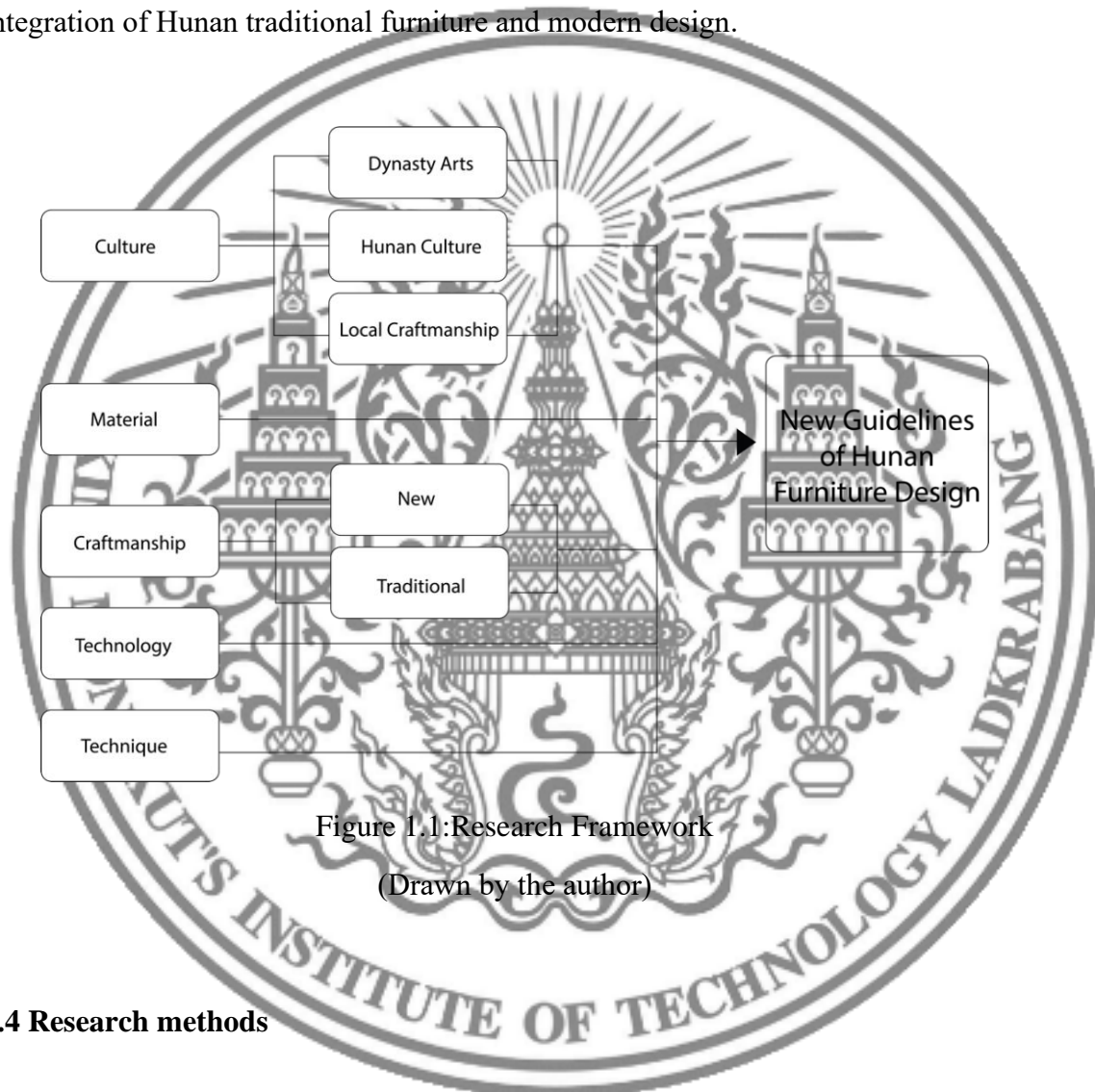


Figure 1.1: Research Framework
(Drawn by the author)

1.4 Research methods

1.4.1 Population and Sample

Objective 1: Synthesizing Hunan Cultural Capital for Innovative Furniture Design

Data will be collected from 90 individuals using purposive sampling. The survey will cover three age groups: 18-30 years old, 31-50 years old, and 51-60 years old. These 3 groups are representing the 3 consumer segments.

Objective 2: Design Furniture from Hunan Capital

Design new furniture with Hunan culture as the theme, prepare a questionnaire, invite 3 expert designers to evaluate the new design, and improve the furniture products based on the suggestions of the three experts.

Objective 3: Study Consumer Satisfaction from Furniture Design Inspired by Hunan Cultural Capital

For the design of new furniture, a questionnaire was prepared to let customers rate their satisfaction after viewing the product. A stratified sampling method was used to conduct a consumer satisfaction survey, and the sample selection range was 15-24, 25-34, 35-44, and 45-55. The target sample size is 200 people.

1.4.2 Research Tools

Objective 1: Synthesizing Hunan Cultural Capital for Innovative Furniture Design

We use "Hunan Cultural Capital Furniture Design Consumer Demand Survey" combine questionnaire survey in Changsha, focusing on understanding consumer preferences regarding Hunan cultural furniture. Key areas include historical background, materials, design, functionality, environmental concerns, and pricing. The survey uses stratified sampling with 90 participants and combines closed and open-ended questions for comprehensive data.

Objective 2: Design Furniture from Hunan Capital

We use "Innovative Furniture Design Expert Survey" to interview with experts, designers, and industry professionals to gain insights into:

The historical and cultural evolution of Hunan furniture, including its unique features and market trends. The creative process, challenges, and techniques in modernizing traditional designs, with an emphasis on craftsmanship and innovation. Market demands and innovation strategies for enhancing production efficiency and expanding market reach.

Objective 3: Study Consumer Satisfaction from Furniture Design Inspired by Hunan Cultural Capital

We use "Furniture Design Consumer Satisfaction Survey" Design a consumer satisfaction questionnaire for rosewood cane chairs, focusing on material quality, craftsmanship, design aesthetics, and functionality, with demographic factors like age, gender, and income.

1.4.3 Data Collection

Objective 1: Synthesizing Hunan Cultural Capital for Innovative Furniture Design

Literature Research: Review books, papers, and archival materials on Hunan culture and traditional furniture history to understand the development, characteristics, and cultural significance of Hunan furniture. Study academic papers, design cases, and industry reports related to Hunan cultural furniture design to gain insights into design concepts and market trends. **Field Research:** Visit museums and cultural sites in Hunan to observe and document the styles, craftsmanship, and decorative elements of traditional furniture. Engage with traditional craftspeople in Hunan to learn about the traditional manufacturing processes and material usage. Observe modern furniture designs in local markets and exhibitions, analyzing their cultural elements and consumer responses.

Objective 2: Design Furniture from Hunan Capital

Expert Interviews: Interview experts in the field to gain a deeper understanding of the history and cultural significance of Hunan cultural furniture. **Designers and Craftsmen:** Engage with Hunan furniture designers and craftsmen to obtain professional insights and practical experience. **Industry Practitioners:** Communicate with furniture manufacturers and sales personnel to understand market demands, production processes, and innovation directions.

Objective 3: Study Consumer Satisfaction from Furniture Design Inspired by Hunan Cultural Capital

Consumer Research: Design a questionnaire focusing on Hunan cultural furniture to collect consumer preferences regarding traditional design elements, functionality, and aesthetics. Organize small-scale consumer discussions to explore their perceptions and needs regarding Hunan cultural furniture. Utilize social media and online platforms to gather a broader range of consumer opinions and feedback.

1.4.4 Data Analysis

The following methods will be used to analyze the data:

Mean: Calculate the average to reflect the central tendency of the data. **Median:** Identify the middle value after sorting the data, suitable for skewed data. **Frequency Distribution:** Count the occurrences of different data values and use bar charts to display the data distribution. **Pie Chart:** Show the proportion of each part in the whole, intuitively displaying the percentage distribution of different categories. **Stacked Bar Chart:** Display the cumulative percentages of different parts, suitable for comparing

multiple groups of data.

1.5 Scope of the study

1.5.1. History & Craftsmanship

Study the development process of traditional furniture in Hunan, the evolution from ancient to modern times, focusing on the changes of representative furniture and design styles in different historical stages. Discuss the materials commonly used in traditional furniture making, such as nanmu, mahogany, bamboo, etc., and analyze their physical properties, sources and applications in furniture. Study in detail the craftsmanship of traditional furniture, including carving, lacquer, mortise and tenon structure, and understand how craftsmen give furniture a unique aesthetic and practicality through these techniques.

1.5.2. Design & Culture

Analyze the design style of traditional furniture in Hunan, including the characteristics of shape, decoration, color, etc., and study the style differences and influencing factors in different regions. Discuss the function and use of traditional furniture in daily life, such as the use of home, rituals, rituals and other scenes, and understand the practical considerations behind its design. study the cultural connotation and symbolic meaning contained in furniture design, such as the influence of feng shui, religion, folk customs and other factors on furniture design, and analyze the role of furniture as a cultural carrier.

1.5.3. Inheritance and innovation

Discuss the inheritance status of traditional furniture culture in Hunan, including the protection of intangible cultural heritage, the cultivation of inheritors and the challenges they face, analyze the measures taken by the government and society in the protection of traditional furniture culture, such as policy support, cultural promotion activities, etc. Study how to integrate the elements of traditional Hunan furniture in modern design to innovate, meet the aesthetic and use needs of modern people, and promote the modernization and transformation of traditional furniture. Analyze the positioning and communication methods of Hunan traditional furniture in the modern market and discuss how to enhance its influence and expand its competitiveness in domestic and foreign markets through marketing and cultural promotion.

1.6 Term Definition

1.6.1 Hunan cultural furniture design

Hunan cultural furniture usually refers to traditional furniture originating from Hunan Province, China. They incorporate the unique culture, craftsmanship and historical elements of the Hunan region. Hunan cultural furniture has unique characteristics and often embodies the traditional art and cultural values of the Hunan region.

1.6.2 The influence of Hunan culture on furniture design

Cultural themes and images. Hunan culture contains many traditional literary and artistic elements, such as Chuci, landscape painting, poetry, etc. These themes and images are often used to decorate furniture, such as carving or painting on the surface of furniture, giving furniture cultural connotations and artistic value. Color and material. The choice of color and material in Hunan culture also affects furniture design. Redwood, nanmu, teak and other woods commonly used in Hunan are very common in furniture, and Hunan cultural furniture often reflects rich and colorful colors. Traditional craftsmanship. The traditional woodworking, carving, and lacquerware craftsmanship in Hunan have a profound impact on furniture making. These crafts are often used to shape exquisite furniture details and patterns, enhancing the decorativeness and artistry of furniture. Cultural values. Hunan culture emphasizes the importance of family, traditional values and historical heritage. These values are often reflected in furniture design, making furniture not only practical household items, but also symbolic and culturally inherited. The integration of nature and humanity. Hunan culture emphasizes the harmonious coexistence of nature and humanity, and this concept is also reflected in furniture design. Furniture often features natural themes such as mountains, rivers, flowers and birds, reflecting the ecological awareness of Hunan culture.

1.6.3 Cross-cultural influence

The unique charm of Hunan cultural furniture design has attracted collectors and furniture enthusiasts at home and abroad, making this cultural influence span the international field and building a bridge for cultural exchanges between China and foreign countries.

1.7 Expect Benefit

1.7.1 The influence of Hunan culture and history lies in integrating traditional culture, artistic elements and values into furniture to create furniture with unique cultural connotation and artistic value. This influence not only enriches the diversity of furniture design, but also inherits the essence of traditional Chinese culture, providing a profound historical and cultural foundation for furniture design.

1.7.2 Hunan cultural furniture still has a wide market in Hunan region, and many people appreciate its unique cultural characteristics and craftsmanship. In addition, Hunan cultural furniture is also popular among collectors and furniture enthusiasts in domestic and foreign market



CHAPTER 2 LITERATURE REVIEW

Study furniture research in the cultural capital of Hunan with comprehensive concepts, articles, books, journals and related research. In order to make research more convenient for people to understand and learn, researchers collect information. Here are the relevant documents for research information.

- 2.1 History and current situation of Hunan furniture
- 2.2 Hunan furniture geographical advantages
- 2.3 Comparison of Hunan furniture culture
- 2.4 Study typical design ideas
- 2.5 Overview of Hunan Furniture Industry
- 2.6 Inheritance and Development of Hunan Furniture Carving
- 2.7 The innovative application of ancient Hunan style furniture in modern times
- 2.8 Hunan Furniture Design Communication and Promotion System and its Activities
- 2.9 Related Research

2.1 History and current situation of Hunan furniture

Hunan is one of the developed areas of ancient civilization in China, and it has been confirmed by archaeology that as early as 200,000 or 300,000 years ago, there were human beings who multiplied. In recent years, more than 60 Paleolithic cultural relics have been found in Xinhuang and Huaihua in western Xiangxi, Lixian, Cili, Shimen, Jinshi, Yiyang in northern Xiangxi, Ningxiang in central Hunan and Guiyang in Hunan. About 1,000 Neolithic cultural relics have been found in the Dongting Lake area and the lower reaches of Sishui, indicating that the activities of the ancient ancestors of Hunan have been quite extensive, as shown in Figure 1. The white pottery plate made in the Neolithic period unearthed at the Tangjiagang site in Anxiang County, Hunan Province, is full of reliefs, and the precision of its carved texture is breathtaking. At present, one of the earliest Neolithic cultural relics found in China, the site of Meettou Mountain in Lixian County, Hunan Province, reflects the historical process of matrilineal to patrilineal clan society, as well as clan differentiation and transition to class society, and shows the close connection with the Central Plains culture and Jiangnan culture, as well as the differences between the provinces and regions, showing the rich connotation of Hunan's primitive culture and the achievements of the ancestors who worked hard to develop.

From the history and geography of Hunan, including the distribution of ethnic groups, climate, culture, art, economy, and natural resources Explore the local characteristics of the development of Hunan's furniture industry in other aspects. Lifestyle is a typical way of people's life activities that is formed and developed under many objective conditions based on a certain mode of production (Hu Wenyan 2002). It includes people's activities in all social fields such as labor, material consumption, politics, spiritual culture, family and daily life. People's lifestyle determines the development direction of architecture and furniture. Furniture and architecture have relied on each other, accompanied each other, and promoted each other since they were mastered by humans. On the premise of serving mankind, they have continuously created different living spaces to meet the needs of human life-architecture and novel styles of furniture (Hu Jingchu 2001).



Figure 2.1 :Neolithic white porcelain pottery
(<http://hnkgs.com/front/wwjp.do>)

2.2 Hunan furniture geographical advantages

The geographical advantage of the circulation market is extremely favorable. Hunan is located in the central region, adjacent to Guangdong to the south and the Yangtze River to the north. It is located between the South China Coastal Open Zone and the Yangtze River Basin Open Zone. It is the junction of the southeastern coastal areas and the inland central and western regions. A hub that connects the east to the west and the south to the north. (Yang Guanghua 2010)

Hunan Province is located at East Path 108. 47'~114. 15', latitude 24 N. 39 7~30.08', as shown in Figure 2.2. In the middle reaches of the Yangtze River in southern China, it is basically located in the south of Dongting Lake, so it is called Hunan. The largest river in the province, the Xiangjiang River, runs through the north and south of the province, forming the center of Hunan's political, economic and cultural development, so it is also referred to as Hunan 071L. The province borders six provinces (regions), Hubei in the north, Guangdong and Guangxi in the south, Jiangxi in the east, Sichuan and Guizhou in the west, and has become an important transportation hub and strategic place in the south since ancient times. Therefore, it provides favorable conditions for the development of cultural exchanges in all aspects, and the mutual influence and integration of folk furniture in Hunan and folk furniture in neighboring provinces and regions are also very obvious. For example, the folk furniture wood carving in Xiangxi region also has its similar wood carving patterns and decorative techniques in Wuyuan, Jiangxi, Hongcun, Anhui and other places, as shown

in Figure 3 for the Taishi chair in the three places, the overall is complex and simple, but the carving theme of the Taishi chair is some plant patterns and drama stories. At the same time, the geographical location of Hunan also created conditions for the inflow of precious wood, such as rosewood, rosewood, and iron pear wood from Guangdong, Guangxi, and Jiaozhi (present-day Viet Nam); wenge wood produced in the south such as Guangdong and Qiongdao; rosewood from the islands of Guangdong, Yunnan and Nanyang; Sichuan, Yunnan, Guangxi, Hubei and other places of Nanmu; ebony from Hainan, Nanfan, Yunnan and other places; Zhangmu in the southwest of Yuzhang (now southwest of Nanchang, Jiangxi) and so on. This also forms that some of the furniture made of precious hardwood may exist in the Hunan folk furniture, which creates a unique advantage for the Hunan folk furniture in terms of materials.



Figure 2.2: China Hunan Province map

([https://en.m.wikipedia.org/wiki/File:Hunan_in_China_\(%2Ball_claims_hatched\).svg](https://en.m.wikipedia.org/wiki/File:Hunan_in_China_(%2Ball_claims_hatched).svg))



Figure 2.3: Taishi chair

(<https://mt.sohu.com/20170616/n497317878.shtml>)

2.3 Comparison of Hunan furniture culture

The reason why Hunan culture has become a unique regional culture in its long-term historical development is that it has an open spirit of learning from others. As a regional historical and cultural form, Hunan culture has its own inherent spiritual temperament based on regional characteristics. This is the foundation and characteristics of Hunan culture. But regional culture is not formed in self-isolation. Looking at the evolution of Hunan culture over more than a thousand years, we can see that the spirit of learning from the strengths of others and being inclusive is consistent. (Lin Zengping 1988)

Hunan culture and Hunan furniture industry have gradually highlighted their local characteristics and advantages through the development in recent years. In the process of acting as an agent and imitating foreign brands, a new path has been "grafted".

The Chinese nation is industrious, simple, and has a high degree of aesthetic ability and outstanding creative talent. Due to the historical development of various ethnic groups, the way of life and geographical conditions and the different traffic conditions, etc., they have naturally formed their distinctive local colors and national folk arts and crafts with rich national characteristics. As a form of folk arts and crafts, Minwen furniture also has distinctive national characteristics. Although the Confucian culture of the Han nationality occupies a dominant position, it has formed a basic unified pattern and system of furniture, has a long history, and has profoundly influenced the ethnic minority areas, has been blended and developed, and has formed the characteristics of the Chinese nation's furniture culture; However, due to the

different historical conditions of the ethnic minorities, the differences in various cultural traditions such as living customs, aesthetic tastes, religious beliefs, etc., still exert their own creativity in the blending and development, reflecting the characteristics of different furniture styles and practices, as shown in Figure 4 reflecting the local architectural style and Figure 5 respectively reflecting the complex and refined furniture style of the Miao nationality and the Tujia family.

Hunan is a multi-ethnic province. As early as in ancient times, there were Jiuli, Sanmiao, Baipu and ancient Yue people who lived and pioneered, and had a certain connection with the Chinese culture of the Central Plains, which created conditions for the development of the splendid Chu culture. The early establishment and development of the county system promoted exchanges and development among ethnic groups and contributed to the unification of the Chinese national culture. Due to the long-term feudal rule, the development and transformation of history, the contradictions and struggles of the classes, and the migration and evolution of the nationalities, Hunan has 50 ethnic groups such as Han, Tujia, Miao, Dong, Yao, Bai, Hui, Zhuang and Uygur. According to the statistics of the fourth national census in 1990, there were 55846406 Han people, accounting for 92.5 percent of the province's population, and 4,813,400 other ethnic minorities, accounting for 7.95 percent of the province's population. The vast majority of ethnic minorities live in the remote mountainous areas of western and southern Xiangxi. Under difficult conditions, they have worked hard and made historic contributions to the development of agriculture, forestry, and animal husbandry in mountainous areas. They are good at singing and dancing, maintaining traditional customs, and creating colorful and vivid works in weaving, batik, embroidery, weaving, carving and other crafts. It has long been appreciated by people. Most of them live together in ethnic groups and form villages. Adapt to the natural geographical and climatic conditions, make propaganda according to the locality, use local materials, and unite and help each other. Helpers, help materials, create their living environment, show a variety of furniture forms and national characteristics, enrich the folk furniture art of our province.



Figure 2.4: Xiangxi characteristic stilted building

(Taken from the author himself)



Figure 2.5: Hmong furniture pot rack

(<http://www.mzbwg.com/>)

2.4 Study typical design ideas

We are discussing and comparing several classic furniture design ideas, including Hunan cultural design, Nordic design, Chinese classical design, baroque design, and industrial design. Each design idea has a unique style and character that reflects the cultural and aesthetic values of the time in which it was placed.

Hunan cultural design combines tradition and modernity, pays attention to

handicraft details and functionality, and reflects the inheritance and innovation of regional culture. Characterized by simplicity, functionality, and natural materials, with an emphasis on practicality and aesthetics, Scandinavian design has influenced global design trends. With its emphasis on symmetry, fine craftsmanship and wood texture, classical Chinese design inherits the essence of Chinese culture and influences Asian furniture styles. Baroque design is characterized by ornateness, intricacy and ornamentation, reflecting the luxury and elegance of European aristocratic culture. With a focus on modernity, simplicity and mass production, industrial design achieves functionality and accessibility through simple lines and industrial materials.

Through the study and comparison of these design ideas, we can better understand the diversity and evolution of furniture design, so as to integrate these essences in the actual design to create furniture works that are both culturally rich and in line with modern lifestyles.

Table 2.1: Comparison of classic furniture design concepts


Design Approach	Representative Works	Design Style	Main Characteristics	Influence
Hunan Cultural Design	<p>Xiang embroidery wooden chair, carved bookshelf</p>  <p>Figure 2.6: carved bookshelf (https://image.baidu.com/)</p>	Traditional and Modern Fusion	Emphasizes handcrafted details, combines modern functionality, reflects regional culture	Promotes Hunan culture, innovates traditional furniture

Table 2.1 (continue)





Design Approach	Representative Works	Design Style	Main Characteristics	Influences
Nordic Design	Arne Jacobsen's Ant Chair  Figure 2.7: Ant Chair (https://image.baidu.com)	Simple, Functional, Natural Materials	Clean lines, focuses on practicality, uses natural materials	Leads minimalist trend, influences global design
Chinese Classical Design	Ming and Qing Dynasty armchairs, Luohan bed  Figure 2.8: Luohan bed (https://image.baidu.com)	Traditional, Symmetrical, Exquisite Craftsmanship	Symmetrical shapes, intricate carvings, emphasis on wood texture	Inherits Chinese culture, influences Asian furniture

Table 2.1 (continue)

Design Approach	Representative Works	Design Style	Main Characteristics	Influences
Baroque Design	Louis XIV's court furniture  Figure 2.9: Court furniture (https://image.baidu.com/)	Luxurious, Complex, Highly Decorative	Elaborate details, emphasizes decoration and luxury, often uses gold leaf and silk	Reflects European aristocratic culture, influences classical style
Industrial Design	Eames Chair  Figure 2.10: Eames Chair (https://image.baidu.com/)	Modern, Simple, Mass-produced	Simple lines, focuses on functionality and mass production, uses industrial materials	Pioneers' modern furniture design, fits mass market

2.5 Overview of Hunan Furniture Industry

Product design is the core of industrial design and a key link for enterprises to use design. It realizes changing the form of raw materials into a more valuable form. Hunan's furniture product design started late and its development is lagging behind. "Industrial design" is the design of industrial products. Originated from the European Industrial Revolution at the beginning of the century. From the perspective of design history, the connotation of industrial design continues to change and expand with the development of the times, and its definition is also constantly improving. The understanding of industrial design is no longer limited to solving problems such as product function, structure, form, color, material, surface treatment, decoration, technology, packaging, transportation and advertising, but involves the entire process of production, management, environmental protection, circulation and consumption. The process also includes marketing, promotion and after-sales service. Industrial design is an emerging industry in our country. It can be said that its development has

been quite rapid in recent years. From the perspective of models, the first is the model of government-supported design institutions such as China Industrial Design Association and Beijing Industrial Design Promotion Center, which are specialized in the development of creative industries, undertaking design industry policy planning research, providing corporate design consulting and guidance, and carrying out exchanges and cooperation. various exhibitions, conferences and professional training institutions. The second is a professional industrial design company that gathers design experts to provide various types of creative designs. The third is that the design department model of colleges and enterprises is mainly engaged in the technological transformation of their own departments. The industrial design industry in Hunan started relatively late. It can be said that it is still at the stage where local design is rising and is not yet a very mature and developed area.

There is still a big gap in comparison. Companies in Hunan pay more attention to how their products can create profits for them, if designers do not need to imitate any development. Quite a few industrial design companies are relatively small in scale, do not have perfect management mechanisms and related systems, and have chaotic internal management, which largely restricts the development of the company. It is also not conducive to the development of industrial design in Hunan.

Hunan Province has a consumer population of more than 70 million, and the total furniture consumption market has exceeded 60 billion yuan. It is a typical furniture consumption province. However, compared with provinces with developed furniture industries, there are certain gaps in Hunan's furniture industry in terms of industrial scale, manufacturing technology, and management level. The existing product categories of Hunan furniture (home) industry mainly include living room furniture, integrated kitchen cabinets, office furniture, hotel furniture, customized furniture (wardrobes, wooden stairs and handrails, wooden doors, etc.) and soft furniture (mainly mattresses, sofas, etc.) and other varieties (Dai Xiangdong 2015)

From 2014 to 2018, the total industrial output value of furniture enterprises above designated size in Hunan was 25.2 billion yuan, 26.8 billion yuan, 29 billion yuan, 31 billion yuan and 32 billion yuan respectively, and entered the top ten in the country in 2013 and 2015 respectively. Under the great attention of the Hunan Provincial Party Committee and the Provincial Government, the "First Hunan Furniture Fair" in 2010 was held in Changsha Red Star Macalline International Home Furnishing Center. Subsequently, under the organization of Hunan Provincial Forestry Bureau and Hunan Furniture Association, the second Hunan Furniture Expo was held in Xiangxi East Furniture Market in 2012, the third Hunan Furniture Expo was held in Yiyang Shunde Furniture City in 2015, and the fourth Hunan Furniture Expo was held in Liuyang International Furniture City in 2017. The exhibitors, exhibition scale, exhibitors and well-known enterprises outside the province of Hunan Furniture Fair

have increased year by year.

As a central region, Hunan's furniture industry has made great progress in recent years. Whether it is furniture production or furniture sales network construction, it has shown a vigorous development situation, as shown in Table 2.2. The production of furniture manufacturers above designated size continues to increase, the plant area continues to expand, the marketing-based furniture enterprises contract growth rapidly, the business area expands rapidly, and the furniture shows a vigorous development situation. (China Furniture Association 2006)

Table 2.2: Hunan local furniture industry related data

Year	Production Quantity (Units)	Production Growth Compared to Last Year (%)	Export Value (Ten Thousand USD)	Export Growth Compared to Last Year (%)	Import Value (Ten Thousand USD)	Import Growth Compared to Last Year (%)
2005	1,020,178	52	722	-62.76	203	-8.65
2006	1,299,076	27	853	18.13	366	80.49

2.6 Inheritance and Development of Hunan Furniture Carving

Hunan wood carving is mainly used as the architectural decoration of traditional buildings, and is mostly carved on the gate, hall door, beam, bucket arch, patio, pavilion, door and window, partition door, screen, shrine, ancestral hall, stage, etc. As shown in Figure 2.11.

Secondly, it exists as a decoration for household production utensils and daily necessities, such as beds, tables, chairs, cabinets, etc. in furniture. Again, it is the existence of various statues of gods worshiped and carved by folk ancestors, heroes, gods and other gods on the altar for worship, which plays the dual function of showing

culture and beautifying and edifying. Greatly affected by modern mechanization, industrialization, informatization, and urbanization of production methods and lifestyles, the survival and development space of traditional handmade wood carving art is getting smaller and smaller. Experts suggest that the government and relevant departments should attach great importance to the protection and inheritance of Xiangnan woodcarving, take the lead in giving full play to the functions of policy and legal support and market-leading cultivation, and build a broad, sustainable and effective platform for the protection, inheritance and development of handmade woodcarving artists, so that the long-standing woodcarving art in Xiangnan can be passed on from generation to generation and innovated and developed.



Figure 2.11: The exquisite wood carvings of the Yin clan ancestral hall.

(https://m.thepaper.cn/newsDetail_forward_14082717)

2.7 The innovative application of ancient Hunan style furniture in modern times

Hunan Province has a profound cultural heritage and a united atmosphere for the construction of the industry team. The long-standing intangible cultural heritage of handicrafts still has high research value to guide design, production and practice; The modern association organization that keeps pace with the times provides a strong action force for the development of Hunan's internal industry. The combination of the two innovations provides diversified and stable internal development conditions for the construction of the furniture design support and promotion system in Hunan Province.

The innovation of the design concept of new Chinese furniture is first the combination of time and nationality. With the popularity of "Chinese style", the design of new Chinese furniture must promote Chinese national characteristics to the world, and it must have the characteristics of the times, and integrate and reorganize with the characteristics of modern trendy furniture and cleverly integrate and reconstruct the

characteristics of the times and national characteristics. (Liang Huajian 2011) Therefore, the design concept should be based on the living habits of contemporary people, combining the popular elements of contemporary life with traditional cultural elements.

Furniture is generally a combination of practicality and art. To achieve innovation in new Chinese-style furniture, it should reflect the characteristics of contemporary people's lives. Contemporary people live a fast-paced life, spend less time at home, and pay more attention to comfort and warmth. Therefore, the design concept of new Chinese-style furniture should reflect the way of life of contemporary people. In addition, the art of new Chinese-style furniture should have traditional Chinese cultural characteristics and combine modern elements: for example, ancient patterns that are loved by people can be put into the design of new Chinese-style furniture, or the red color commonly used in China can be used as a common color for festive furniture, as shown in Figure 2.12. It is necessary to use traditional Chinese art as a symbol to show in new Chinese-style furniture, to go to the world and bring Chinese art and culture to a wider area.



Figure 2.12: New Chinese design

(<https://www.taobao.com/list/item/660274827950.htm>)

2.8 Hunan Furniture Design Communication and Promotion System and its

Activities

In the era of national self-media, Hunan's self-media is full of flowers and has a high influence in the media industry in the central region. Numerous academic media, mass media, etc., widely disseminate cutting-edge design information and industry trends, and open private domain traffic; All kinds of design competitions jointly organized by universities and enterprises, industry associations, government organizations, etc., play a good role in encouraging and promoting design innovation in Hunan Province, and they together constitute the furniture design dissemination and promotion system in Hunan Province. The promotions are Academic media, mass media, various design competitions, Hunan Furniture Fair, Hunan Art and Design Exhibition.

The content of market promotion: mainly the company's reputation, market cultivation, market research, and product and technology publicity. The methods of market promotion: mainly advertising, exhibitions, seminars, strategic partnerships, promotional materials and success stories, public, etc. These means, expressed in a wonderful strategy, realize the content of market promotion. Among them, trade fairs have become the most effective way of publicity in the furniture industry. Through exhibitions, companies can quickly enter the key customer group: through exhibitions, companies can communicate and exchange face-to-face with professional buyers: through exhibitions, companies can obtain many orders, thus quickly entering a period of rapid growth.

In terms of furniture exhibitions, Guangdong furniture production areas have "China Guangzhou International Furniture Fair", "Shenzhen International Furniture Fair", "International Famous Furniture (Dongguan) Exhibition", "Long Furniture Boutique Exhibition", "China (Lecong) International Furniture Fair", "China International Furniture (East) Exhibition". The competition among the six major exhibitions is increasingly fierce, each with its own characteristics. Since 2001, the annual Hunan Furniture Fair in Hunan Province has always been known as the "barometer of Hunan furniture industry". Its various data reflect the sharp increase in furniture consumption in Changsha and even Hunan. The establishment of a furniture market promotion and exchange center should not only give full play to the responsibilities of local furniture associations but also strengthen the construction of corporate and guild websites, promote the local furniture industry through design magazines, and hold design competitions to achieve the purpose of communication and learning with other countries and regions.



Figure 2.13: The 28th China International Furniture Fair.
(<https://www.furniture-china.cn/lp/baidulp>)

2.9 Related Research

2.9.1 The Design of Traditional Wooden Furniture in Hunan

TANG Hao, LI Minxiu, HUANG Yixian (2021) Hunan is rich in wood resources. Commonly used raw materials for woodcarving furniture include camphor, teak, pear, nanmu, fir, camphor, cypress, etc., and camphor is the most common of these raw materials. Camphor trees are widely planted by people who seek auspicious meanings in everything because of their symbolic meaning of "evergreen". Camphor wood carvings made from this material can naturally meet their demand for quantity. In addition, camphor wood fibers are dense and not easy to crack. They also contain camphor oil that can prevent insects from infesting. These advantages make camphor wood regarded as a treasure by woodcarving artists. However, the basis for carving artists to select wood is not only the characteristics of the wood itself, but more importantly, the position of the components to be made of the wood. Taking the bed as an example, the bed frame should be stable and beautiful, which determines that the wood must be durable and solid. Therefore, ordinary people will choose miscellaneous woods such as stalks, camphor, and jujube, while mahogany, rosewood, and red sandalwood naturally become the choice of wealthy people.

Hunan residents have various woodcarving techniques, including a combination of several techniques such as intaglio, relief, openwork, and round carving (Huang Qinchao 2015). Among them, relief is very common in the decoration of woodcarving furniture, and is suitable for expressing more complex decorative patterns, such as landscapes, pavilions, and figures. It is widely used in many occasions such as chair backs, cabinet doors, and baffles of table furniture. According to the depth of the carved pattern, the relief on the furniture can be divided into deep relief, medium relief, shallow

relief, and thin relief, among which thin relief is the thinnest and shallowest relief. The relief craftsmanship on furniture is extremely high, and the highest point of the relief pattern should be level with the wood surface, and there should be no "collapse" phenomenon.

Openwork, also known as hollow carving, can make the furniture transparent, elegant, and gorgeous. Openwork carving is amazing when it is displayed alone. When it is combined with a variety of carving techniques and multi-level hollow carving appears, it is more expressive and has a strong craft appreciation. Such a combination of carving methods is often seen in furniture aprons, fences, ring boards, screens, flower boards, etc. (Zhou Qiuguang 2009).

Round sculptures, generally without backgrounds, have a front and back spatial relationship and can be appreciated from different angles. Although there was no professional term "round sculpture" in ancient times, the ends, capitals, legs, bases, etc. of ancient woodcarving furniture were mostly carved into three-dimensional figures, animals, plants, etc., which can be regarded as round sculptures.



Figure 2.14: wood carving

(<http://www.bjxmdj.com/news/detail/jiajuzhishi/227.html>)

2.9.2 The practical application of traditional mortise and tenon technology in modern furniture design

Xie Lan (2022) The application status of the structure in modern furniture design. Whether it is a traditional furniture design work or a modern furniture design, the mortise and tenon craft is a craft that cannot be ignored and plays a very important

role in the history of traditional Chinese culture. Today, with the rapid development of China's economy, the institutional system of the furniture design industry is constantly improving, many workers in the furniture industry are doing their best to promote the development and progress of the industry, and with the importance of the society to traditional Chinese culture, some amateur staff are also providing their own inspiration for the design of mortise and tenon structure. But it is worth noting that although the current antique furniture market is relatively prosperous, there are a lot of formal furniture in the market, there is no own technical creativity and content, and some staff even increase the dosage of glue in this furniture and use modern connection methods, which not only affects the use quality of furniture, but also reduces the aesthetics.



Figure 2.15: Mortise and tenon structure
(<https://image.baidu.com/>)

2.9.3 Innovation of Traditional Folk-furniture under the Contemporary Society

Zhang Qiu-mei (2020) In contemporary society, the backward production mode of folk traditional furniture technology and the economic and cultural background of agrarian society often deny the necessity of its rational component to continue to exist. However, the harmonious relationship between nature and society embodied in Minwen furniture and its corresponding. It can be used as a reference for contemporary furniture design at a higher stage of society, from which useful inspiration can be obtained. The idea of harmonious coexistence between man and nature in folk furniture still plays an active role in contemporary furniture design, which is an undeniable fact for any contemporary furniture designer. Traditional folk furniture emphasizes the isomorphic concept of creation between people and things, which is mainly reflected in two aspects:

furniture materials and production technology. In the use of traditional folk furniture, the use of materials is generally based on local materials, according to the material conditions or because of the simplicity, such as camphor wood, catalpa wood, pine, cypress, bamboo grass and stone. Often related to its local forest resources, native geological and biological resources, the materials used in the production of furniture are based on the premise of not destroying the natural ecology, emphasizing the harmonious coexistence of human and natural resources.

2.9.4 Research on the Application of Culture Genetic Extraction and Design of Traditional Bamboo Furniture in Western Hunan

Xiao De-rong JIN Kai-li Zhang Chi (2019) Through the extraction, screening and map construction of the cultural genes of traditional bamboo furniture in Xiangxi, using graphic data research methods such as analytic hierarchy process, the traditional cultural factors with local ethnic characteristics were selected for furniture innovation design practice, and the tea set furniture and reading furniture were designed by using the factor model with the highest weight, which verified the feasibility and utility of the cultural gene map of traditional bamboo furniture in Xiangxi in design practice, and provided a theoretical basis and practical basis for the innovative design of traditional bamboo furniture culture in Xiangxi. In addition, in the context of regional culture, the national culture into the modern design concept, and the modern people's living habits and ways of innovative design of traditional furniture, for the promotion of regional economic development, inheritance and development of the unique national culture and further enhance the cultural value and artistic attainments of regional ethnic products has certain practical significance



Figure 2.16: Bamboo furniture

(<https://image.baidu.com/>)

2.9.5 The docking of Hunan culture excavation and modern furniture design

Yanli Huang, Xiangdong Dai, Miao Zhang (2021) The rich philosophical ideas and connotations of Hunan culture provide infinite inspiration and source for us to design modern furniture. The local temperament of Hunan traditional furniture, the shape and decoration of regional characteristics, as well as ancient buildings and national costumes all provide rich element references for modern furniture design. Today, under the historical and cultural background of realizing the great rejuvenation of the nation, Chinese designers should seek a breakthrough from Hunan culture, carry forward the valuable ideas in Hunan culture, and improve the design level of domestic designers.

2.9.6 The traditional cultural characteristics of China's furniture design

The Chinese nation is a nation that loves art and beauty. The development of furniture in China shows a deep aesthetic tradition. Like other utensils, the beauty of furniture is not only expressed in a rational and logical way, but also structural, spatial, and it is a combination of symbols and semantics through color, line, plane, form, and structure to act on people with perceptual concrete images. In terms of color, the Chinese regard red as auspicious and complete. The red color makes people feel warm and unrestrained. In terms of modeling, the straight line is used as the main geometric element, which has a stable and strong majestic bearing. In terms of decoration techniques, the use of carving, painting, inlay and other artistic means.



Figure 2.17: Moire lacquer case
(<https://image.baidu.com/>)

CHAPTER 3

RESEARCH METHODOLOGY

The scope of this study aims to fully understand Hunan culture and the integration of cultural heritage and innovation under the innovative furniture design. We will delve into the history and design concepts of Hunan traditional design. By clarifying the scope of the study, we can focus on the core elements of Hunan furniture design and provide detailed analysis and accurate conclusions for the research topic.

3.1 Objective 1: Synthesizing Hunan Cultural Capital for Innovative Furniture Design

3.1.1 Population and Sample

Overall: The survey of Hunan culture and furniture design should include potential consumers in Hunan Province who are interested in cultural heritage and furniture design. Hunan Province, especially Changsha as a cultural center. It covers individual consumers, corporate customers (such as hotels, restaurants, homestays, etc.) and related professionals such as designers and architects who have demand for furniture design. Consumers who are interested in the inheritance and innovation of Hunan culture (such as Huxiang culture). Modern consumers have higher demands for environmentally friendly materials and innovative designs, and special attention should be paid to this group of people.

Sample: Based on a total of 90 people, the sample is determined by stratified sampling or other appropriate sampling methods to ensure the representativeness of the sample. Age structure: Age can be divided into three main groups, matching the different life cycles of furniture consumption: 18-30 years old: young consumers who pay attention to design innovation and price, and have a greater demand for modern, simple and environmentally friendly designs. 31-50 years old: middle-aged consumers who focus on practicality, family applicability and design aesthetics, and may prefer designs that combine tradition and modernity. 51-60 years old and above: mature consumers who have a higher interest in traditional culture and furniture collection. Furniture consumption is often directly related to income levels, so we need to focus on the purchasing power of middle- and high-income families, culture-related professions (designers, cultural scholars, etc.), and commercial places (such as hotels, B&Bs, etc.).

3.1.2 Research Tools

In our study of Hunan traditional cultural furniture, we use questionnaires as a research tool to systematically understand the information of Hunan traditional cultural furniture. The questionnaire design will cover the following aspects: the historical and cultural background of Hunan cultural furniture, material preferences, design preferences, practicality and functionality, environmental awareness, and price acceptance. The questionnaire will be designed to be more detailed to ensure accurate data from multiple perspectives. A combination of closed questions and open questions is used to obtain quantitative and qualitative data. Ensure the neutrality of the question design and avoid leading questions.

For the survey area, Changsha, the main city of Hunan Province, was selected as the specific address of the survey. As the capital city of Hunan Province, Changsha is the center of Hunan culture, with many consumers and related practitioners, and is suitable for in-depth market research. The manufacturers, practitioners and consumers here are relatively concentrated, which can provide effective data support. It is planned to conduct stratified sampling in Changsha City with a sample size of 90 people to ensure that the sample is representative and diverse. Using the stratified sampling method, stratification is carried out according to factors such as age, gender, and income to ensure that the opinions of each group can be fully collected.

3.1.3 Creation of research tools

1. Collect information on the historical background, craftsmanship, design elements, material selection, and market trends of Hunan cultural furniture to provide a theoretical basis and design basis for subsequent research. By consulting relevant books, journal articles, museum documents, and archival materials related to Hunan culture, understand the historical evolution, cultural connotation, and differences between Hunan traditional furniture and cultural furniture in other regions.

2. Design a research questionnaire for Hunan cultural furniture to explore consumers' attitudes towards the materials, craftsmanship, design aesthetics, practicality, and price acceptance of Hunan cultural furniture. Based on the information collected in the first phase, the questionnaire questions were preliminarily designed to ensure that the questions covered key areas such as historical and cultural background, material preferences, craftsmanship, design style, environmental awareness, practicality, and price.

3. Invite three experts from KMITL to make modification suggestions on the content, structure, and operability of the questionnaire to ensure the scientificity and effectiveness of the questionnaire. Let the experts score and evaluate from the aspects

of content validity, relevance of questions, clarity of language, and logic of the questionnaire, and provide specific modification suggestions.

4. Based on the feedback from the experts, optimize the content of the questionnaire to ensure its scientificity, practicality, and effectiveness, and complete the final version. Combined with the feedback from experts, the order of questions, sentence expressions, answer options and coverage of the questionnaire were adjusted to ensure that each question could effectively reflect the research objectives. After review, the questionnaire was resubmitted to the experts after modification to ensure that all revisions met the research requirements and make necessary revisions to the details.

5. According to the pre-set sample group, 90 consumers from Changsha. Conduct actual data collection for the questionnaire to obtain consumers' true attitudes and preferences for Hunan cultural furniture. According to the stratified sampling method, the age layers are 18-30 years old, 31-50 years old and 51-60 years old. These age groups represent three consumer groups. Ensure that the proportion of participants of different age groups, genders and income levels is reasonable to ensure the representativeness and breadth of the data. A combination of online and offline methods was used to collect data through multiple channels such as electronic questionnaires, paper questionnaires and telephone interviews to ensure that the questionnaire covers the target group. The collected questionnaire data was sorted and coded, and the composition of the sample and the validity of the data were preliminarily analyzed to exclude invalid questionnaires.

3.1.4 Collecting data

1. Before data collection, the research objectives need to be clearly defined to ensure that the survey content and methods meet the research purpose. Understand consumers' needs, preferences and expectations for Hunan cultural furniture design to provide support for product design, marketing and cultural inheritance. What materials, design styles, functional requirements consumers like, whether they value environmental protection, and their price acceptance.

2. For this study, the general population is consumers over 18 years old who have demand or interest in furniture design in Hunan Province or other consumer markets related to Hunan cultural furniture. Considering time and resources, the sample size was set at 90 people to ensure representativeness of the data. Stratified random sampling is used, that is, the population is stratified by different characteristics (such as age, gender, income, etc.), and then respondents are randomly selected from each stratum. Stratified sampling ensures representativeness of each group and reduces bias.

3. Three experts developed the questionnaire and checked its validity through the project goal consistency index (IOC).

4. Determine the content of the questionnaire and modify it, as well as the respondents' awareness and attitude towards Hunan cultural furniture. Survey consumers' preferences for furniture materials (such as solid wood, bamboo, etc.), design styles (traditional style, modern style, etc.), and functional needs (comfort, aesthetics, durability, etc.). Understand the respondents' level of concern for environmentally friendly materials and sustainable design. Consumers' expectations and acceptance range for furniture prices. Ask respondents to choose from multiple options the option that best describes their situation. Allow respondents to express their personal opinions freely,

5. Use the online survey platform Questionnaire Star to design and publish questionnaires.

6. Analyze the data from the research tools

3.1.5 Data analysis

This study uses a questionnaire survey to explore consumers' preferences for the design style, craftsmanship, materials and design elements of Hunan culture furniture. The data analysis by using percentage, the process include process includes sorting, classifying and statistically processing the collected questionnaire data to reveal consumers' needs, preferences and behavioral trends. The purpose of the analysis is to extract the key demand points in the design of Hunan culture furniture, such as material selection, design style, environmental awareness, etc., to provide data support for improving product design, formulating market strategies and improving consumer satisfaction.

3.2 Objective 2: Design furniture from Hunan cultural capital.

3.2.1 Population and Sample

Find three experts to submit product questionnaires and modify the product based on their opinions.

1. Chen Kemin: Furniture Designer at Workplace: Hunan Honghai Rosewood Furniture Studio

2. Li Wenhua: Cultural Heritage Researcher at Workplace: Hunan Cultural

Museum

3. Lin Huajie: Environmental Designer at Workplace: Changsha Meixi Lake Cultural Design Center

3.2.2 Research Tools

We use the method of "Expert Survey on Innovative Furniture Design", mainly covering the following aspects. The historical and cultural evolution of Hunan furniture, the creative process, challenges and techniques of traditional and modern design, market demand and innovation strategies, let us have a deeper understanding of the furniture content of the design of Hunan capital furniture.

1. History and cultural evolution of Hunan furniture:

History of furniture: Experts can discuss the historical origins of Hunan furniture and review its evolution from traditional craftsmanship to modern design. Focus on the similarities and differences between Hunan furniture and furniture from other parts of China in terms of design style, function and usage scenarios.

Cultural characteristics: Analyze how Hunan furniture reflects the uniqueness of Hunan culture through its design, materials and decorative patterns, including its use in family, social and ceremonial occasions. Experts can also discuss the elements that have been retained and lost during the cultural evolution, and how to continue to pass on in modern design.

2. The creative process, challenges and techniques of traditional and modern design:

Creative inspiration: Designers can share their sources of inspiration when integrating traditional elements with modern design and explore how to achieve modern innovation while retaining the essence of historical culture. Specific examples include the use of color, form, material and the improvement of functionality.

Design challenges: Focus on the technical and aesthetic challenges that designers encounter in the process of combining traditional craftsmanship with modern technology. For example, how to resolve the contradiction between craftsmanship and mass production, the selection of materials under modern environmental standards, and how to ensure that the design is both beautiful and practical.

Craftsmanship and Innovation: Invite craftsmen to share how to use traditional craftsmanship in modern production and combine new technologies to improve the precision, durability and environmental friendliness of products. Through field visits and technical demonstrations, explore modern tools, machines, and intelligent

production technologies used in the production process.

3. Market demand and innovation strategy:

Market coverage and demand analysis: Industry professionals can explore the positioning of Hunan furniture from the perspective of market demand, including domestic and international markets. Analyze consumer preferences and behaviors to understand their acceptance of innovative furniture design, especially opportunities in emerging markets and high-end markets.

Production efficiency improvement: Discuss how to improve production efficiency and optimize supply chain management by introducing new manufacturing technologies. Explore how to maintain the uniqueness and quality of traditional craftsmanship in mass production.

3.2.3 Creation of research tools

1. Obtain information on the history, culture, market trends and other aspects of furniture design in Hunan, especially traditional furniture design that incorporates modern elements. Consult academic articles and historical archives on furniture design in Hunan Province to understand the evolution of traditional craftsmanship, material use and design style. Visit local furniture exhibitions, museums and handicraft markets in Hunan to understand the design styles and consumer preferences that are currently popular on the market. Obtain information on the historical and cultural background of Hunan furniture design, especially which elements are retained or innovated in modern design.

2. Design a furniture product that can reflect the cultural characteristics of Hunan and meet the needs of modern consumers and design a corresponding research questionnaire. Based on the information collected in the first step, design product sketches and concepts to ensure that it incorporates traditional and modern design elements. Preliminary design covers consumer questions about materials, craftsmanship, functionality, appearance aesthetics, environmental awareness and price acceptance, and combines closed and open questions to obtain multi-dimensional feedback. Complete the preliminary design plan for the product and design a preliminary consumer survey questionnaire.

3. Invite 3 experts from KMITL to check the research validity and reliability by using the Item of Objective Congruence (IOC) for the quality of research tools.

4. According to the feedback from experts, optimize the content of the questionnaire, practicality and effectiveness, and complete the final version. Combined with the feedback from experts, adjust the order of questions, sentence expression,

answer options and coverage of the questionnaire to ensure that each question can effectively reflect the research objectives. After review, the questionnaire is revised and resubmitted to the experts to ensure that all modifications meet the research requirements and make necessary modifications to the details.

5. Invite 3 experts with Hunan cultural furniture background or market research experience to collect data for the final design questionnaire to ensure that the design strikes a balance between cultural heritage and market demand. Invite cultural heritage experts, furniture designers and market research experts to conduct a comprehensive evaluation of product design from three aspects: cultural value, design innovation and market potential. Collect detailed feedback from the three experts on product design, especially in terms of the balance between inheritance and innovation, and the satisfaction of market demand.

6. Finalize the product design style. According to the feedback from the 3 experts, finalize the design style of the furniture product so that it meets the requirements of cultural heritage and can adapt to the modern market. According to the opinions and suggestions of experts, adjust and optimize the product design to ensure the best effect in design elements, material selection, functionality, etc. After all revisions are completed, determine the final design of the product and prepare to enter the sample production stage. Determine the final furniture product design plan and prepare for subsequent sample production.

3.2.4 Collecting data

3.2.4.1 Select three representative experts based on their influence in the industry, professional level and experience in the field of furniture design. These three experts need to have outstanding contributions in different fields (such as designers, cultural researchers, craft experts) to ensure diverse perspectives.

3.2.4.2 Distribute the questionnaire to experts via email or online survey tool and provide detailed instructions for filling it out. The questionnaire filling time was set to one week to ensure sufficient time for reflection and feedback.

3.2.4.3 After the questionnaire is distributed, appropriate follow-up is conducted to ensure that experts submit complete answers in a timely manner and answer their questions during the filling process.

3.2.4.4 Analyze the data from the research tools.

3.2.5 Data analysis

This study uses questionnaire survey data to explore experts' analysis of the design aesthetics, craftsmanship inheritance, material selection and cultural value enhancement strategies of mahogany rattan stools. The data analysis by using percentage, the process include process includes sorting, classifying and statistically processing the collected questionnaire data to reveal experts' preferences and behavioral trends. The purpose of the analysis is to extract experts' key demand points for mahogany rattan stools, such as design aesthetics, craftsmanship inheritance, material selection and cultural value enhancement strategies, etc., to provide data support.

3.3 Objective 3: Study consumer satisfaction from furniture design from Hunan cultural capital

3.3.1 Population and Sample

In the survey on the design of redwood rattan chairs for cultural furniture in Hunan, samples were selected for four age groups: 15-24, 25-34, 35-44, and 45-55. According to the relevant demographic data of Hunan Province and the main target consumer groups of redwood rattan chairs, a stratified sampling method can be used to ensure that consumers of different ages have a suitable proportion in the survey, assuming that the total sample size is 200 people. Changsha residents, those engaged in or learning design-related majors.

15-24 years old. Target population characteristics: Most consumers in this age group are young people, and their consumption needs tend to be fashionable and innovative. They may have a certain interest in traditional cultural elements but prefer the integration of modern design.

25-34 years old. Target population characteristics: Consumers in this age group are in the transition period between work and family life, have high requirements for the practicality and aesthetics of furniture, and have high purchasing power and aesthetic pursuit

35-44 years old. Characteristics of the target population: Consumers in this age group usually have a stable family and career, have a deep affection and identification with traditional culture, and pay more attention to the quality, cultural connotation and long-term use value of furniture.

45-55 years old. Characteristics of the target population: Consumers in this age group usually have a strong sense of identification with traditional culture, attach more importance to the cultural heritage and collection value of furniture, have strong purchasing power, and have high requirements for high-end furniture design and

craftsmanship.

3.3.2 Research Tools

We use the "Furniture Design Consumer Satisfaction Survey" questionnaire, which mainly covers the following aspects: material quality, craftsmanship level, design aesthetics, functional evaluation and consumer demographic factors of Hunan cultural capital furniture design, aiming to gain a deeper understanding of the satisfaction of consumers of mahogany rattan chairs.

1. Investigate whether consumers are satisfied with the source of the materials used in mahogany rattan chairs, and whether they think the materials are sustainable and environmentally friendly. Ask consumers about their intuitive feelings about the overall material quality of mahogany rattan chairs, including hardness, durability, corrosion resistance, etc.

2. Evaluate consumer satisfaction with the production process of mahogany rattan chairs, including details such as splicing, carving, and polishing. Understand whether consumers recognize the degree of innovation in the craftsmanship of mahogany rattan chairs, such as whether there are unique connection methods or decorative techniques.

3. Investigate consumers' preference for the design style of mahogany rattan chairs, whether they think it conforms to modern aesthetics or has traditional charm. Ask consumers about their satisfaction with the color matching and shape design of mahogany rattan chairs, and whether they think it can be integrated into the home environment.

4. Evaluate the comfort of mahogany rattan chairs, including whether the design of seat cushions, backrests and armrests is ergonomic. Understand consumers' satisfaction with rosewood rattan chairs in actual use, such as whether they are easy to move, clean and maintain.

5. Analyze whether there are differences in the satisfaction of consumers of different age groups with rosewood rattan chairs. Consider statistical factors such as gender, income level, and occupation to explore whether these factors have an impact on consumer satisfaction with rosewood rattan chairs.

3.3.3 Creation of research tools

1. Design a "Furniture Design Consumer Satisfaction Survey" based on the designed products. First, fully understand and analyze the designed furniture products,

including their functions, appearance, materials, and user experience. Clarify the target consumer groups, understand their needs and expectations, and formulate relevant hypotheses. The main purpose of the survey is to understand consumers' satisfaction with furniture design, including opinions on user experience, appearance design, quality, price, etc. Based on the above analysis, design a preliminary satisfaction survey questionnaire, including product functions, appearance design, quality, etc.

2. Invite three experts from KMITL to make modification suggestions on the content, structure, operability, etc. of the questionnaire. Ask the experts to score and evaluate the questionnaire from the aspects of content validity, relevance of questions, language clarity, logic, etc., and make specific modification suggestions.

3. According to the feedback from experts, optimize the content of the questionnaire, practicality and effectiveness, and complete the final version. Combined with the feedback from experts, adjust the order of questions, sentence expression, answer options and coverage of the questionnaire to ensure that each question can effectively reflect the research objectives. After review, the questionnaire is revised and resubmitted to the experts to ensure that all modifications meet the research requirements and make necessary modifications to the details.

4. Online survey: Platform selection: We have chosen multiple popular online questionnaire platforms (Wenjuanxing), which provide rich questionnaire design tools and data analysis functions.

Questionnaire release: Publish the questionnaire link through channels such as WeChat and email, inviting the target consumer group to participate in the survey.

5. Finally, the consumer satisfaction survey questionnaire for the design product was completed, and the final questionnaire was determined to include the following parts. Basic information of consumers, satisfaction with furniture design, covering functionality, appearance design, material quality, price, preference for furniture, etc. Open-ended questions to collect consumers' suggestions for furniture design improvements. The questionnaire was published and collected online to improve data collection efficiency. Based on the collected questionnaire data, preparations were made for subsequent data analysis and report writing.

3.3.4 Collecting data

1. The online questionnaire is released through platforms such as questionnaire Star, and measures are set to prevent repeated filling in.

2. Data collection is expected to be completed within two weeks by online data filtering: Use the questionnaire platform's tools to filter out duplicate, invalid or

incomplete responses.

3. Analyze the data from research tools

3.3.5 Data analysis

This study uses a questionnaire survey to analyze the factors that consumers value when purchasing mahogany rattan stools and their views on stool satisfaction. The data analysis process by using percentage, the process include includes arranging, classifying and statistically processing the collected questionnaire data to reveal the importance consumers attach to the design, material, cultural value and price of rosewood rattan stools, as well as their feedback on the overall satisfaction and environmental performance of the stools. Through these data, the author analyzed the importance consumers attach to the design, material, cultural value and price of rosewood rattan stools, as well as their feedback on the overall satisfaction and environmental performance of the stools.

Study relevant literature theories, collect relevant research materials, and understand the interview questions set by users. The "Furniture Design Consumer Satisfaction Survey" selects Changsha citizens as consumers to analyze whether the cultural and creative product design solves and improves the problems raised by the author. In order to form a feasibility test report, collect information and analyze data. Including relevant literature research summary and research results.

Changsha citizens use a questionnaire, and the scoring criteria are as follows:

4.51-5.00	means	very satisfied
3.51-4.50	means	satisfied
2.51-3.50	means	moderately satisfied
1.51-2.50	means	low satisfied
1.00-1.50	means	the least satisfied

3.4 Flowchart of the research process

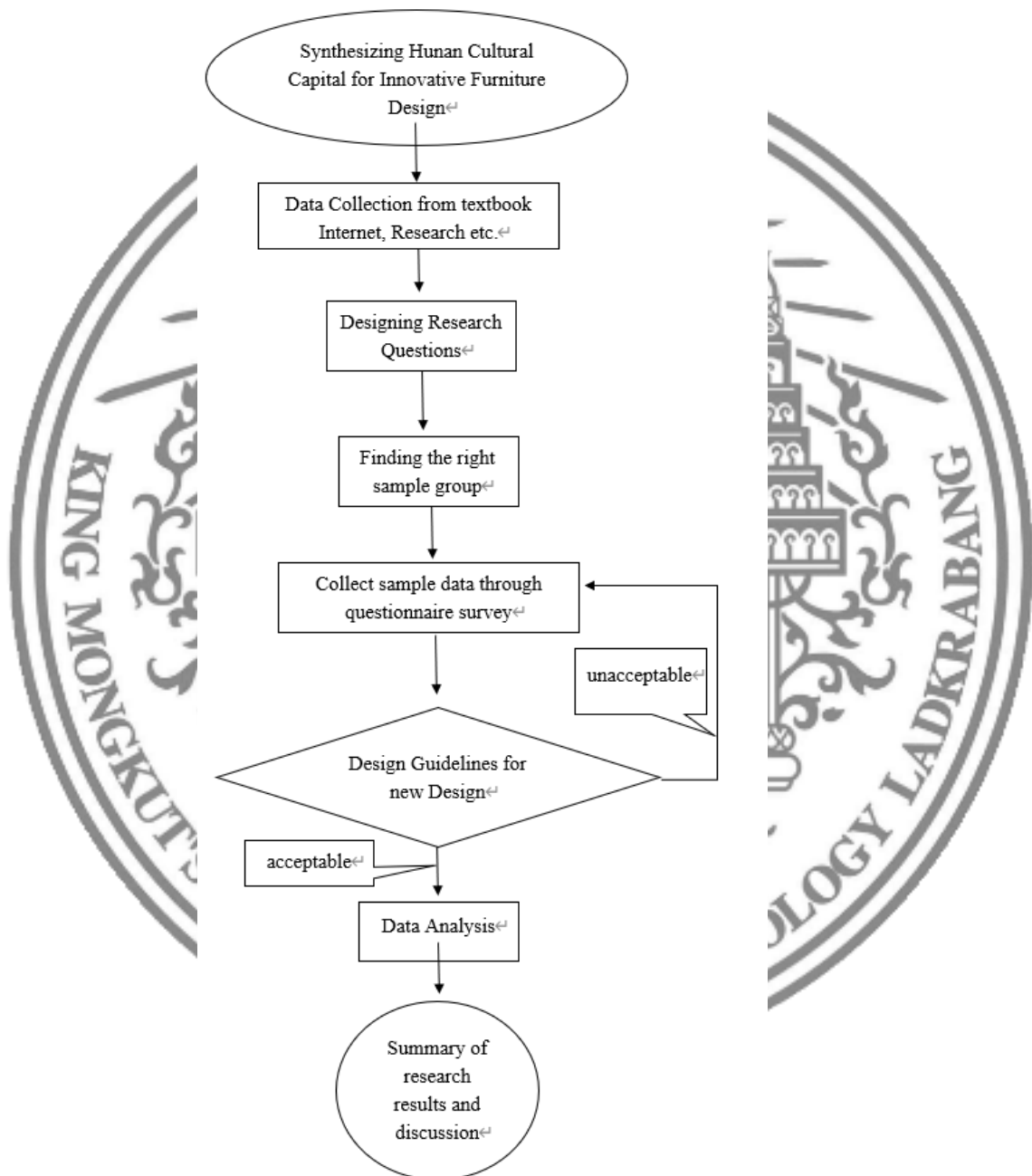


Figure 3.1: Research flowchart
(Designed by the author)

CHAPTER 4

Research Results

Starting from these three goals, we will conduct innovative furniture design based on the comprehensive cultural capital of Hunan, design furniture based on the capital of Hunan Province, and study consumer satisfaction from furniture design in the cultural capital of Hunan Province. We will seek information and analyze the significance of Hunan's cultural capital to furniture, and how to innovate and develop.

4.1 Objective 1: Synthesizing Hunan Cultural Capital for Innovative Furniture Design

Hunan's traditional furniture so that it can keep pace with the times and not be forgotten by people.

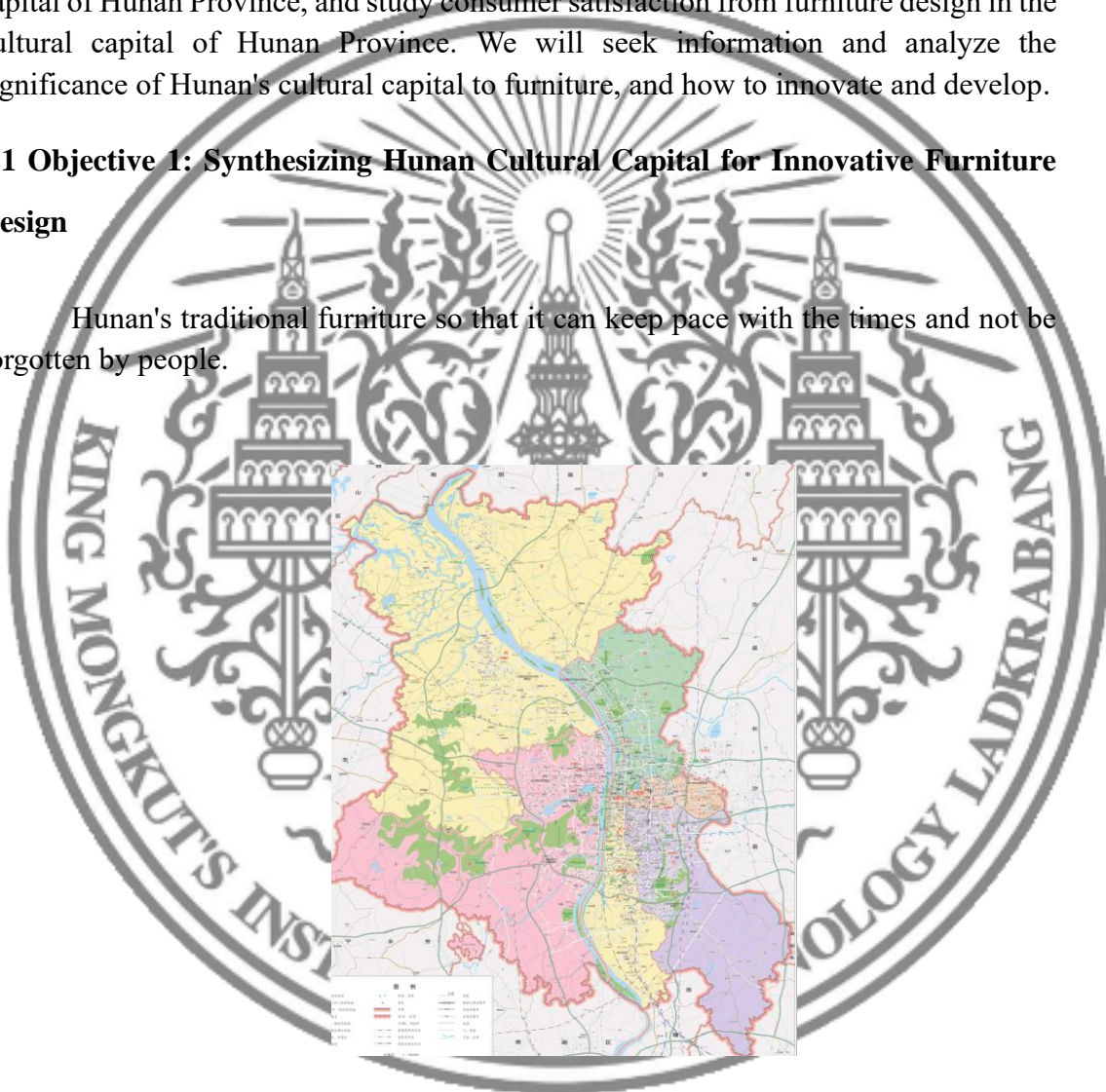


Figure 4.1: Changsha map

(https://www.hunan.gov.cn/topic/ggkfsszn/hnyj/201811/t20181127_5210641.html)

Changsha, the capital of Hunan Province, is a city that perfectly blends a long history with modern prosperity. Its profound cultural heritage, economic vitality and educational resources make Changsha one of the important cities in central and southern China. As of the date of my knowledge (2024), Changsha's population exceeds 10 million, and the population has shown a steady growth trend in recent years. The

population is mainly concentrated in core areas such as Tianxin District, Yuelu District, and Furong District, forming a prosperous urban center. At the same time, with the continuous expansion of the city, the surrounding suburbs, Wangcheng District, Changsha County and other areas have gradually developed into modern residential and commercial areas, further enhancing Changsha's economic vitality and quality of life. It is worth noting that Changsha's population distribution and urban planning may be adjusted in the future, so it is recommended to refer to the latest statistical data and urban planning reports for the most accurate information.

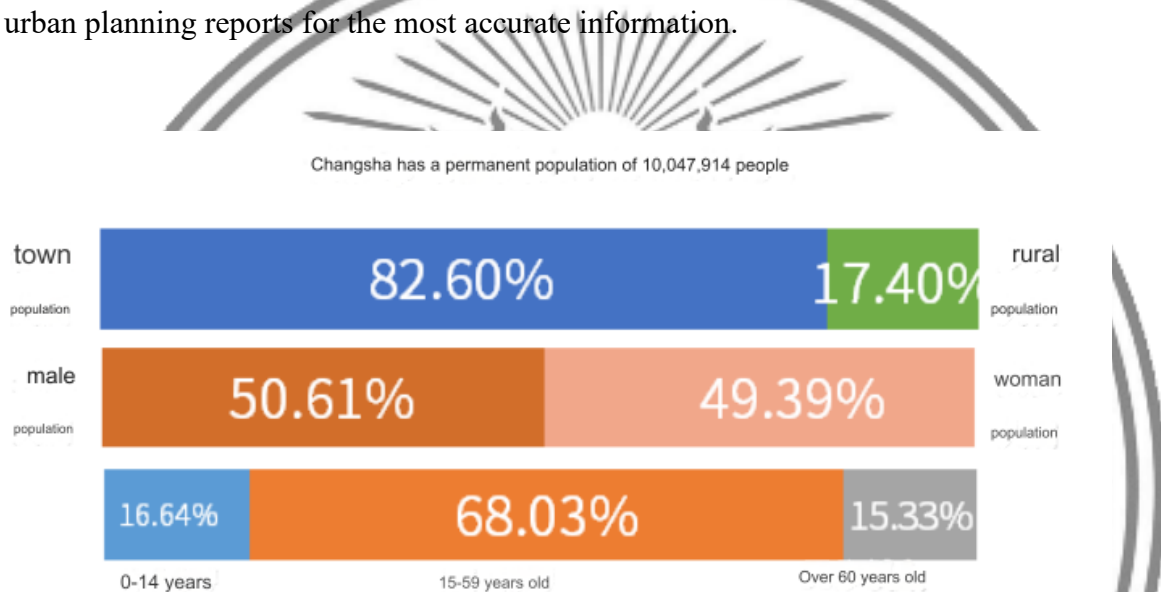


Figure 4.2: Changsha resident population data
(https://tjj.hunan.gov.cn/hntj/m/tjgb_1/202304/t20230406_29306832.html)

According to population data, Changsha has a permanent population of 10,047,914 people, of which 50.61% are male and 49.39% are female. In terms of age structure, 16.64% are aged 0-14, 68.03% are aged 15-59, 15.33% are aged 60 and above, and 11.11% are aged 65 and above. The urban population is 8,300,000 and the rural population is 1,747,914. As shown in Figure 25. The research sample is 90 people in Changsha who want to decorate their own houses. The sample is divided into 3 groups: 18-30 years old, 31-50 years old, and 50-60 years old.

4.1.1 Study of Hunan Cultural

Culture is divided into tangible and intangible cultures. Tangible cultures include traditional buildings, archaeological sites, Hunan embroidered clothing, etc. The intangible culture includes Huxiang culture, Hunan opera, feng shui theory, etc.

4.1.1 Traditional architecture

The traditional buildings of Hunan, such as Yuelu Academy and Yueyang Tower, reflect the essence of Huxiang culture. The carvings and woodworking in these buildings had a direct impact on furniture design. The main building of Yueyang Building is a three-storey, four-column, cornice, helmet top, and pure wood structure. In the building, four Nanmu golden pillars run straight through the roof, and the corridor, fang, rafters, purlins are tenoned with each other around the building, and the whole building does not use an iron nail. The roof of the building is supported on the Ruyi bucket arch. The curve is smooth, steep and curved, like the top of the head of an ancient samurai, called the Yueyang Tower is currently the largest helmet-topped building in China.



Figure 4.3: Deconstructed photograph of Yueyang Tower

(<https://baike.baidu.com/item/%E5%B2%B3%E9%98%B3%E6%A5%BC/42497>)

4.1.1.2 Folklore style

The Hunan folk style furniture design is full of ethnic characteristics and the beauty of handicrafts and integrates the characteristic elements of ethnic minorities such as Miao and Tujia. The colors are bright, and bright colors such as red and yellow are widely used, and they are decorated with ethnic totems, embroidery, etc. The emphasis on handicraft skills, such as weaving, embroidery, etc., shows the beauty of folk crafts. This design reflects the rich and colorful cultural traditions and lifestyles of Hunan's ethnic minorities and shows Hunan's unique geographical environment and folk customs.



Figure 4.4: Miao traditional furniture or Tujia traditional furniture
 (<https://www.pgm.org.cn/pgm/gjl/202110/13e8722eb437433cac047bf328673529.shtm>)

4.1.1.3 Traditional furniture design style

The traditional furniture design style emphasizes symmetry, pays attention to the beauty of harmony and balance, and is commonly found in exquisite carvings such as dragons and phoenixes, flowers and birds, and auspicious ornaments. Its mortise and tenon structure reflect the exquisite craftsmanship and the stability of the structure, and the nail-free and glue-free connection method is a model of traditional skills. This design style is deeply influenced by Confucianism, pursues the golden mean and family harmony, and presents a dignified and atmospheric temperament. In addition, traditional handicrafts such as wood carving and lacquer art in Hunan are fully displayed in furniture design, highlighting the rich cultural background and historical heritage. These three pictures are wood carving, lacquer art, and mortise and tenon joints.

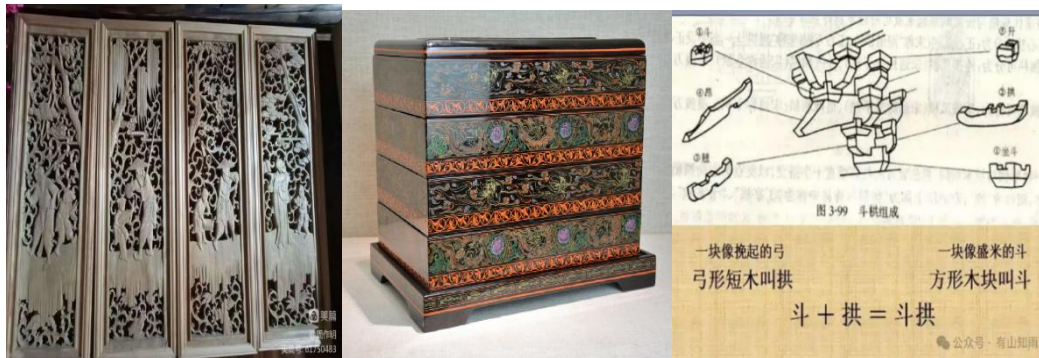


Figure 4.5: Wood carving, lacquer art, and mortise and tenon joints.

(<https://digicol.dpm.org.cn/cultural/detail?id=cf2326373bfa4161b4cd3638742ea1b5>)

4.1.1.4 Traditional bamboo weaving culture

Xiangxi is in the western part of Hunan Province. It is famous for its unique ethnic minority culture and rich natural resources. Traditional bamboo weaving culture is an important intangible cultural heritage. Xiangxi's bamboo weaving craft has a long history and is mainly distributed in ethnic minority settlements such as the Tujia and Miao ethnic groups. Relying on the abundant local high-quality bamboo materials such as nanmu and moso bamboo, a variety of living utensils, building materials and artworks are woven through fine bamboo splitting, chipping, weaving and shaping processes. Xiangxi bamboo weaving is not only practical and beautiful but also carries rich cultural connotations. Bamboo symbolizes noble character and elegance and purity in traditional Chinese culture, and bamboo weaving craft reflects the simple, frugal and hardworking life attitude of the people of Xiangxi. In recent years, with the promotion and protection of Xiangxi culture, bamboo weaving craftsmanship has been combined with modern design and gradually integrated into the fields of furniture and decorations. While retaining the traditional essence, it has integrated modern aesthetics, promoted the inheritance and innovative development of bamboo weaving culture, and become an important symbol of the harmonious coexistence of Xiangxi people and nature.

4.1.2 Analysis of "Hunan Cultural Capital Furniture Design Consumer Demand Survey"

According to the research tool. The survey collected data from three age groups from 90 people: 18-30, 31-50, and 51-60. These age groups represent three consumer segments.

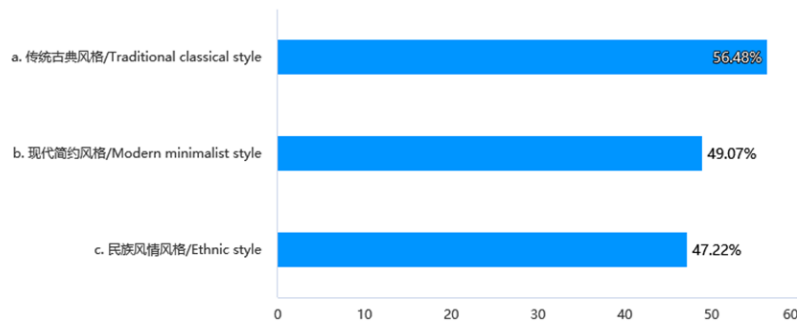


Figure 4.6: The design style of Hunan furniture
(Designed by the author)

The Questions which style of Hunan cultural furniture design do you like. The results showed that number 1 the traditional classical style was 56.48%. Number 2 Modern style was 49.07%. Number 3 Ethnic Style was 47.22%.

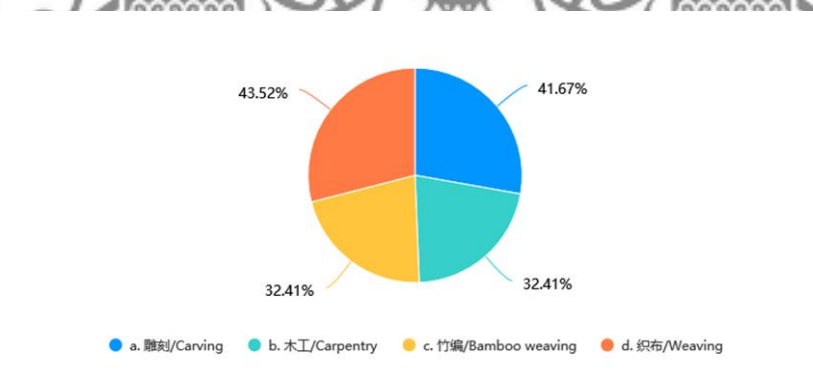


Figure 4.7: The craft of Hunan furniture design
(Designed by the author)

A questionnaire survey on what traditional crafts should be reflected in the design of Hunan cultural furniture. Number 1: 43.5% of the respondents chose the weaving process was 43.5%. Number 2 of the respondents chose the engraving process was 41.67%. Number 3 the respondents chose woodworking technology was 32.41%. And number 4 the proportion of bamboo weaving technology was 32.41%.

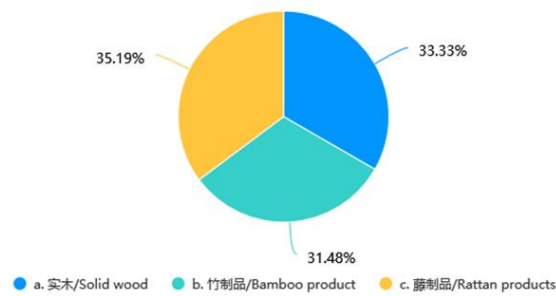


Figure 4.8: The material of Hunan furniture design
(Designed by the author)

In a questionnaire survey on the material preference of Hunan furniture design, Number 1 rattan products 35.19%, Number 2 solid wood was 33.33%. Number 3 bamboo products were 31.48%.

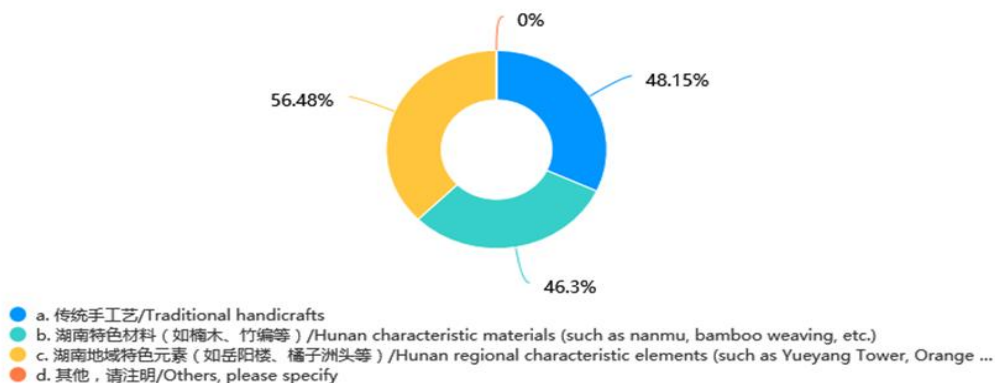


Figure 4.9: Hunan furniture focuses on design elements
(Designed by the author)

In the questionnaire, Hunan cultural furniture design should pay attention to which elements. Number 1 the elements of Hunan regional characteristics (such as Yue yang Tower, Orange Island Head, etc.) was 56.48%. Number 2 traditional handicrafts was 48.15%. Number 3 Hunan regional characteristic materials (such as nanmu, bamboo weaving, etc.) was 46.3%. Number 4 different way was 0%.

This study explored the preferences for style, craftsmanship, materials and

design elements in Hunan cultural furniture design through a questionnaire survey. The results showed that traditional classic style was the most popular, followed by modern and ethnic styles. Weaving, carving, woodworking and bamboo weaving techniques were important traditional crafts that respondents believed should be reflected in the design. In terms of materials, rattan, solid wood and bamboo products were highly favored. In addition, the design should highlight the regional characteristics and traditional handicrafts of Hunan. Overall, consumers prefer to showcase Hunan's unique culture and the use of environmentally friendly materials in a design that combines tradition and modernity.

4.1.2.1 Modern aesthetics and functionality

Although traditional cultural elements must be incorporated, people also expect furniture design to meet modern aesthetics and functionality needs. Therefore, in furniture design in the cultural capital of Hunan, you may see a combination of tradition and modernity, retaining the essence of traditional culture while incorporating modern materials and craftsmanship, as well as functional designs that conform to people's lifestyles.

4.1.2.2 Environmental protection and sustainable development

As people pay more and more attention to environmental protection and sustainable development, furniture design in the cultural capital of Hunan may also be affected by this trend. People may be more inclined to choose furniture based on environmentally friendly materials, and designs that consider aspects such as energy saving and recycling.

4.1.2.3 Cultural creativity and personalized needs

Furniture design in the cultural capital of Hunan may also focus on cultural creativity and personalized needs. People may want furniture design to reflect their personality and tastes, so customization and creative designs may be popular.

4.1.3 Hunan culture element form

We study the Hunan culture for choose the element for design. We study Hunan elements are 1. Lacquerware from the Chu-Han period unearthed in Hunan. 2. Yueyang Tower, a unique building in Hunan. 3. Bamboo baskets are made with Xiangxi bamboo weaving techniques. 4. Hunan hollow design wood carving craft. 5. Hunan embroidery is one of the four famous embroidery styles in China. Tujia brocade, a traditional handicraft of the Tujia people

After that, we analyze and extract Hunan culture element form and make the concepts design follow the table 4.1.

Table 4.1: Extraction element


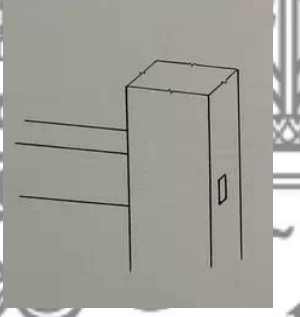
Original culture photo	description	Outline design	Concept design description
 <p>Figure 4.10: Moire lacquer case (https://image.baidu.com/)</p>	<p>Lacquerware from the Chu-Han period unearthed in Hunan.</p>		<p>Incorporate the auspicious cloud elements in the picture into the furniture design.</p>
 <p>Figure 4.11: Yueyang Tower (https://image.baidu.com/)</p>	<p>Yueyang Tower, a unique building in Hunan</p>		<p>According to the mortise and tenon structure of the ancient building, add it to the new furniture design.</p>

Table 4.2(continue)







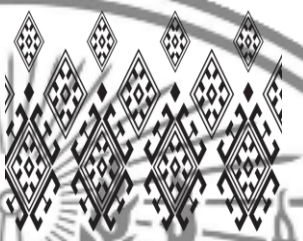
Original culture photo	description	Outline design	Concept design description
 <p>Figure 4.12: Xiangxi bamboo weaving (https://image.baidu.com/)</p>	<p>Bamboo baskets made with Xiangxi bamboo weaving techniques</p>		<p>With more rattan weaving craftsmanship, the seat is made of mahogany, and the surface is covered with rattan weaving.</p>
 <p>Figure 4.13: Hunan Woodcarving (https://image.baidu.com/)</p>	<p>Hunan hollow design wood carving craft</p>		<p>The backrest part adopts the wood carving pattern with Hunan characteristics</p>
 <p>Figure 4.14: Hunan embroidery (https://image.baidu.com/)</p>	<p>Hunan embroidery is one of the four famous embroidery styles in China.</p>		<p>Extract the pattern elements of Hunan embroidery and apply them to the decorative parts of the furniture.</p>

Table 4.3: (continue)

Original culture photo	description	Outline design	Concept design description
 <p>Figure 4.15: Tujia brocade (https://image.baidu.com/)</p>	<p>Tujia brocade, a traditional handcraft of the Tujia people</p>		<p>Apply the Tujia brocade patterns to the stool surface of the furniture to show the cultural customs of the Tujia people.</p>

We can summarize the data from table 4.2 follow this:

1. Lacquerware from the Chu and Han Dynasties: This is a cultural relic unearthed from the Hunan region, with a profound historical and cultural heritage. In furniture design, we can consider incorporating the unique texture and pattern elements of lacquerware into it to add a touch of classical beauty to the furniture.

2. Yueyang Tower: Yueyang Tower is a landmark building in the Hunan region, and its unique mortise and tenon structure reflects the wisdom of ancient architecture. In furniture design, we can learn from the mortise and tenon structure of Yueyang Tower and apply it to the connection part of new furniture, which is both practical and beautiful.

3. Xiangxi bamboo weaving technique: Xiangxi bamboo weaving is a traditional handcraft in the Hunan region, known for its exquisite craftsmanship and unique style. In furniture design, we can consider applying bamboo weaving techniques to certain parts of furniture to add a natural and rustic atmosphere to furniture.

4. Hunan hollow wood carving craftsmanship: Hunan's wood carving craftsmanship is famous for its exquisite hollowing techniques. In furniture design, we can learn from this hollow wood carving pattern and apply it to the decorative part of furniture to make the furniture more refined and artistic.

5. Hunan embroidery: Hunan embroidery is one of the four famous embroideries in China, famous for its delicate needlework and rich colors. In furniture design, we can extract the decorative elements in embroidery and apply them to the decorative parts of furniture to add elegance and magnificence to the furniture.

6. Tujia brocade: Tujia brocade is a traditional handicraft of the Tujia people, which is eye-catching for its unique patterns and color matching. In furniture design, we can consider applying the patterns of Tujia brocade to certain parts of furniture, such as the surface of stools, to show the cultural customs and national characteristics of the Tujia people.

4.2 Objective 2: Design Furniture from Hunan Capital

4.2.1 Analysis of "Innovative Furniture Design Expert Survey"

The sample of the questionnaire is three experts. We analyze and summarize the questionnaire data from the experts to design better products.

4.2.1.1 Expert advice data Analysis of Satisfaction of Market Demand

Table 4.4 : *Satisfaction of Market Demand*

Satisfaction of Market Demand	frequency	percentage
Selection of Materials	6	30%
Inheritance of Craftsmanship	6	30%
Expression of Cultural Connotations	4	20%
Satisfaction of Market Demand:	3	15%
Other	1	5%

Experts' demands for furniture design focus on material selection and craftsmanship inheritance. These two factors each account for 30% of the weight, showing that consumers attach great importance to high-quality materials and traditional craftsmanship. At the same time, the expression of cultural connotation accounts for 20%, indicating the importance of cultural factors in furniture design, but relatively inferior to materials and craftsmanship. Meeting market demand accounts for 15%, reflecting the requirements of practicality and market adaptability. "Other" factors only account for 5%, indicating that they have little influence in the experts' considerations.

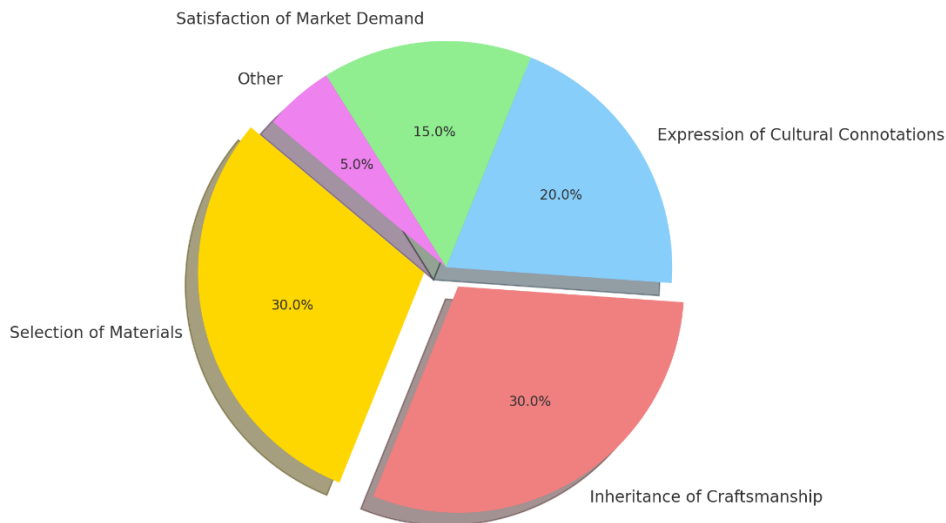


Figure 4.16: Satisfaction of Market Demand
(Designed by the author)

Number 1 are: Selection of Materials (30%): This indicates that designers place significant importance on choosing the right materials. Modern consumers are increasingly conscious of sustainability, durability, and aesthetics, making material choice a critical factor in balancing tradition and innovation.

And Inheritance of Craftsmanship (30%): Equally important as material selection is preserving the craftsmanship. The traditional methods of creating these stools represent a cultural heritage, and maintaining these techniques helps preserve their authenticity and value. Designers see this as essential to maintaining the cultural integrity of the product.

Number 2 is: Expression of Cultural Connotations (20%): Cultural storytelling remains a notable priority. Designers recognize that modern furniture should not only serve functional purposes but also convey cultural meaning, enhancing its appeal to consumers who value tradition and heritage.

Number 3 is: Satisfaction of Market Demand (15%): While less emphasized compared to materials and craftsmanship, addressing market needs is still important. Designers must ensure that the redesigned stools meet contemporary tastes, consumer preferences, and functional requirements, ensuring commercial success.

Number 4 is: Other (5%): This small percentage may include factors like ergonomics, environmental considerations, or integration of technology, which are less emphasized but still worth noting.

Overall: The chart shows a strong balance between traditional values (craftsmanship and cultural connotations) and modern needs (material selection and market demands). Modern designers aim to respect heritage while also ensuring that their products remain relevant and desirable to today's consumers.

4.2.1.2 Expert advice data Analysis of Design Aesthetic of Mahogany Rattan Stool

Table 4.5: *Design Aesthetic of Mahogany Rattan Stool*

Design Aesthetic of Mahogany Rattan Stool	frequency	percentage
Traditional Aesthetic	7	35%
Exquisite Craftsmanship	6	30%
Beautiful Shape	4	20%
Material Quality	2	10%
Other	1	5%

According to the data summary, the experts valued the traditional aesthetics the most in the design aesthetics of redwood rattan stools, accounting for 35%, which shows that the traditional style has a core position in the design. The second is exquisite craftsmanship, accounting for 30%, reflecting the experts' high attention to production skills. Beautiful shape accounts for 20%, which is also considered an important factor. Material quality accounts for 10%, which is critical but relatively low in weight. And "other" factors account for only 5%, indicating that they have little influence in design aesthetics.

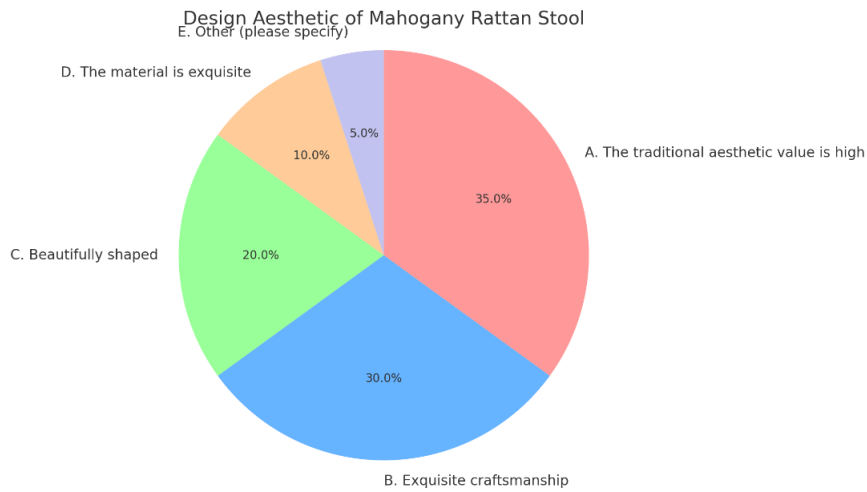


Figure 4.17: Design Aesthetic of Mahogany Rattan Stool
(Designed by the author)

The analysis of the design aesthetic of the mahogany rattan stool shows a clear preference for its traditional aesthetic value and exquisite craftsmanship, which together make up 65% of the responses. Here's a more detailed analysis:

Traditional Aesthetic (35%): This suggests that many people appreciate the cultural or historical significance of the stool. The use of mahogany and rattan likely ties the design to traditional furniture-making styles, which are often valued for their timelessness and classical beauty. This preference may reflect a desire for furniture that evokes a sense of history and authenticity.

Exquisite Craftsmanship (30%): Nearly one-third of the respondents focus on the quality of workmanship. This indicates that the stool's appeal goes beyond just its appearance—people also value the skill and care put into its creation. Mahogany, being a high-quality wood, combined with the intricacies of weaving rattan, likely contributes to this perception of fine craftsmanship.

Beautiful Shape (20%): The stool's design and form are also important, though less so than tradition and craftsmanship. This reflects an appreciation for the aesthetics of the stool's structure, such as its proportions, curves, or overall visual harmony.

Material Quality (10%): While not as highly rated, the quality of the materials is still a consideration. The combination of mahogany and rattan may be seen as durable and elegant, but it is not the primary focus for most respondents.

Other (5%): A small portion of respondents likely have unique or personalized

reasons for their preference, which may include aspects like comfort, function, or sentimental value.

Conclusion: The stool's primary appeal lies in its ability to evoke a traditional aesthetic while being crafted with skill and precision. This combination of heritage and craftsmanship creates a high-value perception. Shape and material quality, while still appreciated, are secondary factors.

4.2.1.3 Expert advice data Analysis of Strategies to Promote the Cultural Value of Mahogany Rattan Stools

Table 4.6: *Strategies to Promote the Cultural Value of Mahogany Rattan Stools*

Strategies to Promote the Cultural Value of Mahogany Rattan Stools	frequency	percentage
Incorporate modern elements into the design to appeal to younger consumers	6	30%
Strengthen publicity and enhance the public's awareness of traditional cultural furniture	6	30%
Develop limited edition or customized products to enhance their cultural value	5	25%
Other recommendations (please specify)	3	15%

Experts believe that the strategies for promoting the cultural value of rosewood rattan stools are mainly concentrated in two aspects. First, incorporating modern elements into the design to attract young consumers, accounting for 30%, indicating the need to keep pace with the times and meet the aesthetics and needs of the new generation. Second, strengthening publicity and raising public awareness of traditional cultural furniture, also accounting for 30%, reflecting the importance of raising awareness. Developing limited edition or customized products to enhance cultural value accounts for 25%, showing the potential of personalization and scarcity in the market. "Other" suggestions account for 15%, suggesting that there are additional promotion strategies to be developed.

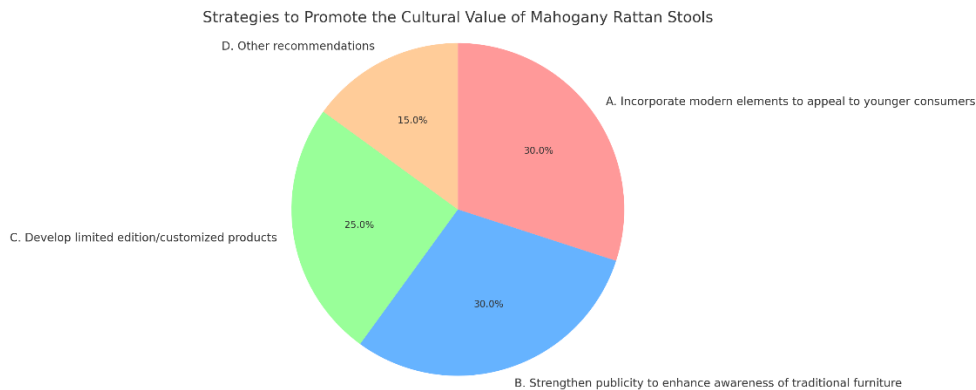


Figure 4.18: Strategies to Promote the Cultural Value of Mahogany Rattan Stools
(Designed by the author)

The pie chart highlights different strategies for promoting the cultural value of mahogany rattan stools. Here's the breakdown:

Number 1 are: Incorporating modern elements into the design to appeal to younger consumers is a popular approach (30%). This suggests that adapting the traditional stool with contemporary aesthetics or features could attract a new generation, ensuring its relevance in modern homes.

And Strengthening publicity and raising public awareness of traditional cultural furniture is also seen as crucial (30%). This response reflects the importance of educational efforts and marketing campaigns to inform people about the craftsmanship and cultural significance of these stools.

Number 2 : Developing limited edition or customized products is considered another effective strategy (25%). Limited runs and personalized designs can add exclusivity, making the stools more desirable as unique, culturally significant items.

Number 3: Other recommendations (15%), though a smaller portion, likely suggest various creative or alternative ways to promote the stools, such as collaborations with artists, exhibitions, or digital marketing strategies.

Analysis: The top two strategies, modern design adaptation and increased publicity, point to a balance between preserving tradition and ensuring cultural relevance in today's market. Younger consumers are key, so blending traditional elements with modern tastes is critical. At the same time, greater public awareness can help people appreciate the cultural and historical significance of the stool. Limited edition and customized designs further enhance the stool's value by making it a rare and personalized piece, increasing its appeal among collectors and cultural enthusiasts, the promotion of the cultural value of mahogany rattan stools relies on both modernization

and education, along with creating exclusivity through unique product offerings.

4.2.1.4 Expert advice data Analysis of Opinion on Retaining Traditional Craftsmanship in Modern Furniture

Table 4.7: *Opinion on Retaining Traditional Craftsmanship in Modern Furniture*

Opinion on Retaining Traditional Craftsmanship in Modern Furniture	frequency	percentage
Partially retained combined with modern technology	10	50%
Innovations should replace them with modern processes	6	30%
Retained in entirety	4	20%

According to the data summary, regarding the view of retaining traditional crafts in modern furniture, 50% of experts believe that traditional crafts should be combined with modern technology to achieve better functionality and adaptability. 30% of experts believe that traditional crafts should be replaced by modern crafts, emphasizing the importance of innovation. 20% of experts advocate completely retaining traditional crafts, showing a high regard for traditional handicrafts. This shows that there are different views and trade-offs between maintaining cultural heritage and promoting modernization.

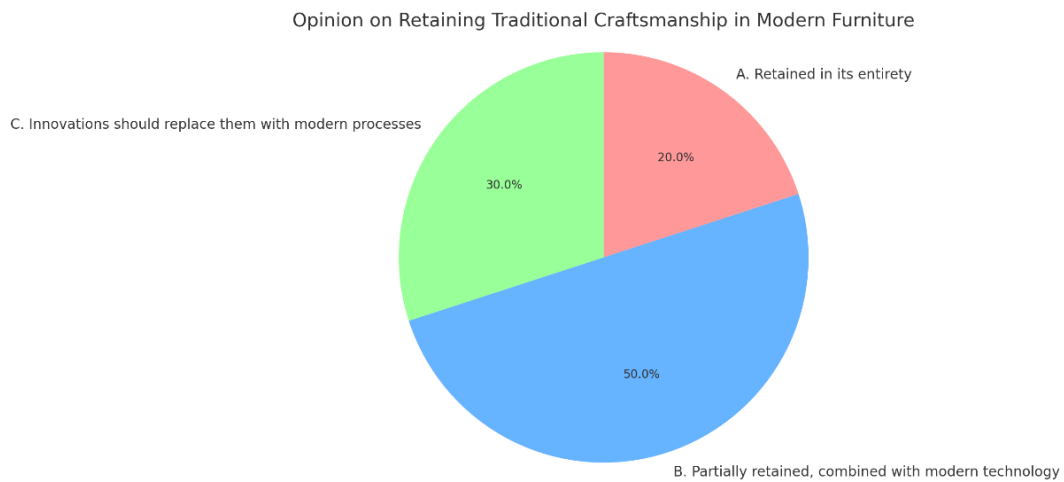


Figure 4.19: Opinion on Retaining Traditional Craftsmanship in Modern Furniture
(Designed by the author)

The pie chart illustrates opinions on whether traditional craftsmanship, like the mortise and tenon structure and rattan weaving, should be retained in modern furniture making.

Number 1: The majority believe traditional craftsmanship should be partially retained and combined with modern technology (50%) This suggests a desire for a blend of old and new, where elements of tradition are preserved while incorporating modern innovations for improved functionality or efficiency.

Number 2: A significant portion of respondents think innovations should replace traditional processes entirely, indicating a preference for fully embracing modern production techniques over older methods (30%).

Number 3: A smaller group prefers to retain traditional craftsmanship in its entirety, highlighting an appreciation for the historical value and skill involved in keeping the methods unchanged (20%).

Analysis: Most people favor a hybrid approach, combining traditional methods with modern technology. This response points to the recognition of the value in traditional craftsmanship but also acknowledges the benefits of modern advancements, such as increased precision, efficiency, or sustainability. Those who advocate for full innovation reflect a desire to move forward entirely with modern techniques, possibly for reasons related to mass production or cost-effectiveness. Meanwhile, the group that values complete retention likely sees traditional methods as essential to preserving cultural heritage and craftsmanship quality, while modern furniture making is expected

to evolve, there remains a significant interest in maintaining a connection to traditional craftsmanship, whether in part or in full.

4.2.2 Product Design

We bring Hunan culture elements to design new product. We study and pick stool to use for an example to apply Hunan culture elements for furniture design. The design idea sketches are following the figure 4.14.

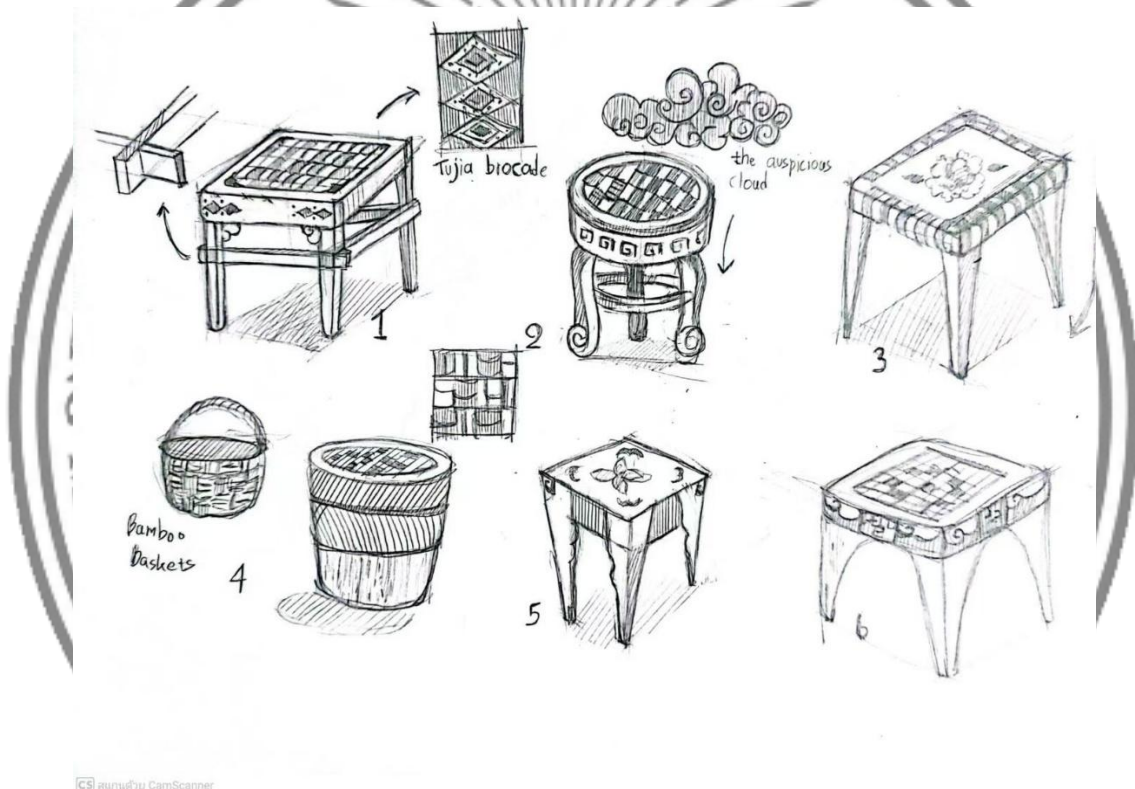


Figure 4.20: Design idea sketch
(Designed by the author)

The concept design is mahogany rattan stool is a traditional Chinese piece of furniture that is known for its exquisite craftsmanship and elegant design. This stool is usually made of high-quality mahogany, which is hard and durable, with a delicate texture and a deep color. Over time, it will develop a natural patina, adding a classical charm. The rattan is made of high-quality rattan weaving, which is flexible and breathable, suitable for long-term use, especially suitable for the hot and humid climate of the south.

1. The auspicious cloud element of lacquerware:

Reason for integration: The auspicious cloud pattern symbolizes auspiciousness, harmony and beauty in traditional Chinese culture, and is a common decorative element in lacquer art. Incorporating it into furniture design can give the furniture an auspicious meaning while adding visual beauty and cultural heritage.

Integration: The auspicious cloud pattern can be carved, inlaid or painted in a conspicuous position such as the panel, edge or leg of the furniture, so that the furniture can maintain a modern and simple style while revealing a strong traditional cultural charm.

Cultural meaning: auspicious clouds not only symbolize auspiciousness but also carry the yearning for a better life. In furniture design, auspicious cloud elements can appear in the form of streamlined patterns, implying fluency and harmony.

Design details: On the legs of the stool, it can be hand-painted or inlaid with auspicious cloud patterns using lacquer techniques. These patterns can be delicate lines or richly colored lacquer paintings that harmonize with the overall tone of the stool and add a touch of classical elegance.

2. Mortise and tenon structure of ancient buildings:

Reason for integration: The mortise and tenon structure is the essence of ancient Chinese architecture and furniture making, and it embodies the wisdom and skill of Chinese craftsmen. The application of this structure to the design of the new furniture not only enhances the stability and durability of the furniture but also reflects the respect and inheritance of traditional culture.

Integration method: When designing furniture, you can learn from the mortise and tenon connection method in ancient buildings, straight tenon and dark tenon, which are used for the frame connection and component fixing of furniture, so that the furniture is more concise in appearance and more solid in structure.

Structural innovation: The mortise and tenon structure is not only stable and durable, but also its invisible connection makes the furniture look simpler and smoother. In the design of the stool, the mortise and tenon structure can be cleverly used to connect the legs to the seat, as well as the cross support between the legs.

Design Highlights: Through modern design techniques, such as computer-aided design and precision machining technology, the traditional mortise and tenon structure is optimized and innovated, which not only retains its structural advantages, but also gives it a modern feeling. For example, the intersecting parts of the stool legs can be designed as a complex mortise and tenon structure, which is both aesthetically pleasing and functional.

3. Rattan weaving craft and mahogany seats:

Reason for integration: The rattan weaving process has a natural and simple

beauty, and when combined with mahogany, a traditional high-grade wood, it can create a home atmosphere that is both classical and modern.

Integration: The frame of the stool is made of mahogany, and the seat surface is edged and decorated with rattan weaving, which not only retains the luxurious temperament of mahogany, but also adds the warmth and comfort of rattan weaving.

Material contrast: The hardness of mahogany contrasts sharply with the flexibility of rattan weaving, and this mix of materials not only adds depth to the stool but also enhances comfort.

Design practice: The seat of the stool can be woven with rattan weaving technology to create delicate textures and patterns, while the legs and armrests are made of mahogany to maintain the overall stability and nobility. The rattan part can also be designed as an adjustable cushion to suit the needs of different seasons and sitting postures.

4. Hunan characteristic wood carving ornaments:

Reason for integration: Hunan wood carving is famous for its exquisite skills and rich cultural connotation, and its application to furniture design can add the artistic value and regional characteristics of furniture.

Integration: In the peripheral part of the stool, you can carve patterns with Hunan characteristics, making the furniture a work with art collection value.

Cultural symbols: Patterns such as landscapes, flowers and birds, and character stories are common in Hunan wood carving, all of which are symbols of traditional Chinese culture. Carving these patterns on the back of the stool is not only beautiful but also conveys a deep cultural connotation.

Design tips: Wood carving can be carved in relief or openwork, depending on the complexity of the pattern and the overall style of the stool. The details of the design are revealed through layered carvings.

5. The use of Hunan embroidery decorative elements

Reason for integration: Hunan embroidery is one of the four famous embroideries in China, known for its delicate stitches and rich colors. Extracting and applying the decorative elements of Hunan embroidery to the decorative parts of furniture can greatly enhance the delicacy and cultural connotation of furniture.

Integration method: On the panel of the furniture, the exquisite floral pattern is embroidered in the way of Hunan embroidery, so that the furniture shows a unique charm in the details.

Art decoration: The delicate stitching and rich colors of Hunan embroidery add an artistic atmosphere to the stool. Hunan embroidery patterns can be embroidered on the center of the stool or seat surface to form a unique decorative effect.

Design fusion: The choice of Hunan embroidery pattern should be in harmony

with the overall style of the stool. The stool has a minimalist style, with a choice of simple floral or geometric patterns.

6. Handrails decorated with Tujia brocade ornaments:

Reason for integration: Tujia brocade is a traditional handicraft of the Tujia family, known for its unique patterns and color combinations. The application of the Tujia brocade decoration to the edge of the furniture stool can show the cultural customs of the Tujia family and increase the national characteristics of the furniture.

Integration: The edge of the stool can be embedded or woven with the pattern of Tujia brocade, which makes the furniture richer in touch and more visually attractive.

Ethnic customs: The ornamentation of Tujia brocade has distinctive national characteristics, and its application to the periphery of the stool can show the cultural charm of the Tujia family.

Design practice: The surface around the stool can be covered with a layer of Tujia brocade fabric, or the pattern of the brocade can be extracted and presented on the armrests by carving or painting. you can also consider integrating the weaving technique of Tujia brocade into the design of the handrail.

4.2.3.1 Design ideas and theories

The design concept is the direction and strategy that designers follow when conceiving and making mahogany rattan stools. These ideas combine multiple dimensions such as functional, aesthetic, and cultural heritage. Design theory provides guidelines for designers to ensure that mahogany rattan benches achieve the best results in terms of aesthetics, functionality, and culture. These theories are rooted in traditional Chinese philosophy and combined with the ideas of modern design.

Design process: Before designing, determine the overall design style of the chair, which is usually based on the symmetry, balance and simple aesthetic of traditional furniture, while incorporating functional requirements. Translate ideas into detailed design drawings, including chair proportions, structural details, and decorative pattern design. The specific shape and carving details of the seats, legs, etc. will be indicated in the design drawings. First, we used WeChat to communicate with experts, then we used Wenjuxing to collect the questionnaire data of the three experts, and finally we used SketchUp to create a design style.

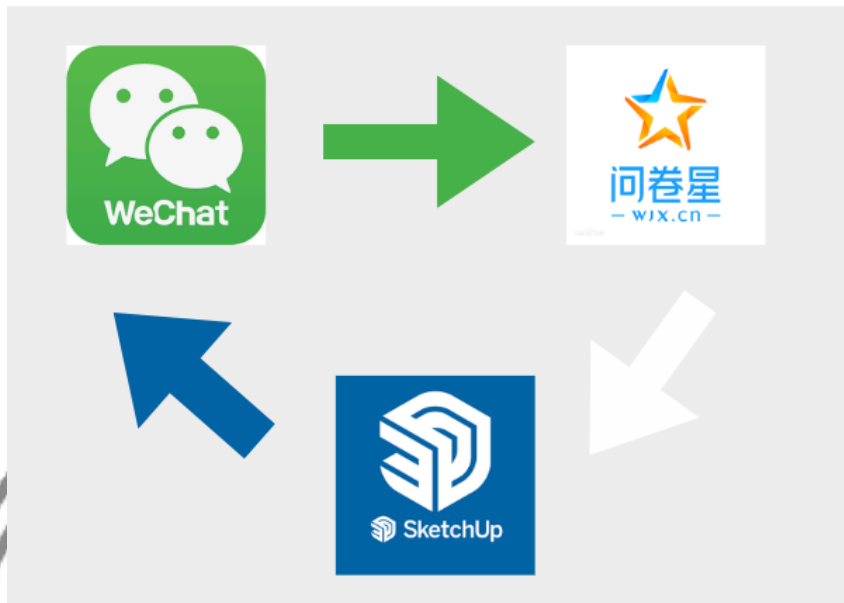


Figure 4.21: Software Applications
(Designed by the author).

4.2.3.2 Design Ideas:

The use of auspicious cloud elements of lacquerware, mortise and tenon structure of ancient buildings, rattan weaving technology, mahogany materials, wood carving decoration with Hunan characteristics, Hunan embroidery decoration elements and Tujia brocade decoration and other elements in furniture design is based on many considerations, which not only add unique aesthetic value to the furniture but also carry profound cultural connotation and symbolic meaning. Here are a few of the main reasons to use these elements:

1. Cultural inheritance and innovation

Respect for tradition: These elements are all representatives of traditional Chinese culture and craftsmanship and integrating them into modern furniture design is a respect and inheritance of traditional culture. Innovation and integration: Through modern design techniques and technologies, these traditional elements are combined with contemporary aesthetic and functional needs to create furniture works that have both traditional charm and conform to modern lifestyles and realize the innovation and development of traditional culture.

2. Enhance aesthetic value

Unique beauty: These elements have their own unique aesthetic characteristics, the auspicious meaning of the auspicious cloud pattern, the exquisite craftsmanship of

the mortise and tenon structure, the simple nature of rattan weaving, the luxury and elegance of mahogany, the delicate carving of wood carving, the exquisite embroidery of Hunan embroidery and the ethnic customs of Tujia brocade, which together add a rich visual and tactile experience to the furniture. Artistic taste: Incorporating these elements into furniture design can enhance the artistic taste and cultural connotation of furniture, making it a work of art with collectible value and aesthetic value.

3. Enhance emotional empathy

Cultural identity: These elements carry the cultural memory and emotional sustenance of Chinese and integrating them into furniture design can evoke people's sense of identity and belonging to traditional culture. Emotional connection: As an important item in daily life, furniture is closely connected with people's emotions. Through the integration of these traditional elements, furniture not only meets practical needs, but also becomes a bridge between the past and the present, tradition and modernity, and enhances the emotional resonance between people and furniture.

4. Promote sustainable development

Environmental protection concept: The use of natural materials such as rattan weaving and mahogany is in line with the modern environmental protection concept and emphasizes the design principle of harmonious coexistence with nature. Inheritance of handicrafts: The inheritance and development of these traditional handicrafts contribute to the protection of intangible cultural heritage and promote the employment and economic development of artisans.

5. Meet individual needs

Diverse choices: The integration of these elements provides a variety of options for furniture design, meeting the individual needs of different groups of people for furniture style, function and cultural connotation. Customized service: According to the customer's preferences and needs, we can provide customized furniture design services, which perfectly combine traditional elements with modern design to create unique furniture works.



Figure 4.22: Sketch Design of Hunan cultural capital for furniture design
(Designed by the author).

4.2.2.3 Design Theory

Application of the Golden Ratio: The golden ratio is a common aesthetic principle used in design, guaranteeing a harmonious proportional ratio of dimensions between the various parts of the furniture. When designing the mahogany rattan bench, the height, width, and length are precisely calculated to achieve optimal proportions to ensure visual balance and aesthetics. This harmonious proportional relationship not

only makes the stool look more beautiful but also improves its comfort when using it.

Application of mortise and tenon structure: In the history of the Chinese nation, the mortise and tenon structure has a long history and has its own system. The reason why traditional Chinese furniture is still strong after hundreds of years is mainly due to the mortise and tenon structure. The mortise and tenon joint embody the essence of traditional Chinese furniture culture and reflects oriental aesthetics. Through the redesign of the mortise and tenon joint, it intuitively shows the beauty of its structure and adds the warmth of a craftsman to the modern furniture, reflecting the aesthetics of modern life. Although our living environment is constantly changing, the traditional aesthetic of life still influences modern furniture design. The mortise and tenon structure are the essence of traditional Chinese furniture manufacturing. It does not rely on nails or glue but rather makes connections through precise bites between the woods to ensure the sturdiness and durability of the structure. The mortise and tenon structure design of the mahogany rattan bench not only reflects the superb craftsmanship of traditional craftsmanship but also enhances the stability and durability of the furniture. This structure not only increases the practicality of the furniture but also has high artistic value and cultural symbolism.

Eco-design and sustainability: As a renewable resource, rattan reflects ecological considerations in its design. By using this eco-friendly material, the stool retains the aesthetics of traditional craftsmanship while also meeting the requirements of modern society for environmental protection and sustainable development. The breathability of the rattan surface and the durability of mahogany make this furniture more in line with the needs of modern life in practical use, while respecting the laws of nature.

Spiritual Symbolism and Cultural Heritage: The design of the mahogany rattan bench also carries the spiritual symbols of traditional Chinese culture, such as family harmony, health, longevity, etc. These spiritual connotations are expressed in the form of furniture, making each stool not only useful, but also an important carrier of cultural heritage. Through the skillful use of traditional cultural symbols, the stool has become a bridge between history and modernity, allowing users to feel the profound influence of traditional culture in their daily lives.

Use of natural materials: The designer adheres to the concept of harmony between man and nature in the design process, emphasizing the harmonious coexistence of man and nature. Mahogany and rattan are both natural materials. Through reasonable selection and matching, the stool not only shows the beauty of nature, but also realizes the concept of sustainable design. The sturdiness and durability of mahogany contrasts with the flexibility and lightness of rattan, reflecting the clever use of natural materials in the design. This design concept is in harmony with the traditional Chinese view of nature.

And we use the 3D program to create the new design of Hunan cultural capital for furniture design for making a scenario of furniture model follow.



Figure 4.23:3D Model

(Designed by the author).

4.3 Objective 3: Study Consumer Satisfaction from Furniture Design Inspired by Hunan Cultural Capital

4.3.1 Analysis of "Furniture Design Consumer Satisfaction Survey"

The sample of the questionnaire is 200 citizens in Changsha, Hunan. The consumer satisfaction survey is conducted using random sampling. Customers rate their satisfaction with the product after viewing the product. According to the customer's questionnaire data, we analyze the product problems and the elements that customers like, to get closer to the market.

4.3.2 Basic information of respondents

Table 4.8: Age

Option	Subtotal	Ratio
A. 15-24 years old	57	28.5%
B. 25-34 years old	59	29.5%
C. 35-44 years old	37	18.5%
D. 45-55 years old	47	23.5%

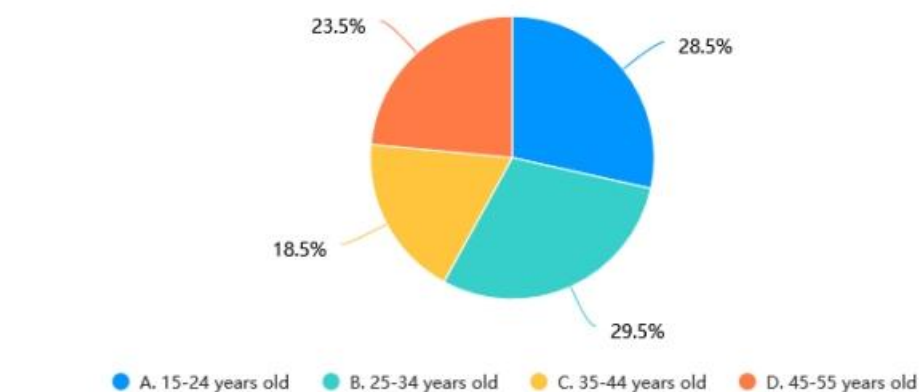


Figure 4.24: Age structure

(Designed by the author)

Age distribution: The age span of respondents is large, but they are mainly concentrated between 15-55 years old, accounting for as high as 97.5%. Among them, the proportion of respondents in the two age groups of 25-34 years old (29.5%) and 15-24 years old (28.5%) is relatively high, indicating that young and middle-aged groups have a strong interest and purchasing power in redwood rattan stools. This may be related to their pursuit of quality of life and attention to home decoration.

Table 4.9: Your Occupation

Option	Subtotal	Ratio
A. student	52	26%
B. office worker	68	34%
C. freelancer	39	19.5%
D. retiree	41	20.5%
E. Other (please specify)	0	0%

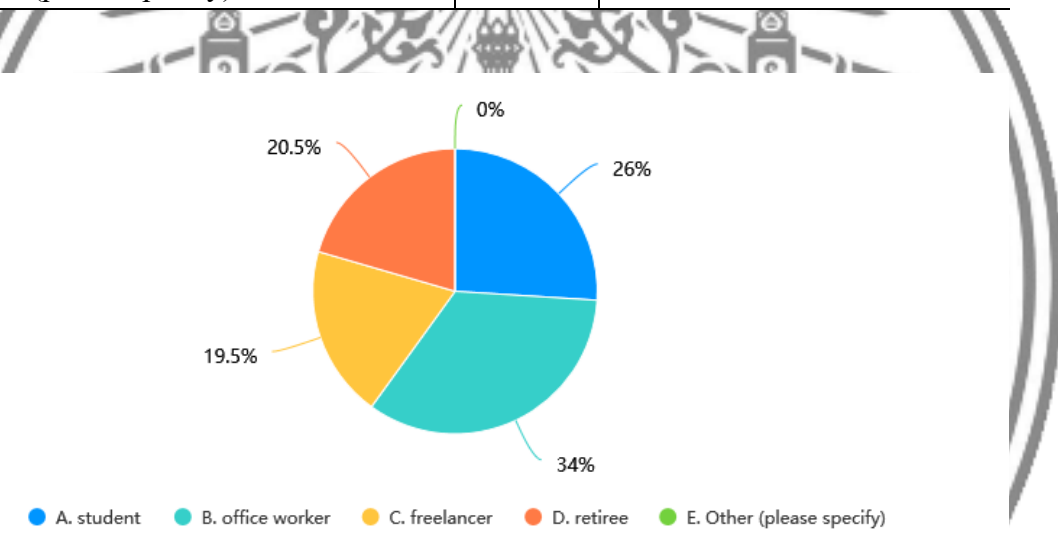


Figure 4.25: Occupation
(designed by the author).

Occupational distribution: The respondents have diverse professional backgrounds, but office workers (34%) account for the highest proportion, reflecting the high demand for redwood rattan stools in the workplace environment. Followed by students (26%) and retirees (20.5%), these two groups of people may pay more attention to the comfort and beauty of the home environment. Freelancers account for 19.5%, which also shows a certain market demand.

Table 4.10: *Your current place of residence*

Option	Subtotal	Ratio
A. city	125	62.5%
B. suburbs	57	28.5%
C. countryside	18	9%

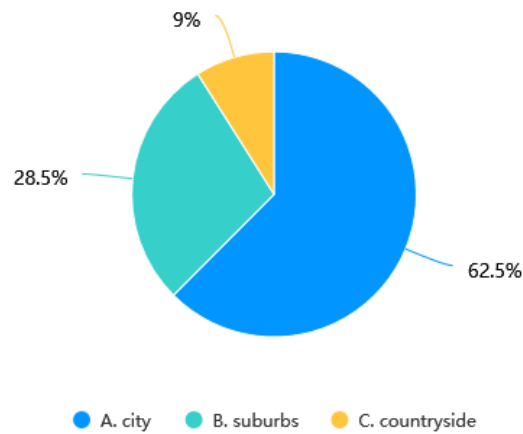


Figure 4.26: Current place of residence
(Designed by the author)

Residential distribution: Respondents mainly live in cities (62.5%) and suburbs (28.5%), and rural areas account for a relatively low proportion (9%). This shows that rosewood rattan stools have great potential in urban and suburban markets, which may be related to the economic development level, consumption capacity and aesthetic concepts in these regions.

4.3.2: Purchase behavior and preferences

Table 4.11: *The main uses for which you buy a mahogany rattan stool are*

Option	Subtotal	Ratio
A. Household use	127	63.5%
B. Office use	29	14.5%
C. Commercial decoration	33	16.5%
D. collection	11	5.5%
E. Other (please specify)	0	0%

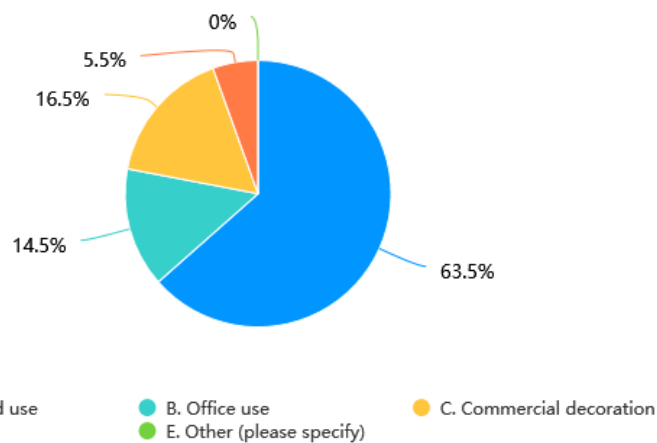


Figure 4.27: Purpose of purchase

(Designed by the author)

Main purpose: The main purpose of the respondents to buy redwood rattan stools is home use (63.5%), which shows that there is a huge demand for redwood rattan stools in the home environment. The second is commercial decoration (16.5%) and office use (14.5%), which shows that redwood rattan stools have certain application value in different places.

Table 4.12: *The main reasons why you buy a mahogany rattan stool are*

Option	Subtotal	Ratio
A. I love traditional furniture	93	46.5%
B. Admire the mahogany material	47	23.5%
C. Pursue a high quality of life	22	11%
D. As a collectible	28	14%
E. Other (please specify)	10	5%

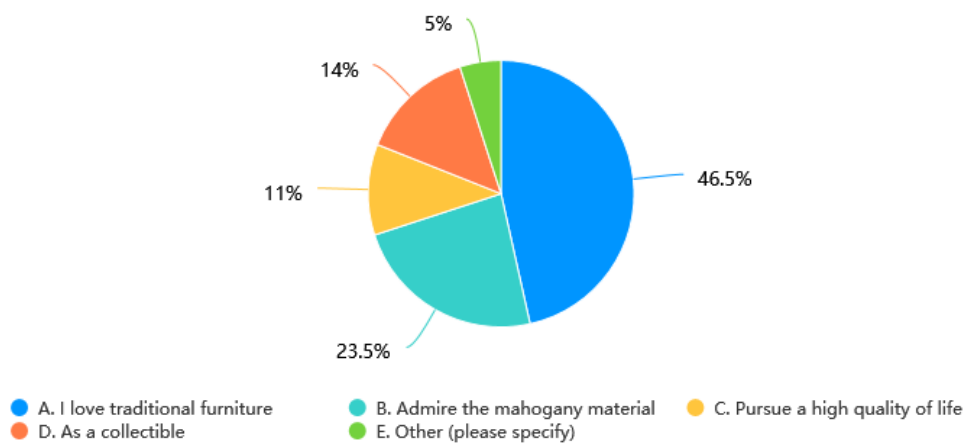


Figure 4.28: Main reasons for purchase
(Designed by the author)

Reasons for purchase: The reasons for the respondents to buy redwood rattan stools are various, among which the love of traditional furniture (46.5%) and appreciation of redwood materials (23.5%) are the main reasons. This reflects consumers' love for traditional culture and pursuit of high-quality life. At the same time, as a collectible (14%) is also a purchase motivation for some respondents, showing the potential of redwood rattan stools in the collection market.

Table 4.13: *The most important factors you value when buying a mahogany rattan stool are*

Option	Subtotal	Ratio
A. Aesthetically pleasing design	59	29.5%
B. The material is excellent	60	30%
C. Brand credibility	25	12.5%
D. Price	33	16.5%
E. Cultural values	12	6%
F. Other (please specify)	11	5.5%

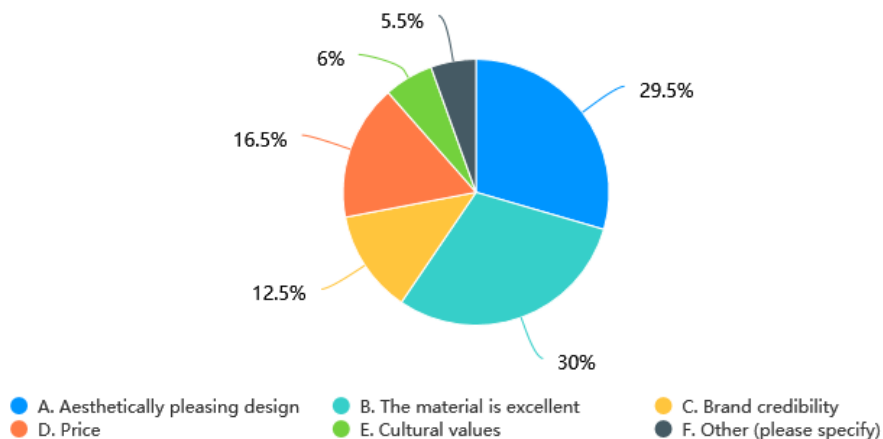


Figure 4.29: The most important factor when purchasing
(Designed by the author)

Factors valued when purchasing: When purchasing redwood rattan stools, the most important factors for respondents are excellent materials (30%) and beautiful design (29.5%). This shows that consumers have high requirements for product materials and designs. In addition, brand reputation (12.5%) and price (16.5%) are also important factors affecting purchase decisions. Manufacturers should focus on these factors during product design and production to enhance the market competitiveness of their products.

4.3.3 Satisfaction evaluation

Table 4.14: *How satisfied are you with the overall design of the mahogany rattan stool*

Option	Subtotal	Ratio
A. Very satisfied	95	47.5%
B. satisfied	61	30.5%
C. So so	40	20%
D. dissatisfied	4	2%
E. Very dissatisfied	0	0%

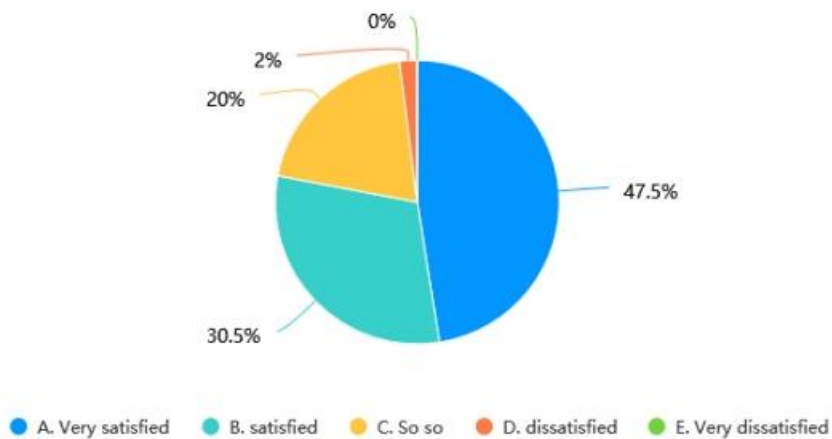


Figure 4.30: Overall design satisfaction
(Designed by the author)

Overall design: The respondents were highly satisfied with the overall design of the rosewood rattan stool, with 47.5% being very satisfied and 30.5% being satisfied. This shows that the producers have done a relatively good job in product design but still need to pay attention to the dissatisfaction of a few respondents to further improve the overall design level.

Table 4.15: *How satisfied are you with the comfort level of your mahogany rattan stool*

Option	Subtotal	Ratio
A. Very satisfied	81	40.5%
B. satisfied	64	32%
C. So so	33	16.5%
D. dissatisfied	13	6.5%
E. Very dissatisfied	9	4.5%

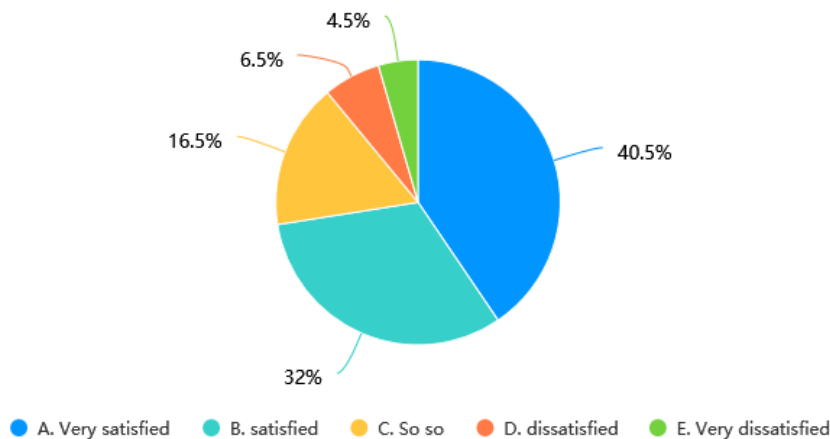


Figure 4.31: Comfort
(Designed by the author)

Comfort: The respondents were also relatively satisfied with the comfort of the rosewood rattan stool, with 40.5% being very satisfied and 32% being satisfied. This may be related to factors such as the material, structure and craftsmanship of the rosewood rattan stool. However, some respondents still expressed that they were not very satisfied or very dissatisfied, and producers should focus on these aspects in the process of product improvement.

Table 4.16: *How satisfied are you with the durability of your mahogany rattan stool*

Option	Subtotal	Ratio
A. Very satisfied	84	42%
B. satisfied	64	32%
C. So so	37	18.5%
D. dissatisfied	10	5%
E. Very dissatisfied	5	2.5%

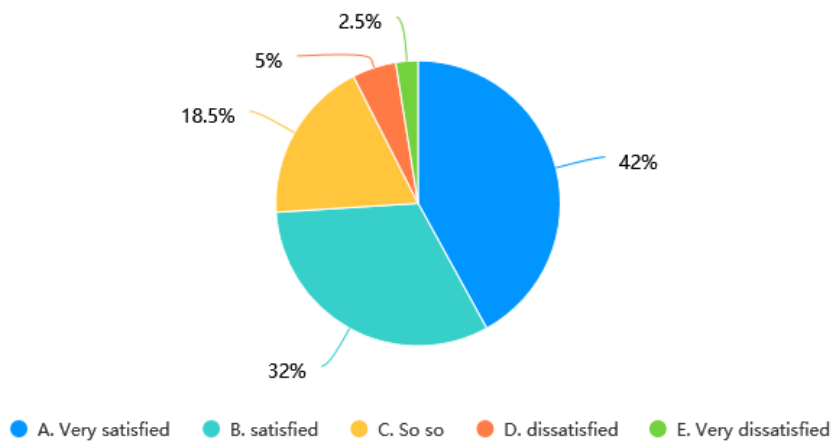


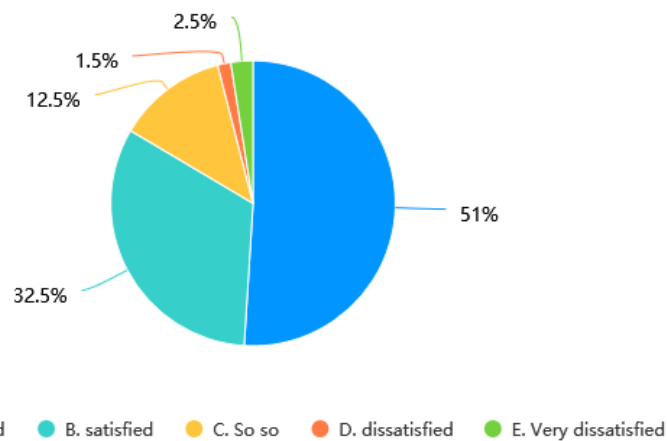
Figure 4.32: Satisfaction with durability

(Designed by the author)

Durability: The respondents gave a high evaluation of the durability of the rosewood rattan stool, with 42% being very satisfied and 32% being satisfied. This reflects that the rosewood rattan stool performs well in durability and can meet the long-term use needs of consumers. However, a few respondents still expressed dissatisfaction or very dissatisfied, and producers should further strengthen product quality control and after-sales service.

Table 4.17: *How satisfied are you with the quality of the mahogany rattan stool?*

Option	Subtotal	Ratio
A. Very satisfied	102	51%
B. satisfied	65	32.5%
C. So so	25	12.5%
D. dissatisfied	3	1.5%
E. Very dissatisfied	5	2.5%

**Figure 4.33:** Quality satisfaction

(Designed by the author)

Quality: The respondents were very satisfied with the quality of the mahogany rattan stools, with 51% being very satisfied and 32.5% being satisfied. This shows that the producers have done a great job in product quality and have been widely recognized by consumers. However, there are still a few respondents who are dissatisfied or very dissatisfied, and producers should continue to strengthen product quality inspection and control.

Table 4.18: Do you think the design of the mahogany rattan stool meets your aesthetic needs

Option	Subtotal	Ratio
A. Very much in line with	101	50.5%
B. More in line with it	55	27.5%
C. So so	39	19.5%
D. Not quite quite so	5	2.5%
E. Not at all	0	0%

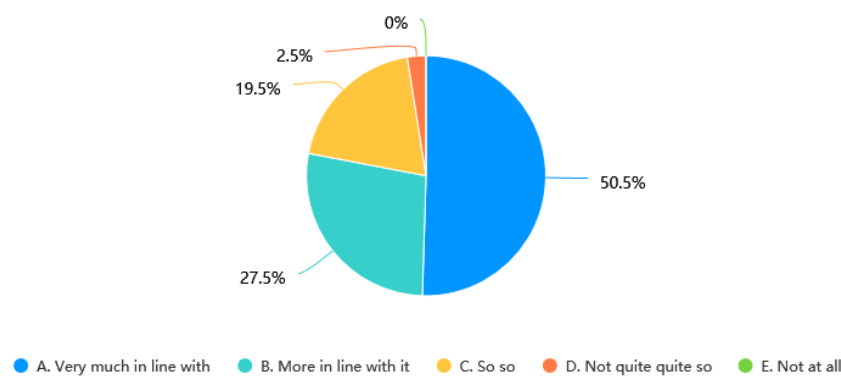


Figure 4.34: Does the design meet your aesthetic needs
(Designed by the author)

Aesthetic needs: The respondents believe that the design of the mahogany rattan stools is very consistent or relatively consistent with their aesthetic needs, accounting for 78% (50.5% + 27.5%). This shows that producers can better meet the aesthetic needs of consumers in terms of product design. However, some respondents still said that it is not quite consistent or completely inconsistent with their aesthetic needs, and producers should further strengthen product diversification design.

Table 4.19: *How satisfied are you with the value for money for a rosewood rattan stool*

Option	Subtotal	Ratio
A. Very satisfied	120	60%
B. satisfied	45	22.5%
C. So so	30	15%
D. dissatisfied	3	1.5%
E. Very dissatisfied	2	1%

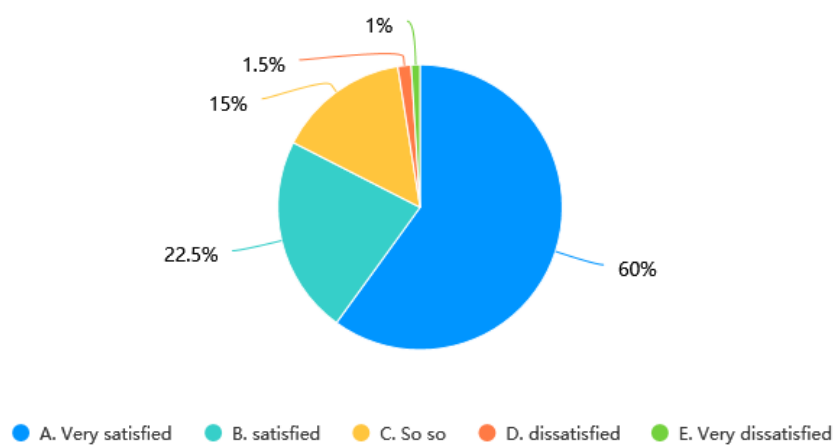


Figure 4.35: Satisfaction with cost performance

(Designed by the author)

Cost-effectiveness: The respondents gave a high evaluation of the cost-effectiveness of the mahogany rattan stools, with 60% being very satisfied and 22.5% being satisfied. This reflects that the mahogany rattan stools have achieved a good balance between price and performance and have been widely recognized by consumers. However, there are still a few respondents who are dissatisfied or very dissatisfied, and producers should further optimize cost control and pricing strategies.

Table 4.20:How do you think the mahogany rattan stool performs in everyday use

Option	Subtotal	Ratio
A. Very good	89	44.5%
B. Better	62	31%
C. So so	39	19.5%
D. Poor	10	5%
E. Very poor	0	0%

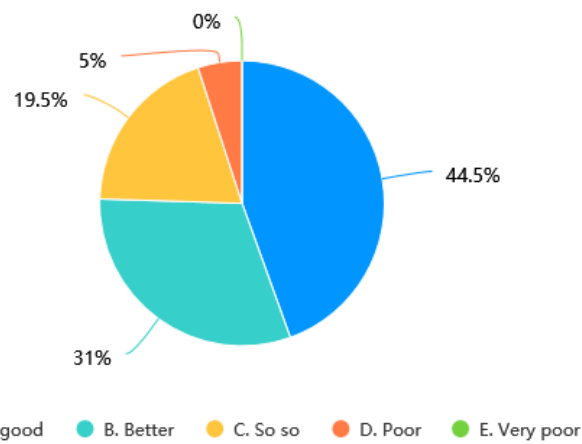


Figure 4.36: Performance in daily use

(Designed by the author)

Daily use performance: The respondents gave a good evaluation of the performance of the redwood rattan stool in daily use, of which 44.5% thought it was very good and 31% thought it was good. This shows that the redwood rattan stool can better meet the needs of consumers in daily use. However, some respondents still said that the performance was average or poor, and producers should further strengthen product function optimization and user experience improvement.

Table 4.21: *How satisfied are you with the difficulty of maintaining your mahogany rattan stool*

Option	Subtotal	Ratio
A. Very satisfied	113	56.5%
B. satisfied	43	21.5%
C. So so	32	16%
D. dissatisfied	12	6%
E. Very dissatisfied	0	0%

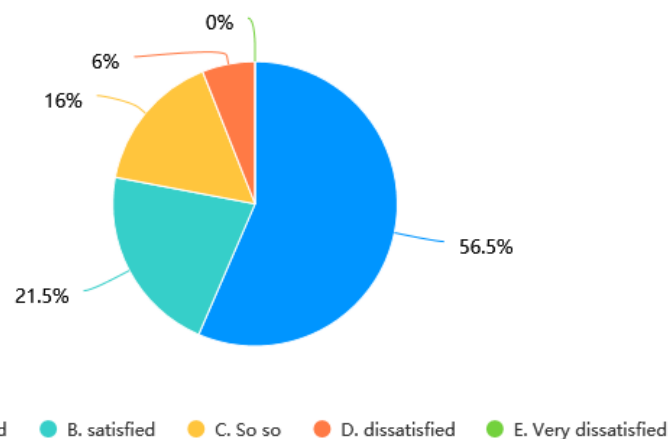


Figure 4.37: Difficulty of maintenance

(Designed by the author)

Maintenance difficulty: The respondents were highly satisfied with the maintenance difficulty of the redwood rattan stool, of which 56.5% were very satisfied and 21.5% were satisfied. This may be related to the material and craftsmanship of the redwood rattan stool, which makes it relatively easy to maintain. However, some respondents still said that they were not very satisfied or very dissatisfied, and producers should further strengthen product instructions and maintenance guidance.

Table 4.22: *How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool?*

Option	Subtotal	Ratio
A. Very satisfied	99	49.5%
B. satisfied	63	31.5%
C. So so	20	10%
D. dissatisfied	15	7.5%
E. Very dissatisfied	3	1.5%

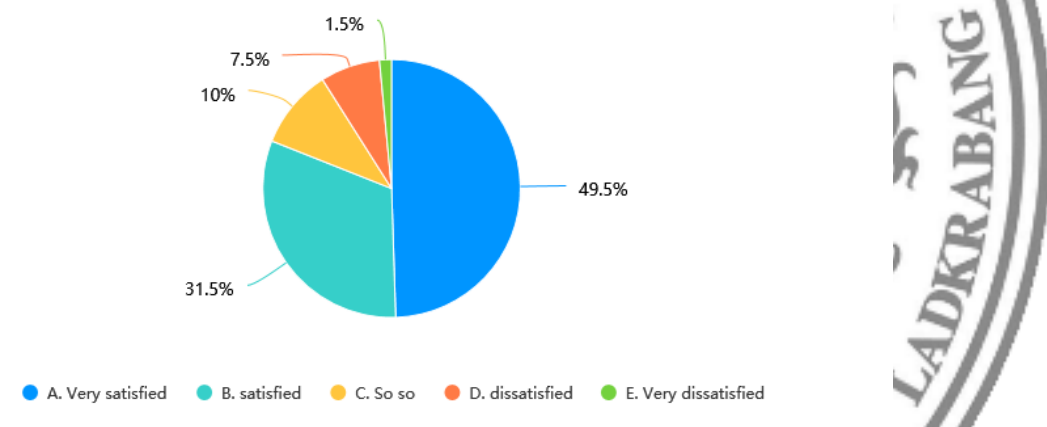


Figure 4.38: Satisfaction with environmental and sustainability performance
(Designed by the author)

Environmental protection and sustainability: The respondents gave a good evaluation of the environmental protection and sustainability performance of the redwood rattan stool, of which 49.5% were very satisfied and 31.5% were satisfied. This reflects that the redwood rattan stool has achieved certain results in environmental protection and sustainability. However, there are still a few respondents who are dissatisfied or very dissatisfied, and producers should further strengthen the selection of environmentally friendly materials and the improvement of production processes.

Table 4.23: *Would you like to recommend Mahogany Rattan Stool to others?*

Option	Subtotal	Ratio
A. Very willingly	94	47%
B. willing	72	36%
C. So so	25	12.5%
D. Unwilling	9	4.5%
E. Not at all	0	0%

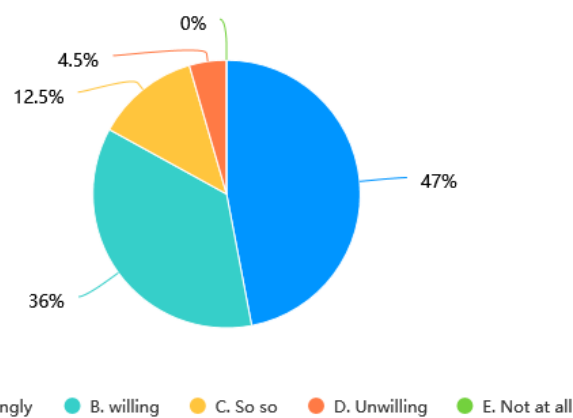
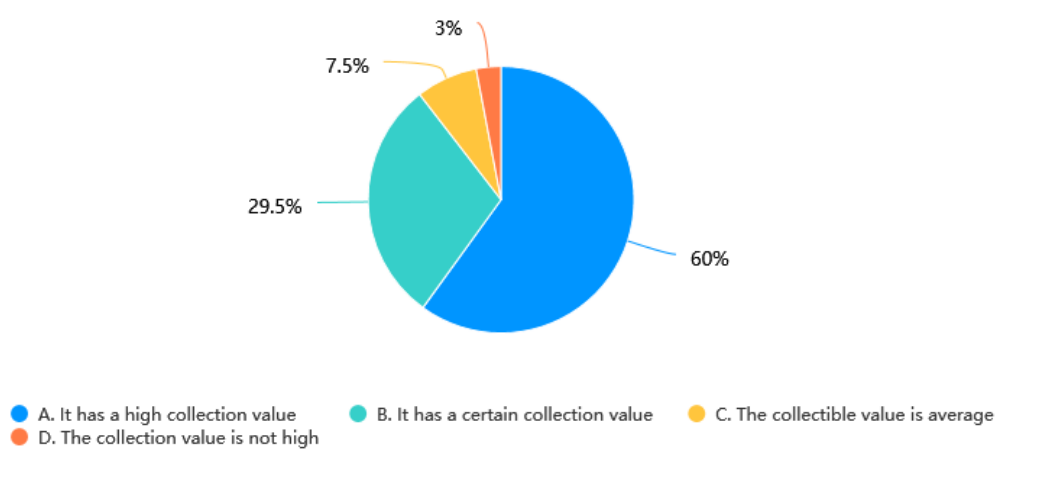


Figure 4.39: Would you recommend it to others
(Designed by the author)

Willingness to recommend: 47% of the respondents are very willing to recommend the redwood rattan stool to others, and 36% are willing to recommend it. This shows that the redwood rattan stool has a high reputation and recommendation value among consumers. However, there are still a few respondents who are unwilling or completely unwilling to recommend it, and producers should further optimize product improvement and marketing strategies.

Table 4.24: *Do you think mahogany rattan stools are collectible*

Option	Subtotal	Ratio
A. It has a high collection value	120	60%
B. It has a certain collection value	59	29.5%
C. The collectible value is average	15	7.5%
D. The collection value is not high	6	3%

Figure 4.40: *Do you think mahogany rattan stools are collectible*

(Designed by the author)

Collection value: 60% of the respondents believe that the redwood rattan stool has a high collection value, and 29.5% believe that it has a certain collection value. This reflects that the redwood rattan stool has great potential in the collection market. Producers can launch styles and specifications with more collection value in response to this market demand.

This table shows the data summary, including the number of respondents, the proportion of respondents for each option, and the mean and standard deviation of each question. The purpose of the table is to help understand the respondents' satisfaction with various aspects of mahogany rattan chairs, including design, comfort, durability, quality, and cost-effectiveness.

Table 4.25: *Satisfaction data*

No.	Problem	Mean	S.D.	Description Options
7	How satisfied are you with the overall design of the mahogany rattan stool?	4.24	0.84	High level
8	How satisfied are you with the comfort level of your mahogany rattan stool?	3.98	1.11	High level
9	How satisfied are you with the durability of your mahogany rattan stool?	4.06	1.02	High level
10	How satisfied are you with the quality of the mahogany rattan stool?	4.28	0.92	High level
11	Do you think the design of the mahogany rattan stool meets your aesthetic needs?	4.26	0.86	High level
12	How satisfied are you with the value for money for a rosewood rattan stool?	4.39	0.87	High level
13	How do you think the mahogany rattan stool performs in everyday use?	4.15	0.91	High level
14	How satisfied are you with the difficulty of maintaining your mahogany rattan stool?	4.29	0.94	High level
15	How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool?	4.20	1.00	High level
16	Would you like to recommend Mahogany Rattan Stool to others?	4.26	0.84	High level

Table 4.26:(continue)

No.	Problem	Mean	S.D.	Description Options
17	Do you think mahogany rattan stools are collectible?	3.47	0.76	Moderate level
18	Do you think the mahogany rattan stool needs to be improved in design?	3.32	0.84	moderately satisfied
19	How satisfied are you overall with the mahogany rattan stool?	4.12	1.13	Satisfy

We sort the satisfaction follow this:

1. The satisfaction with cost performance in high level (Mean = 4.39, S.D. = 0.87)
 2. Satisfaction with maintenance difficulty in high level (Mean = 4.29, S.D.= 0.94),
 3. Satisfaction with quality in high level (Mean = 4.28, S.D.= 0.92)
 4. Whether it meets aesthetic needs (Mean 4.26, S.D. 0.86) and Willingness to recommend (Mean 4.26, S.D. 0.84) are the same average in high level
 5. Satisfaction with the overall design in high level (Mean = 4.24, S.D. = 0.84)
 6. Satisfaction with environmental protection and sustainability performance in high level (Mean= 4.20, S.D.= 1.00)
 7. Daily use performance in high level (Mean 4.15, S.D. 0.91)
 8. Overall furniture design from applying Hunan culture satisfaction in high level (Mean= 4.12, S.D.= 1.13)
 9. Satisfaction with durability in high level (Mean = 4.06, S.D.=1.02)
 10. Satisfaction with comfort in high level (Mean = 3.98, S.D.= 1.11)
 11. Collection value in moderate level (Mean 3.47, S.D. 0.76)
 12. Design improvement needs in moderate level (Mean = 3.32, S.D.= 0.84)
- Suggestion:

Continue to provide cost-effective products or services while exploring innovative ways to add extra value, such as value-added services or long-term protection plans.

Simplify maintenance processes, provide clear and easy to understand user guides and online support to ensure that users can easily solve problems during use.

Implement strict quality control standards and regularly review and improve products or services to ensure sustained high quality.

Conduct in-depth research on the aesthetic trends of the target market, provide diverse design and customization options to meet the personalized needs of users.

Adopting environmentally friendly materials and processes to reduce environmental impact, while promoting the sustainability features of the product and enhancing the brand image.

Optimize the usability and functionality of the product to ensure that users can have a smooth and efficient experience in daily use.

Deeply explore regional cultural elements, integrate them into product design, and enhance the cultural identity and uniqueness of the product.

By improving materials and processes, the durability and service life of products are enhanced to meet users' expectations for long-term value.

Pay attention to ergonomic principles and health factors in product design to ensure that users feel comfortable and safe during use.

For products with potential collectible value, their uniqueness and collectible value can be enhanced through limited editions, special edition designs, and other means.

Establish an effective user feedback mechanism, actively collect and analyze user opinions, and promptly improve and optimize products or services.



CHAPTER 5

RESEARCH CONCLUSIONS

This research explores how to integrate Hunan culture into modern furniture through innovative design, so as to preserve traditional culture while meeting the needs of contemporary consumers. The study analyzes the history and current situation of Hunan furniture, conducts market research and studies consumer satisfaction, and concludes the influence of Hunan's traditional crafts, materials and cultural symbols on modern furniture design. This study is divided into three objectives: 1) Integrate Hunan's cultural capital to innovate furniture design; 2) Design furniture that conforms to Hunan's cultural characteristics; 3) Study consumer satisfaction with Hunan cultural furniture. The questionnaire analysis found that consumers have a high demand for both traditional and modern style furniture design. The survey shows that 56.48% of respondents prefer traditional classical style furniture design, while 49.07% prefer modern style. In addition, rattan and solid wood furniture are popular, accounting for 35.19% and 33.33% of consumers' choices respectively. This shows that modern consumers appreciate traditional craftsmanship in furniture selection and pursue the combination of practicality and modern aesthetics.

5.1 Conclusion

The questionnaire analysis found that consumers have a high demand for both traditional and modern style furniture design. The survey shows that 56.48% of respondents prefer traditional classical style furniture design, while 49.07% prefer modern style. In addition, rattan and solid wood furniture are popular, accounting for 35.19% and 33.33% of consumers' choices respectively. This shows that modern consumers appreciate traditional craftsmanship in furniture selection and pursue the combination of practicality and modern aesthetics.

The demand for personalized and customized design is rising, and cultural creativity is the key: Consumers pursue unique personalized furniture experience and have an increasing demand for customized design. By combining cultural creativity with personalized design, we can provide more abundant product choices to meet the diverse needs of consumers. Especially in the high-end market, the combination of personalization and cultural creativity will become an important means of differentiated competition. The integration potential of culture and design is huge: Hunan's rich cultural heritage provides a profound cultural background and creative source for furniture design. Cultural elements such as traditional architecture, folk art, and

carving, craftsmanship not only inject unique cultural value into furniture design but also enhance the market appeal of products. Consumers highly recognize the traditional cultural elements in furniture design, especially those works that can convey cultural connotations and combine modern aesthetics.

The balance between tradition and modernity is the key: The survey results show that consumers have a strong demand for the combination of traditional craftsmanship and modern functions. Furniture design should not only retain traditional elements in appearance, but also be able to adapt to modern lifestyles, and have both practicality and aesthetic value. When choosing furniture, consumers not only attach importance to cultural heritage and craftsmanship quality, but also have high expectations for the versatility, comfort and modern aesthetics of furniture.

Environmental protection and sustainable design have attracted much attention: With the improvement of global environmental awareness, consumers pay more and more attention to environmentally friendly materials and sustainable design. Especially in material selection, natural environmentally friendly materials such as rattan products and bamboo products are widely favored. This not only conforms to the trend of environmental protection but also provides a more competitive advantage for the long-term development of furniture products.

Increasing demand for personalization and cultural creativity: Modern consumers are increasingly inclined to personalized and customized furniture design, especially works that can reflect personal taste and cultural background. The integration of cultural creativity and personalized design can not only enhance the added value of furniture but also meet the market's demand for uniqueness and personalization.

5.2 Discussion

1. The profound influence of Hunan culture on furniture design: Hunan's unique historical culture covers a wealth of traditional architecture, folk handicrafts, carving art and bamboo weaving skills, which are all valuable cultural symbols and creative inspirations in furniture design. The focus of the discussion was on how to introduce these cultural essences into modern furniture design, which not only preserves the inheritance of traditional culture, but also plays a practical role in modern life. For example, Hunan's iconic buildings and carving crafts such as Yueyang (Zhang, J., & Chen, W. 2018). Tower and Orange Island can be transformed into furniture shapes or decorative elements through innovative design, reflecting the unique style of Hunan culture.

2. Balancing the needs of traditional and modern design: Consumers' respect for traditional culture and their love for modern design form a key challenge in design.

During the discussion, the preference of the younger generation for simple and functional design was emphasized, while the middle-aged and elderly groups pay more attention to cultural heritage and craftsmanship quality. (Li, Y., & Liu, M. 2019) Therefore, how to achieve a perfect fusion of tradition and modernity in furniture design has become one of the core discussions. Furniture should not only retain the characteristics of Hunan's traditional craftsmanship, but also adapt to modern lifestyles, such as designing simple, practical and versatile furniture to meet the needs of modern families.

3.The importance of environmental protection and sustainable design: The increasing environmental awareness of modern consumers has prompted designers to consider environmental protection and sustainable development in furniture design. In the discussion, natural and renewable materials such as rattan and bamboo products were highlighted because they not only conform to the trend of environmental protection but also have unique aesthetic value and practicality. (Wang, H., & Li, J. 2020) The discussion also focused on how to reduce environmental impact and promote sustainable design concepts during the production process, making environmental protection and sustainability one of the core competitiveness of furniture design.

4.The growing demand for personalization and cultural creativity: As the consumer market matures, consumers' demand for personalized and culturally creative designs is increasing. It was mentioned in the discussion that personalized design can provide consumers with a unique cultural experience, especially in the high-end furniture market, where the combination of customized services and cultural innovation can greatly increase the added value of furniture. By combining personal taste with cultural background, furniture design can better meet the individual needs of consumers and further expand the market.

5.3 Suggestions

1.Increase the innovative application of cultural elements: Furniture design should make full use of Hunan's cultural symbols and traditional craftsmanship and integrate them into modern design. For example, regional characteristic symbols such as Yueyang Tower and Xiangxi bamboo weaving, combined with modern minimalist style, can be used to launch furniture products that have both cultural connotations and contemporary aesthetics. Through in-depth excavation and creative use of cultural elements, furniture works can be given storytelling and artistry.

2.Focus on the dual improvement of function and aesthetics: The balance between tradition and modernity should be considered in design. It is necessary not only to maintain the traditional craft aesthetics of Hunan furniture, but also to meet the functional needs of modern families. It is recommended to launch multifunctional

furniture, such as deformable furniture, storage furniture, etc., especially in small-sized home scenes. Improve the comfort and practicality of furniture and seamlessly combine traditional culture with modern lifestyle.

3.Promote environmental protection and sustainable design concepts: In terms of material selection, environmentally friendly and renewable materials, such as rattan and bamboo, are preferred, while recyclable materials and low environmental impact production processes are used. The production, use and disposal of furniture products should comply with the principle of sustainable development, thereby winning the favor of consumers with strong environmental awareness.

4.Meet the needs of personalization and customization: Further develop personalized customization services to enable consumers to choose the materials, design styles and functional configurations of furniture according to their own needs. Through customized design, enhance the uniqueness and cultural expression of furniture, and meet consumers' pursuit of personalized and high-end design.

5.Combine culture with market promotion: Enhance the market awareness of Hunan cultural furniture through design competitions, cultural exhibitions and expositions. In the promotion process, not only the functionality and aesthetic value of furniture should be highlighted, but also its cultural heritage and environmental protection concept should be emphasized to enhance the brand's cultural charm and market competitiveness.



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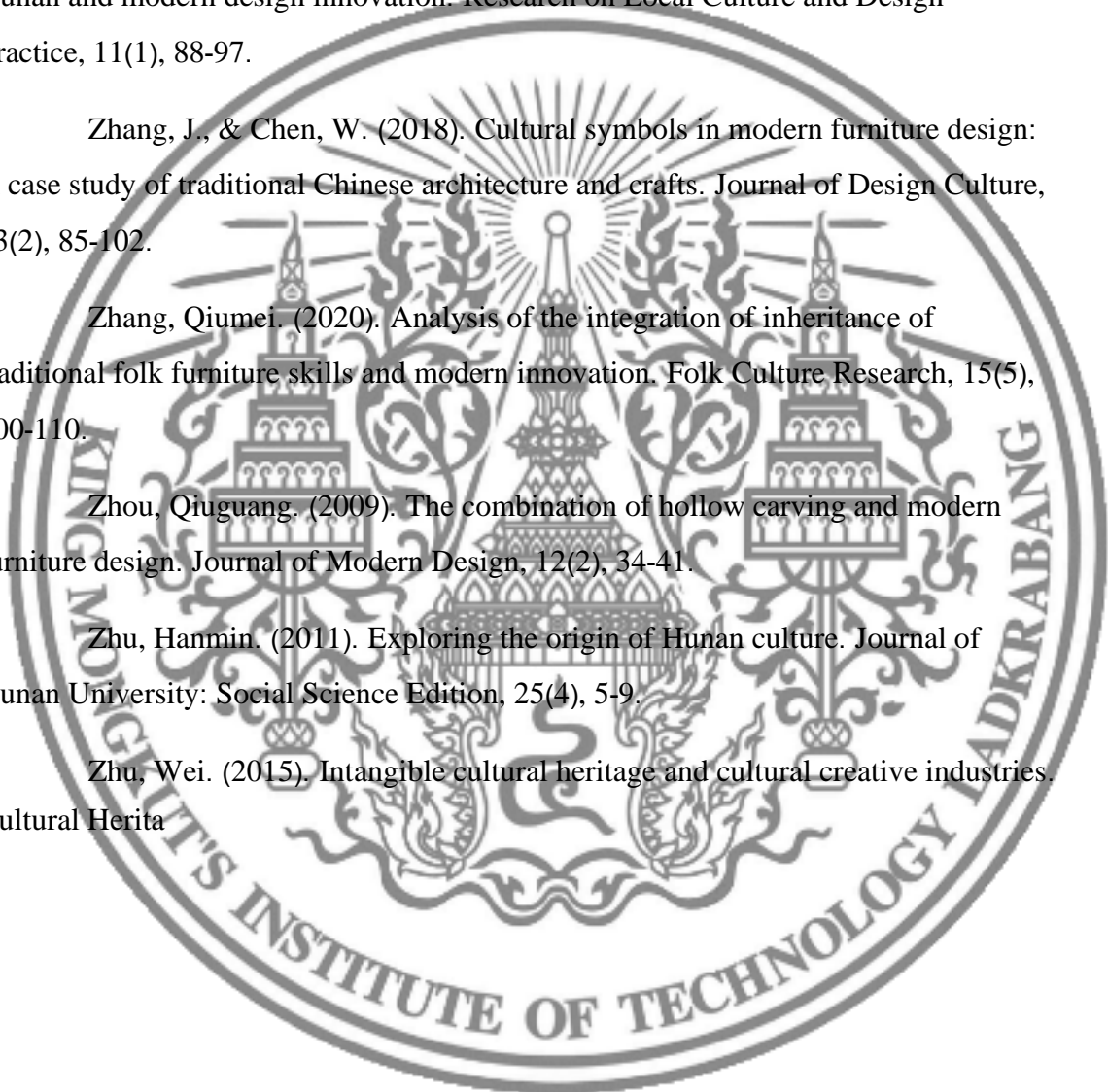
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APPENDIX

APPENDIX A Questionnaire

APPENDIX B Item of objective Congruence:IOC

APPENDIX C Design details





APPENDIX A

Questionnaire

Questionnaire 1

1. What is your gender?

- A. Male
- B. Female
- C. Other

2. Your age?

- A. 18-30 years old
- B. 31-50 years old
- C. 51-60 years old

3. What style of Hunan cultural furniture design do you like the most?



Traditional classical style



Modern minimalist style



Ethnic style

D. Other (please specify)

4. What elements do you think should be paid attention to in Hunan cultural furniture design? (Please select one or more options.)



A.

Traditional handicrafts



B.

Hunan characteristic materials (such as nanmu, bamboo weaving, etc.)



C.

Hunan regional characteristic elements (such as Yueyang Tower, Orange Island, etc.)



D.

Historical motifs (e.g., patterns from ancient pottery, bronze ware)



E.

Hunan folk culture elements (e.g., Miao embroidery, Tujia brocade)



F.

Calligraphy and painting styles (e.g., incorporating traditional Hunan calligraphy or landscape painting)



G.

Environmental design concepts (e.g. coffee grounds for environmental sustainability)

K Other (please specify)

5. What is your color preference for Hunan cultural furniture design?

A. Retro color

B. Bright colors

C. Light and elegant colors

D. Natural wood tones

E. Traditional Chinese colors (e.g., red, jade green, imperial yellow)

F. Other (please specify)

6. What traditional craftsmanship do you think should be reflected in Hunan cultural furniture design?

- A. Carving
- B. Carpentry (e.g., mortise and tenon, dovetail)
- C. Bamboo weaving
- D. Weaving
- E. Lacquerware
- F. Painting and calligraphy
- G. Embroidery (for upholstery)
- H. Glazing and ceramic decoration
- I. Other (please specify)

7. What is your material preference for Hunan cultural furniture design?

- A. Solid wood
- B. Bamboo product
- C. Rattan products
- D. Stone or marble
- E. Leather
- F. Textiles (e.g., hemp, linen)
- G. Eco-friendly plastics (e.g., bioplastics)
- H. Mixed-material combinations (e.g., wood and metal)
- I. Other (please specify)

8. What functional requirements do you think should be paid attention to in the design of Hunan cultural furniture?

- A. Storage function
- B. Multifunctional combination
- C. Comfort
- D. Space utilization
- E. Other (please specify)

9. What aspects of furniture are more important in your life? (Please select one or more options.)

- A. Reflecting personal taste
- B. Reflect social status
- C. Reflect the value of wealth
- D. Reflect cultural quality
- E. Suitable for home decoration style
- F. Healthy, green and environmentally friendly
- G. Other (please specify)

10. What type of Hunan culture furniture do you like?

- A. Living room furniture
- B. Restaurant furniture
- C. Bedroom furniture
- D. Dining room furniture
- E. walk in closet furniture
- F. Outdoor furniture
- G. Other (please specify)

11. Is it necessary to incorporate traditional culture into contemporary furniture?

- A. Yes, traditional cultural elements can enrich the design of modern furniture.
- B. Modern furniture should maintain an independent design style and does not need to Incorporate traditional culture.
- C. Depending on the circumstances, sometimes it is necessary to incorporate traditional culture
- D. Not sure/don't know.

12. Would you be more willing to buy furniture because its design reflects Hunan culture? Please add the reason

- A. Yes
- B. No.

13. What environmental protection concepts do you think should be paid attention to in the design of Hunan cultural furniture? (Please select one or more options.)

- A. Use environmentally
- B. Promote low-carbon life
- C. Sustainable development
- D. Minimalist design to reduce material usage
- E. Local sourcing of materials
- D. Other (please specify).

14. Would you be more willing to pay a higher price because the furniture design reflects Hunan culture?

- A. 1000~5000 RMB
- B. 5000~10000 RMB
- C. 10000~20000 RMB
- D. 20000 RMB or above
- E. Other

15. Which aspect of innovation do you think Hunan cultural furniture design should pay more attention to?

- A. Style innovation
- B. Material innovation
- C. Functional innovation
- D. Environmental sustainability
- E. multi-purpose design
- F. Other, please specify

16. Would you be more willing to wait for the customization cycle because the furniture design reflects Hunan culture? Please add the reason

- A. Yes..... (please specify)
- B. No..... (please specify)

17. What is your purchasing channel preference for Hunan cultural furniture design?

- A. Custom furniture store
- B. Traditional furniture market
- C. Internet furniture platform

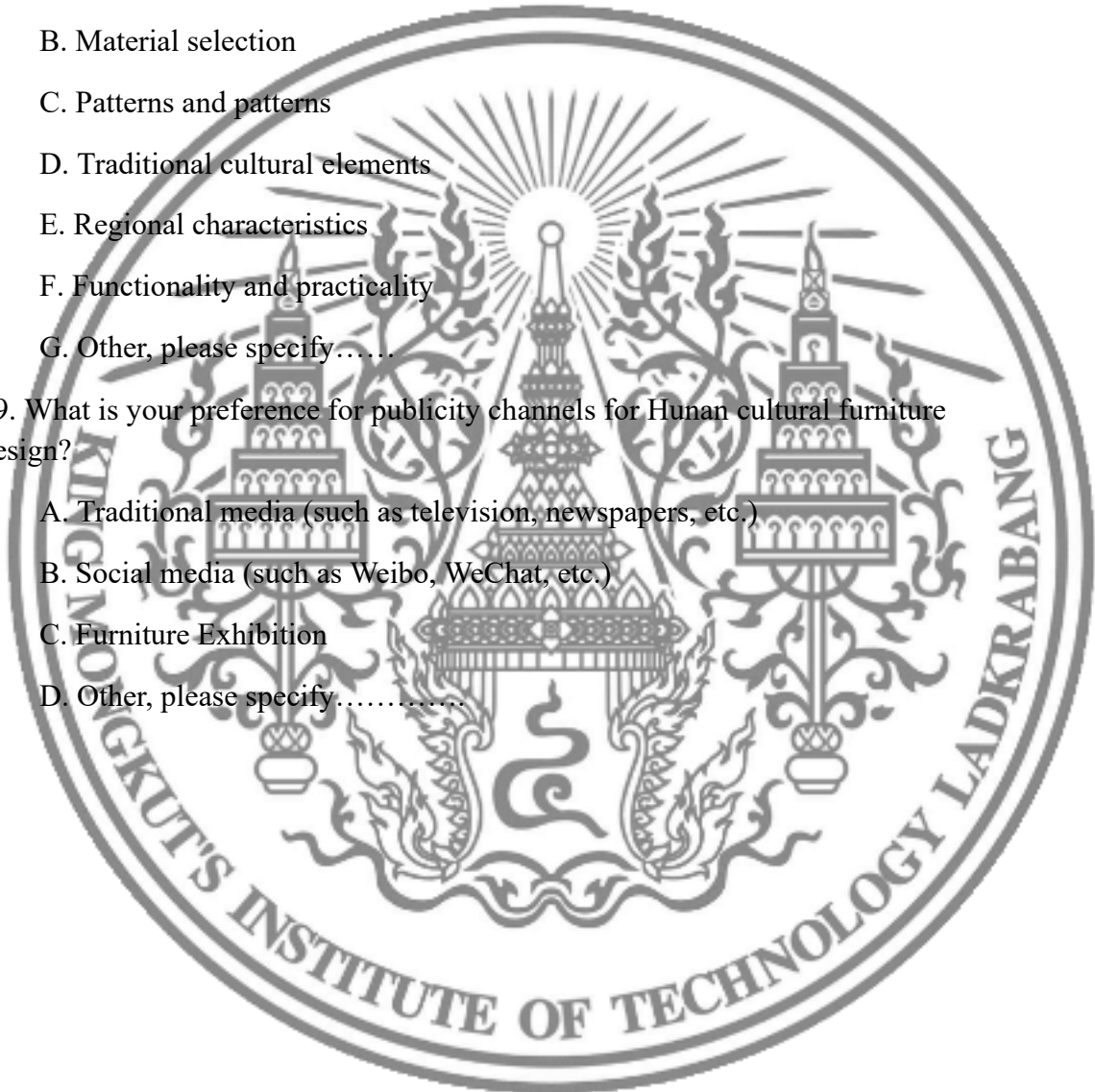
D. Other, please specify.....

18. What cultural inheritance do you think should be paid attention to in Hunan cultural furniture design?

- A. Traditional crafts
- B. Material selection
- C. Patterns and patterns
- D. Traditional cultural elements
- E. Regional characteristics
- F. Functionality and practicality
- G. Other, please specify.....

19. What is your preference for publicity channels for Hunan cultural furniture design?

- A. Traditional media (such as television, newspapers, etc.)
- B. Social media (such as Weibo, WeChat, etc.)
- C. Furniture Exhibition
- D. Other, please specify.....



Questionnaire 2

1. Your areas of expertise are:

- A. Furniture design
- B. Furniture history/story
- C. Traditional craftsmanship
- D. Other (please specify)

2. How many years you have worked in the field:

- A. 1-5 years
- B. 6-10 years
- C. 11-20 years
- D. More than 20 years

3. Do you think the design of the mahogany rattan stool is still practical in the modern home?

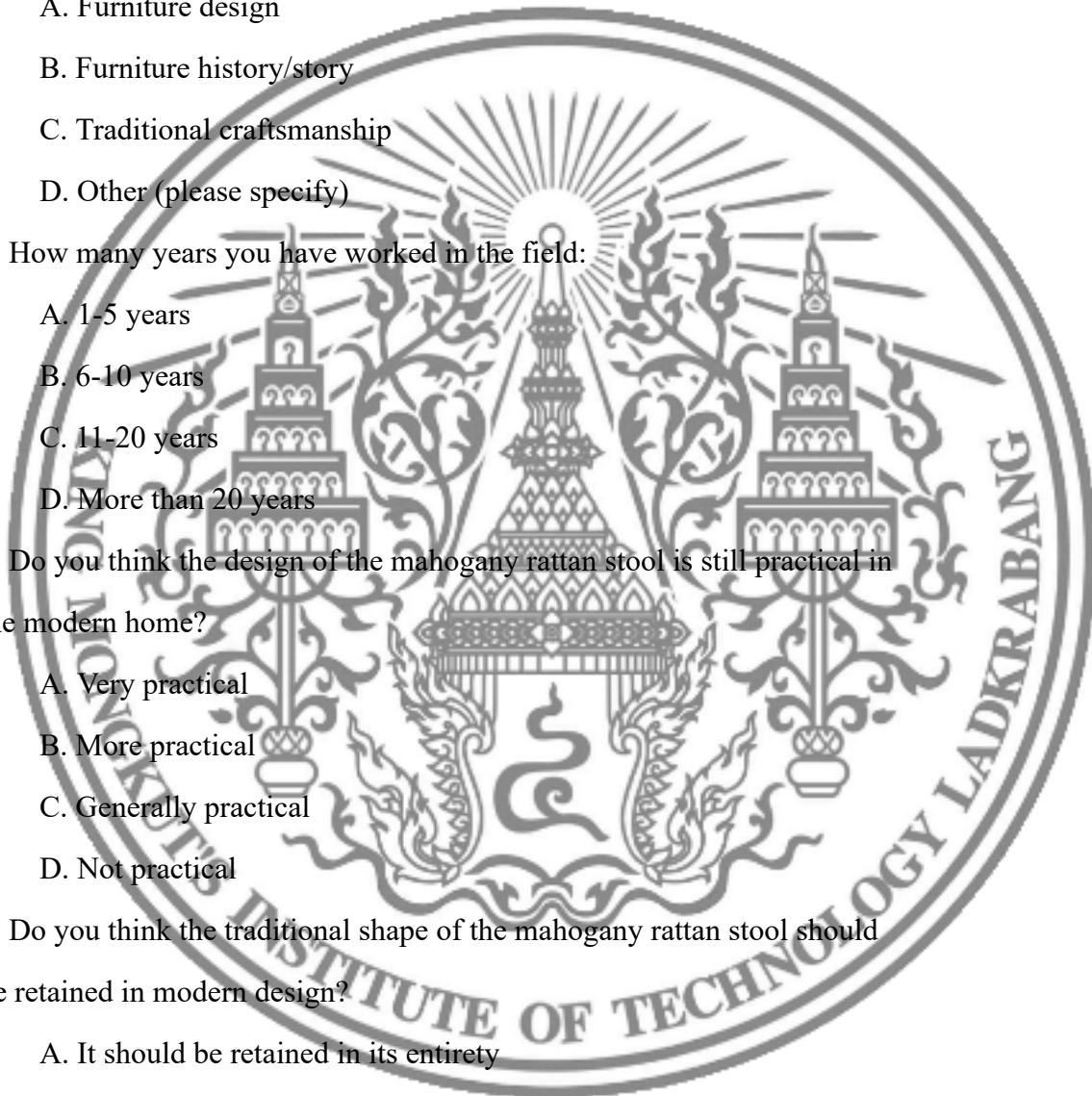
- A. Very practical
- B. More practical
- C. Generally practical
- D. Not practical

4. Do you think the traditional shape of the mahogany rattan stool should be retained in modern design?

- A. It should be retained in its entirety
- B. It should be partially retained, combined with modern design elements
- C. Innovative designs should be carried out to retain a small number of traditional elements
- D. should not be kept, completely innovative design

5. What do you think of the design aesthetic of the mahogany rattan stool?(You can select more than one).

- A. The traditional aesthetic value is high



- B. Exquisite craftsmanship
 - C. Beautifully shaped
 - D. The material is exquisite
 - E. Other (please specify)
6. How do you think modern design concepts should be combined to enhance the aesthetic value of mahogany rattan stools?
- A. Add a minimalist element
 - B. Infused with contemporary color
 - C. Optimize the structural design
 - D. Other recommendations (please specify)
7. Do you think the main materials of mahogany rattan stools (mahogany and rattan) should continue to be used in modern furniture design?
- A. It should be continued
 - B. Modern alternative materials should be considered
 - C. Traditional materials should not be used, but should be fully innovative
8. Do you think the traditional craftsmanship of mahogany rattan stools (mortise and tenon structure, rattan weaving) should be retained in modern furniture making?
- A. It should be retained in its entirety
 - B. should be partially retained, combined with modern technology
 - C. Innovations should be made to replace them with modern processes
9. What do you think of the performance of the mahogany rattan stool in terms of environmental protection and sustainability?
- A. The material is environmentally friendly
 - B. The production process is energy-saving
 - C. Conducive to sustainable development
 - D. Environmental performance needs to be improved
 - E. Other (please specify)
10. Do you think modern design should consider incorporating more eco-friendly

materials and craftsmanship into the making of mahogany rattan stools?

- A. It should be vigorously promoted
- B. It should be tried gradually
- C. Not necessarily
- D. Other recommendations (please specify)

11. What do you think of the user experience of the mahogany rattan stool? (comfort, durability, etc.).

- A. Very comfortable and durable
- B. It is more comfortable and durable
- C. Generally comfortable and durable
- D. Comfort and durability need to be improved

12. How do you think the user experience of the mahogany rattan stool should be improved to meet modern needs?

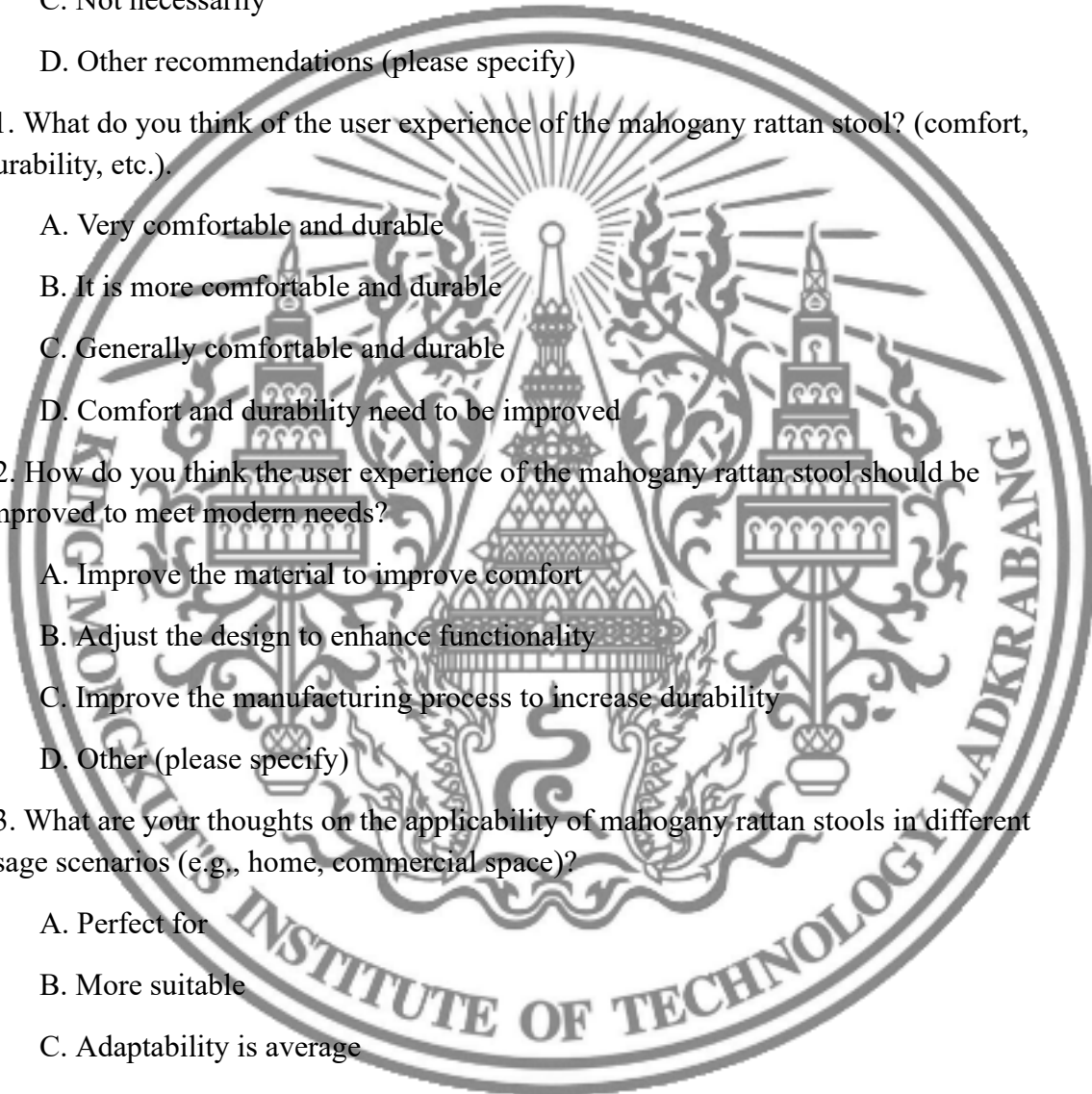
- A. Improve the material to improve comfort
- B. Adjust the design to enhance functionality
- C. Improve the manufacturing process to increase durability
- D. Other (please specify)

13. What are your thoughts on the applicability of mahogany rattan stools in different usage scenarios (e.g., home, commercial space)?

- A. Perfect for
- B. More suitable
- C. Adaptability is average
- D. Less adaptable

14. Do you think that when designing a mahogany rattan stool, do you need to consider the modular design so that users can assemble it by themselves?

- A. It is very necessary
- B. There is a certain need
- C. Not necessarily
- D. Not at all necessary



15. What do you think is the potential of mahogany rattan stools in the modern market?

- A. The market potential is huge
- B. There is a certain market potential
- C. The market potential is limited
- D. The market outlook is not good

16. How do you think we can effectively promote the cultural value of mahogany rattan stools?

- A. Incorporate modern elements into the design to appeal to younger consumers
- B. Strengthen publicity and enhance the public's awareness of traditional cultural furniture
- C. Develop limited edition or customized products to enhance their cultural value
- D. Other recommendations (please specify)

17. How collectible do you think the mahogany rattan stool is?

- A. It has a high collection value
- B. It has a certain collection value
- C. The collectible value is average
- D. The collectible value is low

18. What do you think is the international market prospect of mahogany rattan stools in the context of globalization?

- A. The outlook is very good
- B. The outlook is good
- C. The outlook is so-so
- D. The outlook is poor

19. What do you think modern designers should focus on when redesigning mahogany rattan stools? (You can select more than one).

- A. Selection of materials
- B. Inheritance of craftsmanship
- C. The expression of cultural connotations

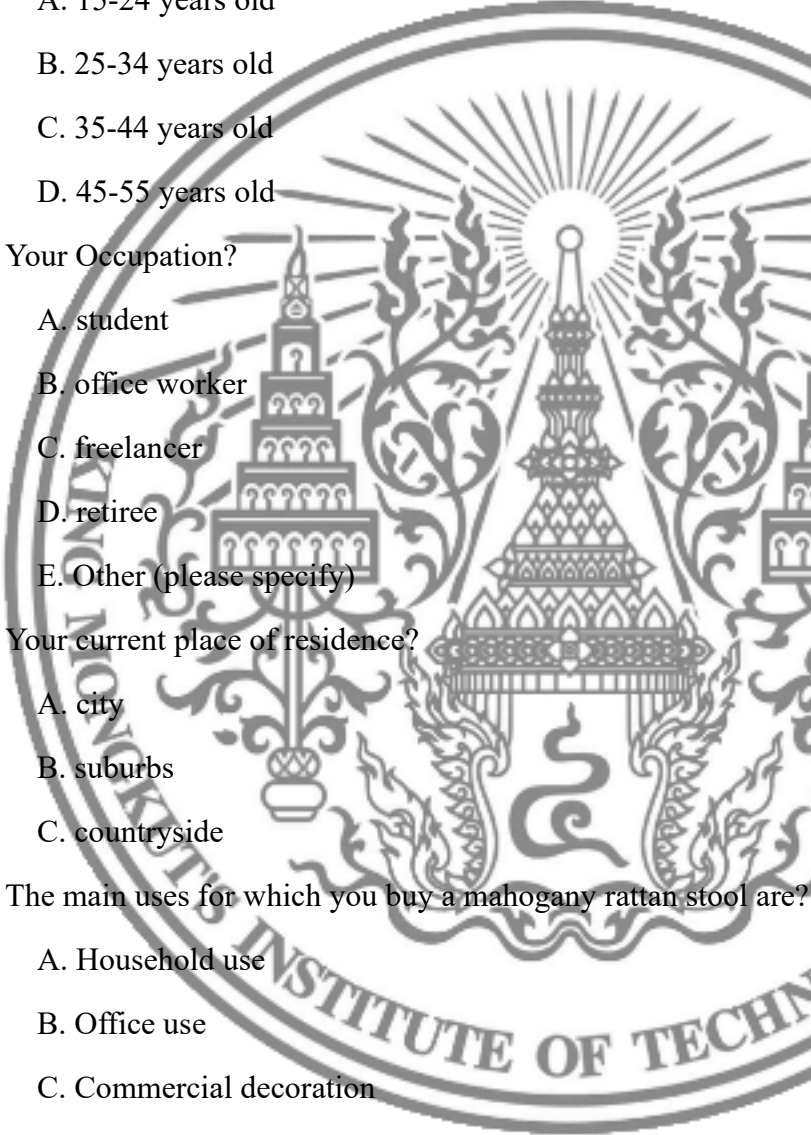
D. Satisfaction of market demand

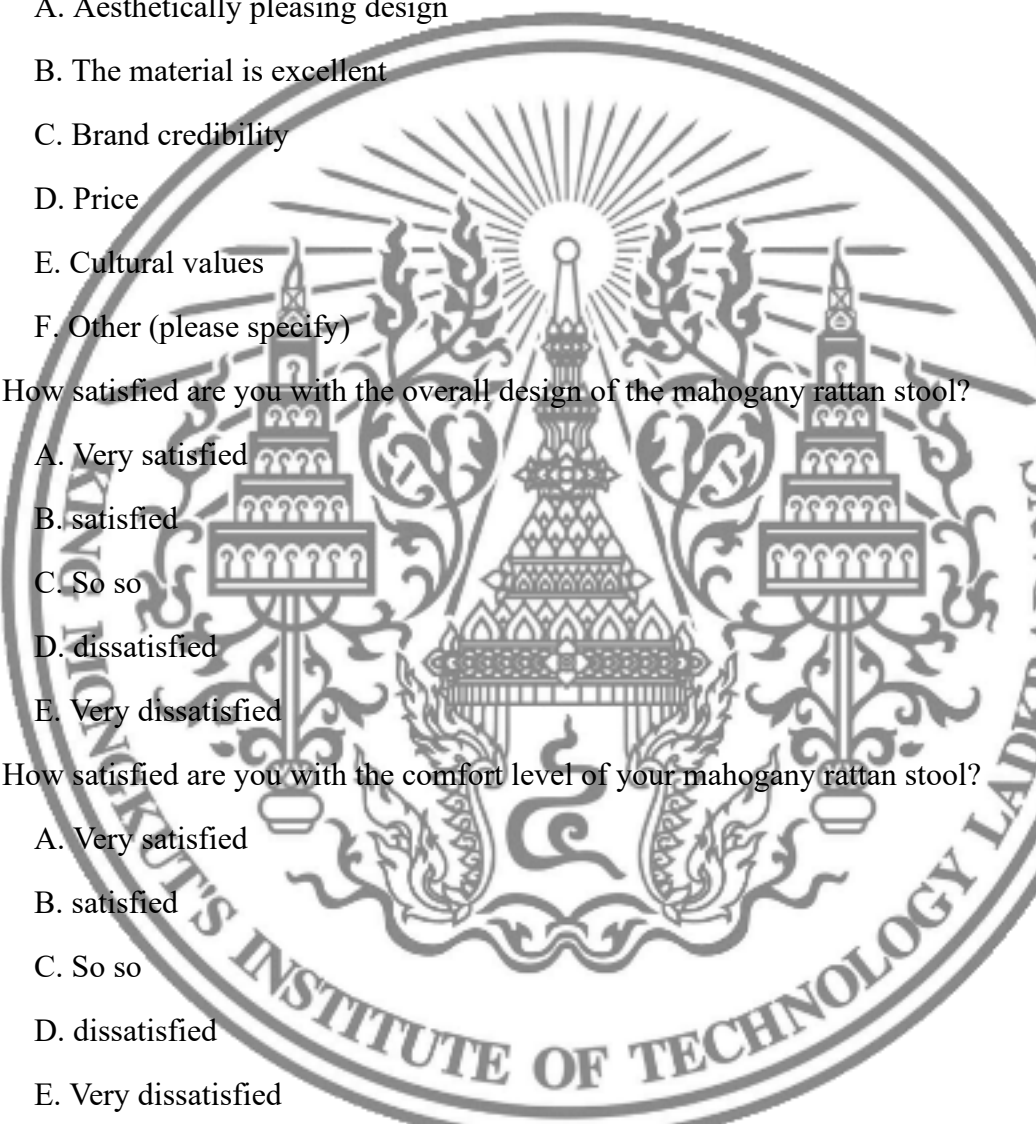
E. Other (please specify)

20. What other suggestions or opinions do you have for the use of mahogany rattan stools in modern design and the market



Questionnaire 3

1. Your age group?
 - A. 15-24 years old
 - B. 25-34 years old
 - C. 35-44 years old
 - D. 45-55 years old
 2. Your Occupation?
 - A. student
 - B. office worker
 - C. freelancer
 - D. retiree
 - E. Other (please specify)
 3. Your current place of residence?
 - A. city
 - B. suburbs
 - C. countryside
 4. The main uses for which you buy a mahogany rattan stool are?
 - A. Household use
 - B. Office use
 - C. Commercial decoration
 - D. collection
 - E. Other (please specify)
 5. The main reasons why you buy a mahogany rattan stool are?
 - A. I love traditional furniture
 - B. Admire the mahogany material
 - C. Pursue a high quality of life
- 

- D. As a collectible
- E. Other (please specify)
6. The most important factors you value when buying a mahogany rattan stool are?
- A. Aesthetically pleasing design
- B. The material is excellent
- C. Brand credibility
- D. Price
- E. Cultural values
- F. Other (please specify)
7. How satisfied are you with the overall design of the mahogany rattan stool?
- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied
8. How satisfied are you with the comfort level of your mahogany rattan stool?
- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied
9. How satisfied are you with the durability of your mahogany rattan stool?
- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied
- 
- The logo of Jomkiet's Institute of Technology Ladkrabang is a circular emblem. It features a central sunburst with rays emanating from a central point. Below the sunburst are three tiered, pagoda-like structures. The entire emblem is surrounded by a decorative border with the text "JOMKIET'S INSTITUTE OF TECHNOLOGY LADKRABANG" written around the perimeter.

10. How satisfied are you with the quality of the mahogany rattan stool?

- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied

11. Do you think the design of the mahogany rattan stool meets your aesthetic needs?

- A. Very much in line with
- B. More in line with it
- C. So so
- D. Not quite quite so
- E. Not at all

12. How satisfied are you with the value for money for a rosewood rattan stool?

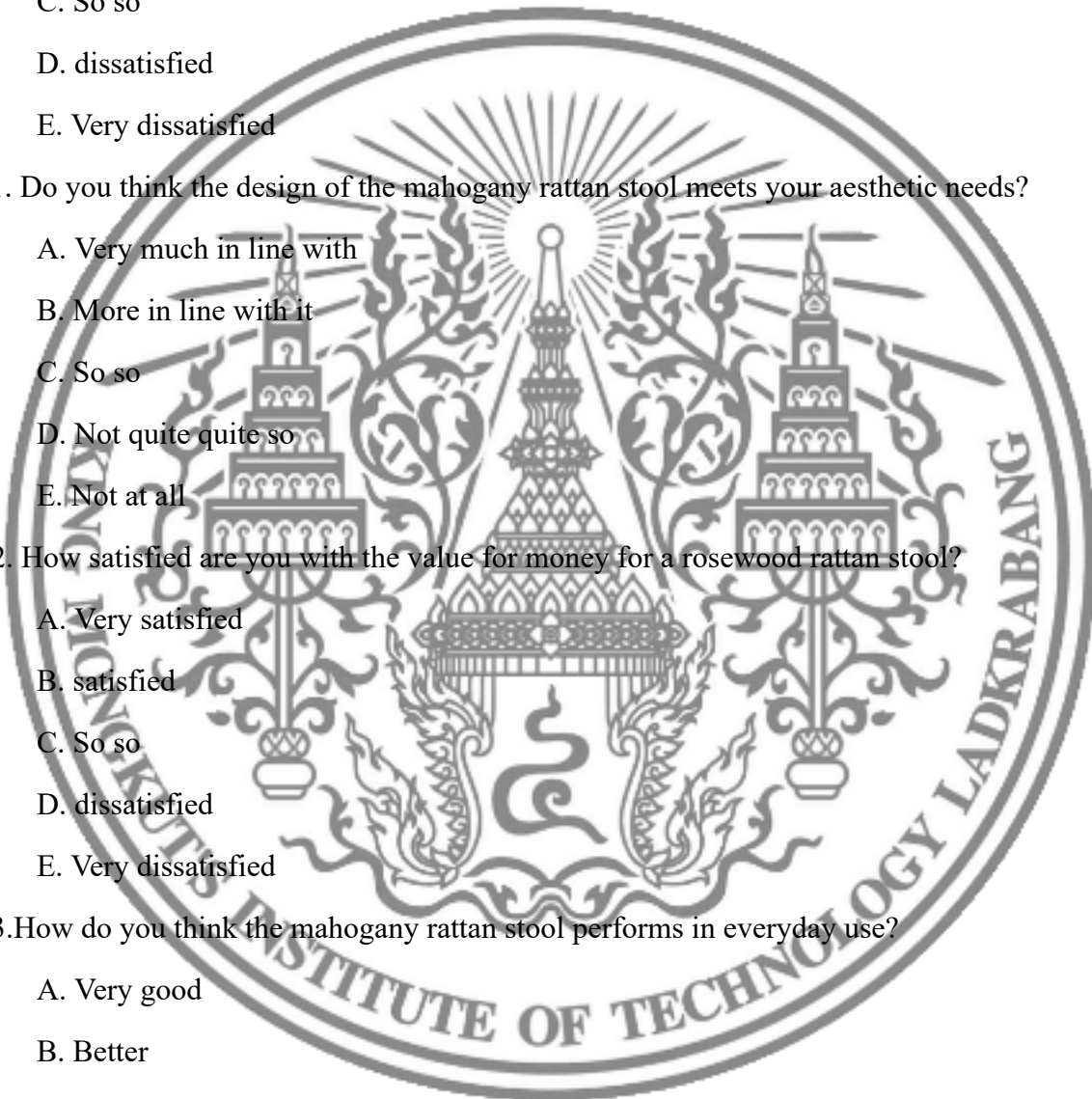
- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied

13. How do you think the mahogany rattan stool performs in everyday use?

- A. Very good
- B. Better
- C. So so
- D. Poor
- E. Very poor

14. How satisfied are you with the difficulty of maintaining your mahogany rattan stool?

- A. Very satisfied



- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied

15. How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool?

- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied

16. Would you like to recommend Mahogany Rattan Stool to others?

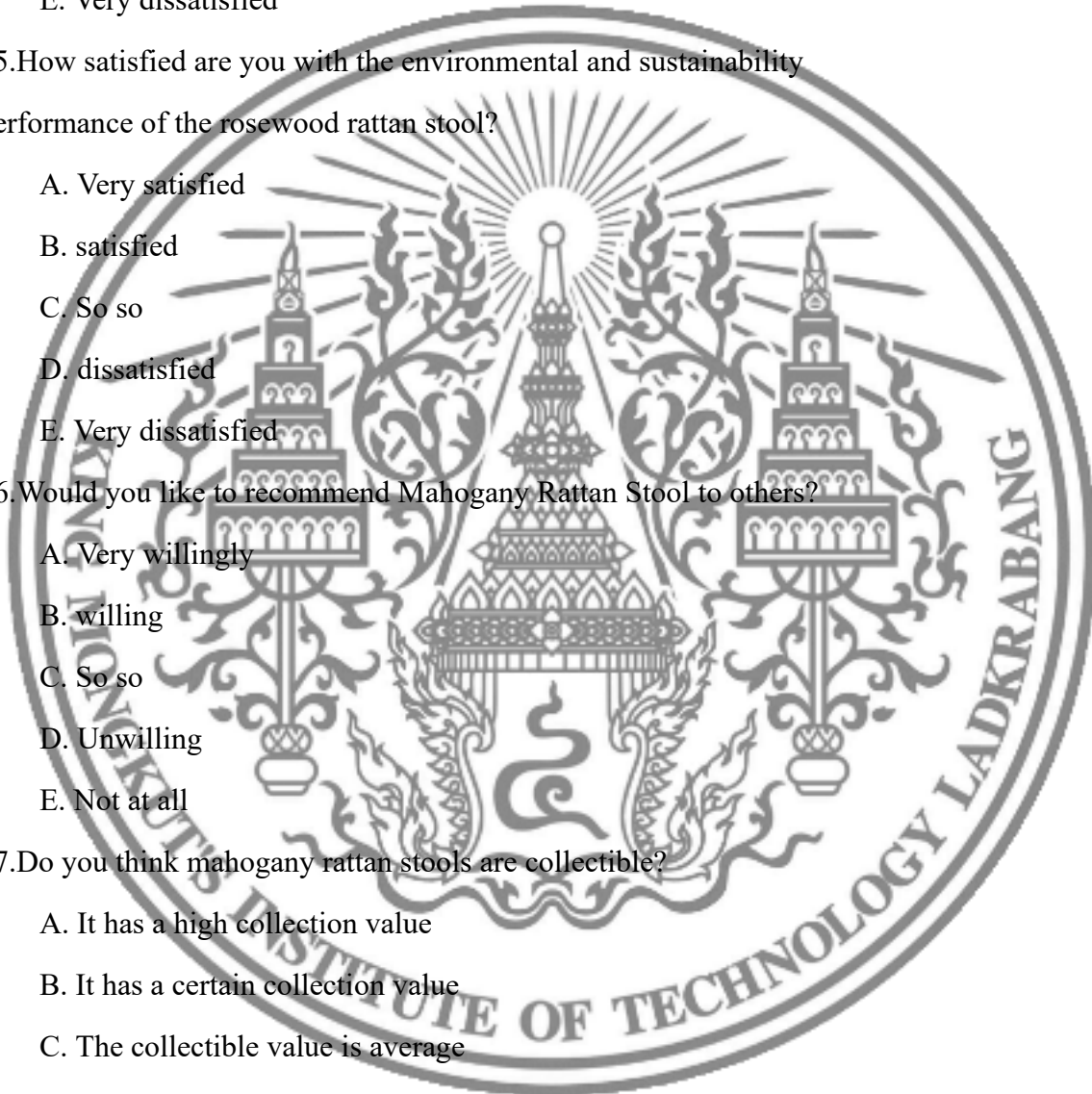
- A. Very willingly
- B. willing
- C. So so
- D. Unwilling
- E. Not at all

17. Do you think mahogany rattan stools are collectible?

- A. It has a high collection value
- B. It has a certain collection value
- C. The collectible value is average
- D. The collection value is not high

18. Do you think the mahogany rattan stool needs to be improved in design?

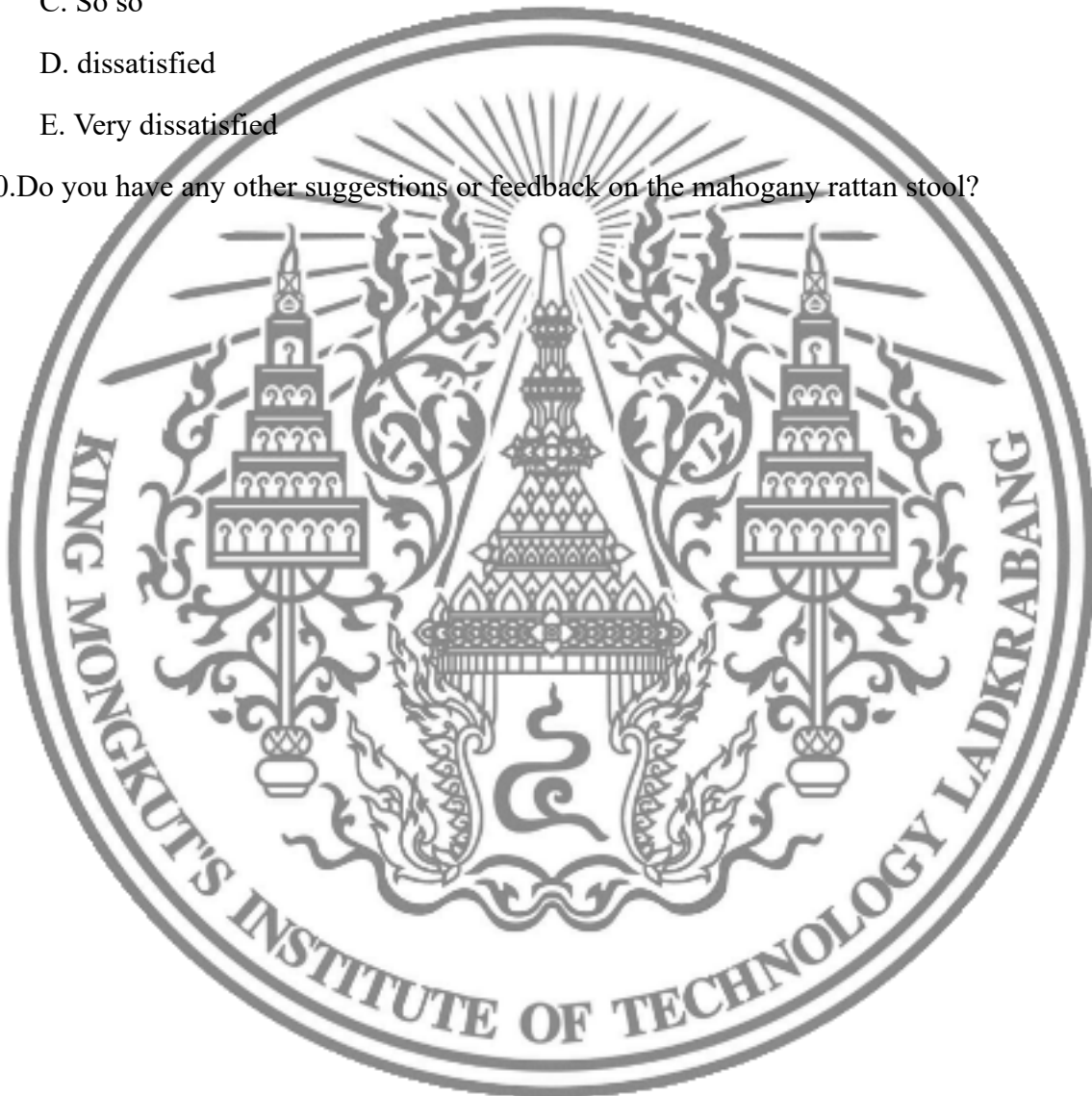
- A. Very much needed
- B. Need
- C. So so
- D. No, you don't



19. How satisfied are you overall with the mahogany rattan stool?

- A. Very satisfied
- B. satisfied
- C. So so
- D. dissatisfied
- E. Very dissatisfied

20. Do you have any other suggestions or feedback on the mahogany rattan stool?





APPENDIX B

Item of objective Congruence.IOC

① מכנה ממוצע של התאמה בין שאלות המחקר והתוצאות (Item) במחקר זה (Item) במחקר זה (Item) במחקר זה
Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design
 Researcher: YANG LIU




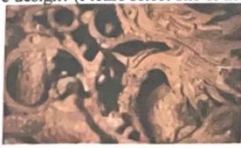
Question	score			IOC	result
	1	0	-1		
1. What is your gender? <input type="checkbox"/> A. Male <input type="checkbox"/> B. Female	-1				
2. Your age? <input type="checkbox"/> A. 18-30years old <input type="checkbox"/> B. 31-50 years old <input type="checkbox"/> C. 51-60years old	-1				
3. What style of Hunan cultural furniture design do you like the most?  <input type="checkbox"/> A. Traditional classical style  <input type="checkbox"/> B. Modern minimalist style  <input type="checkbox"/> C. Ethnic style <input type="checkbox"/> D. Other (please specify)		1			התאמה לא טובה אין
4. What elements do you think should be paid attention to in Hunan cultural furniture design? (Please select one or more options.) <input type="checkbox"/> A.  Traditional handicrafts		1			

Figure B 1: Item of objective Congruence: IOC







	<p><input type="checkbox"/> B. Hunan characteristic materials (such as nanmu, bamboo weaving, etc.)</p>					
	<p><input type="checkbox"/> C. Hunan regional characteristic elements (such as Yueyang Tower, Orange Island, etc.)</p>					
	<p><input type="checkbox"/> D. Historical motifs (e.g., patterns from ancient pottery, bronze ware)</p>					
	<p><input type="checkbox"/> E. Hunan folk culture elements (e.g., Miao embroidery, Tujia brocade)</p>					
	<p><input type="checkbox"/> F. Calligraphy and painting styles (e.g., incorporating traditional Hunan calligraphy or landscape painting)</p>					
	<p><input type="checkbox"/> G.</p>					

Figure B 2: Item of objective Congruence: IOC






Environmental design concepts (e.g. coffee grounds for environmental sustainability) <input type="checkbox"/> K Other (please specify)					
5. What is your color preference for Hunan cultural furniture design?  <input type="checkbox"/> A. Retro color  <input type="checkbox"/> B. Bright colors  <input type="checkbox"/> C. Light and elegant colors  <input type="checkbox"/> D. Natural wood tones  <input type="checkbox"/> E. Traditional Chinese colors (e.g., red, jade green, imperial yellow) <input type="checkbox"/> F. Other (please specify)	✓				၂၀၂၀ ၀၅/၀၅ ၂၀၂၀
6. What traditional craftsmanship do you think should be reflected in Hunan cultural furniture design? <input type="checkbox"/> A. Carving <input type="checkbox"/> B. Carpentry (e.g., mortise and tenon, dovetail) <input type="checkbox"/> C. Bamboo weaving <input type="checkbox"/> D. Weaving <input type="checkbox"/> E. Lacquerware <input type="checkbox"/> F. Painting and calligraphy <input type="checkbox"/> G. Embroidery (for upholstery) <input type="checkbox"/> H. Glazing and ceramic decoration <input type="checkbox"/> I. Other (please specify)	✓				

Figure B 3: Item of objective Congruence: IOC

<p>7. What is your material preference for Hunan cultural furniture design?</p> <p><input type="checkbox"/> A. Solid wood</p> <p><input type="checkbox"/> B. Bamboo product</p> <p><input type="checkbox"/> C. Rattan products</p> <p><input type="checkbox"/> D. Stone or marble</p> <p><input type="checkbox"/> E. Leather</p> <p><input type="checkbox"/> F. Textiles (e.g., hemp, linen)</p> <p><input type="checkbox"/> G. Eco-friendly plastics (e.g., bioplastics)</p> <p><input type="checkbox"/> H. Mixed-material combinations (e.g., wood and metal)</p> <p><input type="checkbox"/> I. Other (please specify)</p>	/				
<p>8. What functional requirements do you think should be paid attention to in the design of Hunan cultural furniture?</p> <p><input type="checkbox"/> A. Storage function</p> <p><input type="checkbox"/> B. Multifunctional combination</p> <p><input type="checkbox"/> C. Comfort</p> <p><input type="checkbox"/> D. Space utilization</p> <p><input type="checkbox"/> E. Other (please specify)</p>	/				
<p>9. What aspects of furniture are more important in your life? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Reflecting personal taste</p> <p><input type="checkbox"/> B. Reflect social status</p> <p><input type="checkbox"/> C. Reflect the value of wealth</p> <p><input type="checkbox"/> D. Reflect cultural quality</p> <p><input type="checkbox"/> E. Suitable for home decoration style</p> <p><input type="checkbox"/> F. Healthy, green and environmentally friendly</p> <p><input type="checkbox"/> G. Other (please specify)</p>	/				
<p>10. What type of Hunan culture furniture do you like?</p> <p><input type="checkbox"/> A. Living room furniture</p> <p><input type="checkbox"/> B. Restaurant furniture</p> <p><input type="checkbox"/> C. Bedroom furniture</p> <p><input type="checkbox"/> D. Dining room furniture</p> <p><input type="checkbox"/> E. walk in closet furniture</p> <p><input type="checkbox"/> F. Outdoor furniture</p> <p><input type="checkbox"/> G. Other (please specify)</p>	/				
<p>11. Is it necessary to incorporate traditional culture into contemporary furniture?</p> <p><input type="checkbox"/> A. Yes, traditional cultural elements can enrich the design of modern furniture.</p> <p><input type="checkbox"/> B. Modern furniture should maintain an independent design style and does not need to incorporate traditional culture.</p> <p><input type="checkbox"/> C. Depending on the circumstances, sometimes it is necessary to incorporate traditional culture</p> <p><input type="checkbox"/> D. Not sure/don't know.</p>	/				
<p>12. Would you be more willing to buy furniture because its design reflects Hunan culture? Please add the reason</p> <p><input type="checkbox"/> A. Yes</p> <p><input type="checkbox"/> B. No.</p> <p>.....</p> <p>.....</p>	/				
<p>13. What environmental protection concepts do you think should be paid attention to in the design of Hunan cultural furniture? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Use environmentally</p> <p><input type="checkbox"/> B. Promote low-carbon life</p> <p><input type="checkbox"/> C. Sustainable development</p>	/				



Figure B 4: Item of objective Congruence: IOC

<input type="checkbox"/> E. Local sourcing of materials <input type="checkbox"/> D. Other (please specify).					
14. Would you be more willing to pay a higher price because the furniture design reflects Hunan culture? <input type="checkbox"/> A. 1000-5000 RMB <input type="checkbox"/> B. 5000-10000 RMB <input type="checkbox"/> C. 10000-20000 RMB <input type="checkbox"/> D 20000 RMB or above	/				
15. Which aspect of innovation do you think Hunan cultural furniture design should pay more attention to? <input type="checkbox"/> A. Style innovation <input type="checkbox"/> B. Material innovation <input type="checkbox"/> C. Functional innovation <input type="checkbox"/> D. Environmental sustainability <input type="checkbox"/> E. Multi-purpose design <input type="checkbox"/> F. Other, please specify	/				
16. Would you be more willing to wait for the customization cycle because the furniture design reflects Hunan culture? Please add the reason <input type="checkbox"/> A. Yes _____ <input type="checkbox"/> B. No _____	/				025012023 51010040
17. What is your purchasing channel preference for Hunan cultural furniture design? <input type="checkbox"/> A. Custom furniture store <input type="checkbox"/> B. Traditional furniture market <input type="checkbox"/> C. Internet furniture platform <input type="checkbox"/> D. Other, please specify.....	/				
18. What cultural inheritance do you think should be paid attention to in Hunan cultural furniture design? <input type="checkbox"/> A. Traditional crafts <input type="checkbox"/> B. Material selection <input type="checkbox"/> C. Patterns and patterns <input type="checkbox"/> D. Traditional cultural elements <input type="checkbox"/> E. Regional characteristics <input type="checkbox"/> F. Functionality and practicality	/				
19. What is your preference for publicity channels for Hunan cultural furniture design? <input type="checkbox"/> A. Traditional media (such as television, newspapers, etc.) <input type="checkbox"/> B. Social media (such as Weibo, WeChat, etc.) <input type="checkbox"/> C. Furniture Exhibition <input type="checkbox"/> D. Other, please specify.....	✓				

This research uses the percentage for comparison of the opinion of the 3 groups of samples: 18-30 years old, 31-50 years old, and 50-60 years old, write a summary of opinions in a descriptive narrative format.

025012023

 (_____)
 Evaluator
 Date ____ / ____ / ____

Figure B 5: Item of objective Congruence: IOC

အလွန်အမင်းအားဖြင့် မိမိတို့၏ နေရာထုတ်
 လုပ်ငန်း

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU



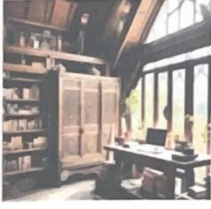

Question	score			IOC	result
	1	0	-1		
1. What is your gender? <input type="checkbox"/> A. Male <input type="checkbox"/> B. Female <input checked="" type="checkbox"/> C. other	✓				
2. Your age? <input type="checkbox"/> A. 18-30 years old <input type="checkbox"/> B. 31-50 years old <input type="checkbox"/> C. 51-60 years old } အသက် 31-50 နှစ်အတွက်		✓			
3. What style of Hunan cultural furniture design do you like the most? <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 10px;"> <input type="checkbox"/> A.  Traditional classical style </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> B.  Modern minimalist style </div> <div style="margin-bottom: 10px;"> <input type="checkbox"/> C.  Ethnic style </div> <div> <input type="checkbox"/> D. Other (please specify) </div> </div>	✓	✓			
4. What elements do you think should be paid attention to in Hunan cultural furniture design? (Please select one or more options.) <input type="checkbox"/> A.  Traditional handicrafts	✓				

Figure B 6: Item of objective Congruence: IOC







<p><input type="checkbox"/> B.  Hunan characteristic materials (such as nanmu, bamboo weaving, etc.)</p>	✓				
<p><input type="checkbox"/> C.  Hunan regional characteristic elements (such as Yueyang Tower, Orange Island, etc.)</p>	✓				
<p><input type="checkbox"/> D.  Historical motifs (e.g., patterns from ancient pottery, bronze ware)</p>	✓				
<p><input type="checkbox"/> E.  Hunan folk culture elements (e.g., Miao embroidery, Tujia brocade)</p>	✓				
<p><input type="checkbox"/> F.  Calligraphy and painting styles (e.g., incorporating traditional Hunan calligraphy or landscape painting)</p>	✓				
<p><input type="checkbox"/> G. </p>	✓				

Figure B 7:Item of objective Congruence: IOC






Environmental design concepts (e.g. coffee grounds for environmental sustainability) <input type="checkbox"/> K Other (please specify)					
5. What is your color preference for Hunan cultural furniture design?					
<input type="checkbox"/> A.  Retro color	✓				
<input type="checkbox"/> B.  Bright colors	✓				
<input type="checkbox"/> C.  Light and elegant colors	✓				
<input type="checkbox"/> D.  Natural wood tones	✓				
<input type="checkbox"/> E.  Traditional Chinese colors (e.g., red, jade green, imperial yellow)	✓				
<input type="checkbox"/> F. Other (please specify)					
6. What traditional craftsmanship do you think should be reflected in Hunan cultural furniture design?					
<input type="checkbox"/> A. Carving <input type="checkbox"/> B. Carpentry (e.g., mortise and tenon, dovetail) <input type="checkbox"/> C. Bamboo weaving <input type="checkbox"/> D. Weaving <input type="checkbox"/> E. Lacquerware <input type="checkbox"/> F. Painting and calligraphy <input type="checkbox"/> G. Embroidery (for upholstery) <input type="checkbox"/> H. Glazing and ceramic decoration <input type="checkbox"/> I. Other (please specify)	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓				

Figure B 8:Item of objective Congruence: IOC


<p>7. What is your material preference for Hunan cultural furniture design?</p> <p><input type="checkbox"/> A. Solid wood</p> <p><input type="checkbox"/> B. Bamboo product</p> <p><input type="checkbox"/> C. Rattan products</p> <p><input type="checkbox"/> D. Stone or marble</p> <p><input type="checkbox"/> E. Leather</p> <p><input type="checkbox"/> F. Textiles (e.g., hemp, linen)</p> <p><input type="checkbox"/> G. Eco-friendly plastics (e.g., bioplastics)</p> <p><input type="checkbox"/> H. Mixed-material combinations (e.g., wood and metal)</p> <p><input type="checkbox"/> I. Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>8. What functional requirements do you think should be paid attention to in the design of Hunan cultural furniture?</p> <p><input type="checkbox"/> A. Storage function</p> <p><input type="checkbox"/> B. Multifunctional combination</p> <p><input type="checkbox"/> C. Comfort</p> <p><input type="checkbox"/> D. Space utilization</p> <p><input type="checkbox"/> E. Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>9. What aspects of furniture are more important in your life? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Reflecting personal taste</p> <p><input type="checkbox"/> B. Reflect social status</p> <p><input type="checkbox"/> C. Reflect the value of wealth</p> <p><input type="checkbox"/> D. Reflect cultural quality</p> <p><input type="checkbox"/> E. Suitable for home decoration style</p> <p><input type="checkbox"/> F. Healthy, green and environmentally friendly</p> <p><input type="checkbox"/> G. Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>10. What type of Hunan culture furniture do you like?</p> <p><input type="checkbox"/> A. Living room furniture</p> <p><input type="checkbox"/> B. Restaurant furniture</p> <p><input type="checkbox"/> C. Bedroom furniture</p> <p><input type="checkbox"/> D. Dining room furniture</p> <p><input type="checkbox"/> E. walk in closet furniture</p> <p><input type="checkbox"/> F. Outdoor furniture</p> <p><input type="checkbox"/> G. Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>11. Is it necessary to incorporate traditional culture into contemporary furniture?</p> <p><input type="checkbox"/> A. Yes, traditional cultural elements can enrich the design of modern furniture.</p> <p><input type="checkbox"/> B. Modern furniture should maintain an independent design style and does not need to incorporate traditional culture.</p> <p><input type="checkbox"/> C. Depending on the circumstances, sometimes it is necessary to incorporate traditional culture</p> <p><input type="checkbox"/> D. Not sure/don't know.</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>12. Would you be more willing to buy furniture because its design reflects Hunan culture? Please add the reason</p> <p><input type="checkbox"/> A. Yes</p> <p><input type="checkbox"/> B. No.</p> <p>.....</p> <p>.....</p>	<p>✓</p> <p>✓</p>				
<p>13. What environmental protection concepts do you think should be paid attention to in the design of Hunan cultural furniture? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Use environmentally</p> <p><input type="checkbox"/> B. Promote low-carbon life</p> <p><input type="checkbox"/> C. Sustainable development</p>	<p>✓</p> <p>✓</p> <p>✓</p>				



Figure B 9:Item of objective Congruence: IOC

<input type="checkbox"/> E. Local sourcing of materials <input type="checkbox"/> D. Other (please specify).						
14. Would you be more willing to pay a higher price because the furniture design reflects Hunan culture? <input type="checkbox"/> A. 1000-5000 RMB <input type="checkbox"/> B. 5000-10000 RMB <input type="checkbox"/> C. 10000-20000 RMB <input checked="" type="checkbox"/> D. 20000 RMB or above	✓ ✓ ✓ ✓					
15. Which aspect of innovation do you think Hunan cultural furniture design should pay more attention to? <input type="checkbox"/> A. Style innovation <input type="checkbox"/> B. Material innovation <input type="checkbox"/> C. Functional innovation <input type="checkbox"/> D. Environmental sustainability <input type="checkbox"/> E. Multi-purpose design <input checked="" type="checkbox"/> F. Other, please specify	✓ ✓ ✓ ✓ ✓ ✓					
16. Would you be more willing to wait for the customization cycle because the furniture design reflects Hunan culture? Please add the reason <input type="checkbox"/> A. Yes <input checked="" type="checkbox"/> B. No	✓ ✓					
17. What is your purchasing channel preference for Hunan cultural furniture design? <input type="checkbox"/> A. Custom furniture store <input type="checkbox"/> B. Traditional furniture market <input type="checkbox"/> C. Internet furniture platform <input checked="" type="checkbox"/> D. Other, please specify.....	✓ ✓ ✓ ✓					
18. What cultural inheritance do you think should be paid attention to in Hunan cultural furniture design? <input type="checkbox"/> A. Traditional crafts <input type="checkbox"/> B. Material selection <input type="checkbox"/> C. Patterns and patterns <input type="checkbox"/> D. Traditional cultural elements <input type="checkbox"/> E. Regional characteristics <input checked="" type="checkbox"/> F. Functionality and practicality	✓ ✓ ✓ ✓ ✓ ✓					
19. What is your preference for publicity channels for Hunan cultural furniture design? <input type="checkbox"/> A. Traditional media (such as television, newspapers, etc.) <input type="checkbox"/> B. Social media (such as Weibo, WeChat, etc.) <input type="checkbox"/> C. Furniture Exhibition <input checked="" type="checkbox"/> D. Other, please specify.....	✓ ✓ ✓ ✓					

This research uses the percentage for comparison of the opinion of the 3 groups of samples: 18-30 years old, 31-50 years old, and 50-60 years old, write a summary of opinions in a descriptive narrative format.



 (_____)
 Evaluator
 Date 12/09/2024

Figure B 10:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design
Researcher: YANG LIU




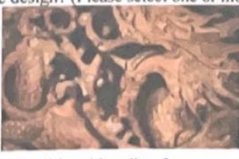
Question	score			IOC	result
	1	0	-1		
1. What is your gender? <input type="checkbox"/> A. Male <input type="checkbox"/> B. Female	/				
2. Your age? <input type="checkbox"/> A. 18-30years old <input type="checkbox"/> B. 31-50 years old <input type="checkbox"/> C. 51-60years old	/				
3. What style of Hunan cultural furniture design do you like the most? <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"><input type="checkbox"/> A.</div>  <div style="margin-left: 10px;">Traditional classical style</div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;"><input type="checkbox"/> B.</div>  <div style="margin-left: 10px;">Modern minimalist style</div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;"><input type="checkbox"/> C.</div>  <div style="margin-left: 10px;">Ethnic style</div> </div> <div style="margin-top: 5px;"><input type="checkbox"/> D. Other (please specify)</div>	/				
4. What elements do you think should be paid attention to in Hunan cultural furniture design? (Please select one or more options.) <input type="checkbox"/> A.  Traditional handicrafts	/				

Figure B 11:Item of objective Congruence: IOC






<p><input type="checkbox"/> B.</p> 					
<p>Hunan characteristic materials (such as nanmu, bamboo weaving, etc.)</p>					
<p><input type="checkbox"/> C.</p> 					
<p>Hunan regional characteristic elements (such as Yueyang Tower, Orange Island, etc.)</p>					
<p><input type="checkbox"/> D.</p> 					
<p>Historical motifs (e.g., patterns from ancient pottery, bronze ware)</p>					
<p><input type="checkbox"/> E.</p> 					
<p>Hunan folk culture elements (e.g., Miao embroidery, Tujia brocade)</p>					
<p><input type="checkbox"/> F.</p> 					
<p>Calligraphy and painting styles (e.g., incorporating traditional Hunan calligraphy or landscape painting)</p>					

Figure B 12:Item of objective Congruence: IOC




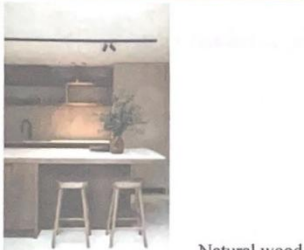

<p>Environmental design concepts (e.g. coffee grounds for environmental sustainability) <input type="checkbox"/> K Other (please specify)</p>					
<p>5. What is your color preference for Hunan cultural furniture design?</p> <p><input type="checkbox"/> A.  Retro color</p> <p><input type="checkbox"/> B.  Bright colors</p> <p><input type="checkbox"/> C.  Light and elegant colors</p> <p><input type="checkbox"/> D.  Natural wood tones</p> <p><input type="checkbox"/> E.  Traditional Chinese colors (e.g., red, jade green, imperial yellow)</p> <p><input type="checkbox"/> F. Other (please specify)</p>	<p>/</p>				
<p>6. What traditional craftsmanship do you think should be reflected in Hunan cultural furniture design?</p> <p><input type="checkbox"/> A. Carving</p> <p><input type="checkbox"/> B. Carpentry (e.g., mortise and tenon, dovetail)</p> <p><input type="checkbox"/> C. Bamboo weaving</p> <p><input type="checkbox"/> D. Weaving</p> <p><input type="checkbox"/> E. Lacquerware</p> <p><input type="checkbox"/> F. Painting and calligraphy</p> <p><input type="checkbox"/> G. Embroidery (for upholstery)</p> <p><input type="checkbox"/> H. Glazing and ceramic decoration</p> <p><input type="checkbox"/> I. Other (please specify)</p>	<p>/</p>				


Figure B 13:Item of objective Congruence: IOC

<p>7. What is your material preference for Hunan cultural furniture design?</p> <p><input type="checkbox"/> A. Solid wood</p> <p><input type="checkbox"/> B. Bamboo product</p> <p><input type="checkbox"/> C. Rattan products</p> <p><input type="checkbox"/> D. Stone or marble</p> <p><input type="checkbox"/> E. Leather</p> <p><input type="checkbox"/> F. Textiles (e.g., hemp, linen)</p> <p><input type="checkbox"/> G. Eco-friendly plastics (e.g., bioplastics)</p> <p><input type="checkbox"/> H. Mixed-material combinations (e.g., wood and metal)</p> <p><input type="checkbox"/> I. Other (please specify)</p>	/				
<p>8. What functional requirements do you think should be paid attention to in the design of Hunan cultural furniture?</p> <p><input type="checkbox"/> A. Storage function</p> <p><input type="checkbox"/> B. Multifunctional combination</p> <p><input type="checkbox"/> C. Comfort</p> <p><input type="checkbox"/> D. Space utilization</p> <p><input type="checkbox"/> E. Other (please specify)</p>	/				
<p>9. What aspects of furniture are more important in your life? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Reflecting personal taste</p> <p><input type="checkbox"/> B. Reflect social status</p> <p><input type="checkbox"/> C. Reflect the value of wealth</p> <p><input type="checkbox"/> D. Reflect cultural quality</p> <p><input type="checkbox"/> E. Suitable for home decoration style</p> <p><input type="checkbox"/> F. Healthy, green and environmentally friendly</p> <p><input type="checkbox"/> G. Other (please specify)</p>	/				
<p>10. What type of Hunan culture furniture do you like?</p> <p><input type="checkbox"/> A. Living room furniture</p> <p><input type="checkbox"/> B. Restaurant furniture</p> <p><input type="checkbox"/> C. Bedroom furniture</p> <p><input type="checkbox"/> D. Dining room furniture</p> <p><input type="checkbox"/> E. walk in closet furniture</p> <p><input type="checkbox"/> F. Outdoor furniture</p> <p><input type="checkbox"/> G. Other (please specify)</p>	/				
<p>11. Is it necessary to incorporate traditional culture into contemporary furniture?</p> <p><input type="checkbox"/> A. Yes, traditional cultural elements can enrich the design of modern furniture.</p> <p><input type="checkbox"/> B. Modern furniture should maintain an independent design style and does not need to incorporate traditional culture.</p> <p><input type="checkbox"/> C. Depending on the circumstances, sometimes it is necessary to incorporate traditional culture</p> <p><input type="checkbox"/> D. Not sure/don't know.</p>	/				
<p>12. Would you be more willing to buy furniture because its design reflects Hunan culture? Please add the reason</p> <p><input type="checkbox"/> A. Yes</p> <p><input type="checkbox"/> B. No.</p> <p>.....</p> <p>.....</p>	/				
<p>13. What environmental protection concepts do you think should be paid attention to in the design of Hunan cultural furniture? (Please select one or more options.)</p> <p><input type="checkbox"/> A. Use environmentally</p> <p><input type="checkbox"/> B. Promote low-carbon life</p> <p><input type="checkbox"/> C. Sustainable development</p>	/				

Figure B 14:Item of objective Congruence: IOC

<input type="checkbox"/> E. Local sourcing of materials <input type="checkbox"/> D. Other (please specify).					
14. Would you be more willing to pay a higher price because the furniture design reflects Hunan culture? <input type="checkbox"/> A. 1000-5000 RMB <input type="checkbox"/> B. 5000-10000 RMB <input type="checkbox"/> C. 10000-20000 RMB <input type="checkbox"/> D 20000 RMB or above	/				
15. Which aspect of innovation do you think Hunan cultural furniture design should pay more attention to? <input type="checkbox"/> A. Style innovation <input type="checkbox"/> B. Material innovation <input type="checkbox"/> C. Functional innovation <input type="checkbox"/> D. Environmental sustainability <input type="checkbox"/> E. Multi-purpose design <input type="checkbox"/> F. Other, please specify	/				
16. Would you be more willing to wait for the customization cycle because the furniture design reflects Hunan culture? Please add the reason <input type="checkbox"/> A. Yes <input type="checkbox"/> B. No	/				
17. What is your purchasing channel preference for Hunan cultural furniture design? <input type="checkbox"/> A. Custom furniture store <input type="checkbox"/> B. Traditional furniture market <input type="checkbox"/> C. Internet furniture platform <input type="checkbox"/> D. Other, please specify.....	/				
18. What cultural inheritance do you think should be paid attention to in Hunan cultural furniture design? <input type="checkbox"/> A. Traditional crafts <input type="checkbox"/> B. Material selection <input type="checkbox"/> C. Patterns and patterns <input type="checkbox"/> D. Traditional cultural elements <input type="checkbox"/> E. Regional characteristics <input type="checkbox"/> F. Functionality and practicality	/				
19. What is your preference for publicity channels for Hunan cultural furniture design? <input type="checkbox"/> A. Traditional media (such as television, newspapers, etc.) <input type="checkbox"/> B. Social media (such as Weibo, WeChat, etc.) <input type="checkbox"/> C. Furniture Exhibition <input type="checkbox"/> D. Other, please specify.....	/				

This research uses the percentage for comparison of the opinion of the 3 groups of samples: 18-30 years old, 31-50 years old, and 50-60 years old, write a summary of opinions in a descriptive narrative format.


 (张明华) / (张明华)
 Evaluator

Date 5 / 10 / 2017.

Figure B 15:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU

Advisor : Dr. Attama Saributr

Co-Advisor : Assoc. Prof. Dr. Chaturong Louhapensang

Question	score			IOC	result
	1	0	-1		
1. Your areas of expertise are: a) <input type="checkbox"/> Furniture design b) <input type="checkbox"/> Furniture history c) <input type="checkbox"/> Traditional craftsmanship d) <input type="checkbox"/> Other (please specify)					
2. How many years you have worked in the field: a) <input type="checkbox"/> 1-5 years b) <input type="checkbox"/> 6-10 years c) <input type="checkbox"/> 11-20 years d) <input type="checkbox"/> More than 20 years					
3. Do you think the design of the mahogany rattan stool is still practical in the modern home? a) <input type="checkbox"/> Very practical b) <input type="checkbox"/> More practical c) <input type="checkbox"/> Generally practical d) <input type="checkbox"/> Not practical					
4. Do you think the traditional shape of the mahogany rattan stool should be retained in modern design? a) <input type="checkbox"/> It should be retained in its entirety b) <input type="checkbox"/> It should be partially retained, combined with modern design elements c) <input type="checkbox"/> Innovative designs should be carried out to retain a small number of traditional elements d) <input type="checkbox"/> should not be kept, completely innovative design	/				
5. What do you think of the design aesthetic of the mahogany rattan stool? (You can select more than one). a) <input type="checkbox"/> The traditional aesthetic value is high b) <input type="checkbox"/> Exquisite craftsmanship c) <input type="checkbox"/> Beautifully shaped d) <input type="checkbox"/> The material is exquisite e) <input type="checkbox"/> Other (please specify)	/				
6. How do you think modern design concepts should be combined to enhance the aesthetic value of mahogany rattan stools? a) <input type="checkbox"/> Add a minimalist element	/				

Figure B 16:Item of objective Congruence: IOC

<p>b) <input type="checkbox"/> Infused with contemporary colours</p> <p>c) <input type="checkbox"/> Optimize the structural design</p> <p>d) <input type="checkbox"/> Other recommendations (please specify)</p>						
<p>7. Do you think the main materials of mahogany rattan stools (mahogany and rattan) should continue to be used in modern furniture design?</p> <p>a) <input type="checkbox"/> It should be continued</p> <p>b) <input type="checkbox"/> Modern alternative materials should be considered</p> <p>c) <input type="checkbox"/> Traditional materials should not be used, but should be fully innovative</p>	✓					
<p>8. Do you think the traditional craftsmanship of mahogany rattan stools (e.g. mortise and tenon structure, rattan weaving) should be retained in modern furniture making?</p> <p>a) <input type="checkbox"/> It should be retained in its entirety</p> <p>b) <input type="checkbox"/> should be partially retained, combined with modern technology</p> <p>c) <input type="checkbox"/> Innovations should be made to replace them with modern processes</p>	✓					
<p>9. What do you think of the performance of the mahogany rattan stool in terms of environmental protection and sustainability?</p> <p>a) <input type="checkbox"/> The material is environmentally friendly</p> <p>b) <input type="checkbox"/> The production process is energy-saving</p> <p>c) <input type="checkbox"/> Conducive to sustainable development</p> <p>d) <input type="checkbox"/> Environmental performance needs to be improved</p> <p>e) <input type="checkbox"/> Other (please specify)</p>	✓					
<p>10. Do you think modern design should consider incorporating more eco-friendly materials and craftsmanship into the making of mahogany rattan stools?</p> <p>a) <input type="checkbox"/> It should be vigorously promoted</p> <p>b) <input type="checkbox"/> It should be tried gradually</p> <p>c) <input type="checkbox"/> Not necessarily</p> <p>d) <input type="checkbox"/> Other recommendations (please specify)</p>	✓					
<p>11. What do you think of the user experience of the mahogany rattan stool? (e.g. comfort, durability, etc.).</p> <p>a) <input type="checkbox"/> Very comfortable and durable</p> <p>b) <input type="checkbox"/> It is more comfortable and durable</p> <p>c) <input type="checkbox"/> Generally comfortable and durable</p> <p>d) <input type="checkbox"/> Comfort and durability need to be improved</p>	✓					
<p>12. How do you think the user experience of the mahogany rattan stool should be improved to meet modern needs?</p> <p>a) <input type="checkbox"/> Improve the material to improve comfort</p> <p>b) <input type="checkbox"/> Adjust the design to enhance functionality</p>	✓					

Figure B 17:Item of objective Congruence: IOC

<p>c) <input type="checkbox"/> Improve the manufacturing process to increase durability d) <input type="checkbox"/> Other (please specify)</p>					
<p>13. What are your thoughts on the applicability of mahogany rattan stools in different usage scenarios (e.g., home, commercial space)?</p> <p>a) <input type="checkbox"/> Perfect for b) <input type="checkbox"/> More suitable c) <input type="checkbox"/> Adaptability is average d) <input type="checkbox"/> Less adaptable</p>	✓				
<p>14. Do you think that when designing a mahogany rattan stool, do you need to consider the modular design so that users can assemble it by themselves?</p> <p>a) <input type="checkbox"/> It is very necessary b) <input type="checkbox"/> There is a certain need c) <input type="checkbox"/> Not necessarily d) <input type="checkbox"/> Not at all necessary</p>	✓				
<p>15. What do you think is the potential of mahogany rattan stools in the modern market?</p> <p>a) <input type="checkbox"/> The market potential is huge b) <input type="checkbox"/> There is a certain market potential c) <input type="checkbox"/> The market potential is limited d) <input type="checkbox"/> The market outlook is not good</p>	✓				
<p>5. How do you think we can effectively promote the cultural value of mahogany rattan stools?</p> <p>a) <input type="checkbox"/> Incorporate modern elements into the design to appeal to younger consumers b) <input type="checkbox"/> Strengthen publicity and enhance the public's awareness of traditional cultural furniture c) <input type="checkbox"/> Develop limited edition or customized products to enhance their cultural value d) <input type="checkbox"/> Other recommendations (please specify)</p>	✓				
<p>17. How collectible do you think the mahogany rattan stool is?</p> <p>a) <input type="checkbox"/> It has a high collection value b) <input type="checkbox"/> It has a certain collection value c) <input type="checkbox"/> The collectible value is average d) <input type="checkbox"/> The collectible value is low</p>	✓				

Figure B 18:Item of objective Congruence: IOC

<p>18. What do you think is the international market prospect of mahogany rattan stools in the context of globalization?</p> <p>a) <input type="checkbox"/> The outlook is very good</p> <p>b) <input type="checkbox"/> The outlook is good</p> <p>c) <input type="checkbox"/> The outlook is so-so</p> <p>d) <input type="checkbox"/> The outlook is poor</p>	/				
<p>19. What do you think modern designers should focus on when redesigning mahogany rattan stools? (You can select more than one).</p> <p>a) <input type="checkbox"/> Selection of materials</p> <p>b) <input type="checkbox"/> Inheritance of craftsmanship</p> <p>c) <input type="checkbox"/> The expression of cultural connotations</p> <p>d) <input type="checkbox"/> Satisfaction of market demand</p> <p>e) <input type="checkbox"/> Other (please specify)</p>	/				
<p>20. What other suggestions or opinions do you have for the use of mahogany rattan stools in modern design and the market?</p>	/				

Suggestion

os. vici 2015

()

Evaluator

Date ___/___/___

Figure B 19:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU

Advisor : Dr. Attama Saributr

Co-Advisor : Assoc. Prof. Dr. Chaturong Louhapensang

Question	score			IOC	result
	1	0	-1		
1. Your areas of expertise are: a) <input type="checkbox"/> Furniture design b) <input type="checkbox"/> Furniture history <i>story</i> c) <input type="checkbox"/> Traditional craftsmanship d) <input type="checkbox"/> Other (please specify)	✓ ✓ ✓ ✓				
2. How many years you have worked in the field: a) <input type="checkbox"/> 1-5 years b) <input type="checkbox"/> 6-10 years c) <input type="checkbox"/> 11-20 years d) <input type="checkbox"/> More than 20 years	✓ ✓ ✓ ✓				
3. Do you think the design of the mahogany rattan stool is still practical in the modern home? a) <input type="checkbox"/> Very practical b) <input type="checkbox"/> More practical c) <input type="checkbox"/> Generally practical d) <input type="checkbox"/> Not practical	✓ ✓ ✓ ✓				
4. Do you think the traditional shape of the mahogany rattan stool should be retained in modern design? a) <input type="checkbox"/> It should be retained in its entirety b) <input type="checkbox"/> It should be partially retained, combined with modern design elements c) <input type="checkbox"/> Innovative designs should be carried out to retain a small number of traditional elements d) <input type="checkbox"/> should not be kept, completely innovative design	✓ ✓ ✓ ✓				
5. What do you think of the design aesthetic of the mahogany rattan stool? (You can select more than one). a) <input type="checkbox"/> The traditional aesthetic value is high b) <input type="checkbox"/> Exquisite craftsmanship c) <input type="checkbox"/> Beautifully shaped d) <input type="checkbox"/> The material is exquisite e) <input type="checkbox"/> Other (please specify)	✓ ✓ ✓ ✓ ✓				
6. How do you think modern design concepts should be combined to enhance the aesthetic value of mahogany rattan stools? a) <input type="checkbox"/> Add a minimalist element	✓				

Figure B 20:Item of objective Congruence: IOC

b) <input type="checkbox"/> Infused with contemporary colours c) <input type="checkbox"/> Optimize the structural design d) <input type="checkbox"/> Other recommendations (please specify)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
7. Do you think the main materials of mahogany rattan stools (mahogany and rattan) should continue to be used in modern furniture design? a) <input type="checkbox"/> It should be continued b) <input type="checkbox"/> Modern alternative materials should be considered c) <input type="checkbox"/> Traditional materials should not be used, but should be fully innovative	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
8. Do you think the traditional craftsmanship of mahogany rattan stools (e.g. mortise and tenon structure, rattan weaving) should be retained in modern furniture making? a) <input type="checkbox"/> It should be retained in its entirety b) <input type="checkbox"/> should be partially retained, combined with modern technology c) <input type="checkbox"/> Innovations should be made to replace them with modern processes	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
9. What do you think of the performance of the mahogany rattan stool in terms of environmental protection and sustainability? a) <input type="checkbox"/> The material is environmentally friendly b) <input type="checkbox"/> The production process is energy-saving c) <input type="checkbox"/> Conducive to sustainable development d) <input type="checkbox"/> Environmental performance needs to be improved e) <input type="checkbox"/> Other (please specify) _____	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
10. Do you think modern design should consider incorporating more eco-friendly materials and craftsmanship into the making of mahogany rattan stools? a) <input type="checkbox"/> It should be vigorously promoted b) <input type="checkbox"/> It should be tried gradually c) <input type="checkbox"/> Not necessarily d) <input type="checkbox"/> Other recommendations (please specify) _____	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
11. What do you think of the user experience of the mahogany rattan stool? (e.g. comfort, durability, etc.). a) <input type="checkbox"/> Very comfortable and durable b) <input type="checkbox"/> It is more comfortable and durable c) <input type="checkbox"/> Generally comfortable and durable d) <input type="checkbox"/> Comfort and durability need to be improved	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				
12. How do you think the user experience of the mahogany rattan stool should be improved to meet modern needs? a) <input type="checkbox"/> Improve the material to improve comfort b) <input type="checkbox"/> Adjust the design to enhance functionality	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>				


Figure B 21:Item of objective Congruence: IOC

<p>c) <input type="checkbox"/> Improve the manufacturing process to increase durability</p> <p>d) <input type="checkbox"/> Other (please specify) _____</p>	<p>✓</p> <p>✓</p>				
<p>13. What are your thoughts on the applicability of mahogany rattan stools in different usage scenarios (e.g., home, commercial space)?</p> <p>a) <input type="checkbox"/> Perfect for</p> <p>b) <input type="checkbox"/> More suitable</p> <p>c) <input type="checkbox"/> Adaptability is average</p> <p>d) <input type="checkbox"/> Less adaptable</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>14. Do you think that when designing a mahogany rattan stool, do you need to consider the modular design so that users can assemble it by themselves?</p> <p>a) <input type="checkbox"/> It is very necessary</p> <p>b) <input type="checkbox"/> There is a certain need</p> <p>c) <input type="checkbox"/> Not necessarily</p> <p>d) <input type="checkbox"/> Not at all necessary</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>15. What do you think is the potential of mahogany rattan stools in the modern market?</p> <p>a) <input type="checkbox"/> The market potential is huge</p> <p>b) <input type="checkbox"/> There is a certain market potential</p> <p>c) <input type="checkbox"/> The market potential is limited</p> <p>d) <input type="checkbox"/> The market outlook is not good</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>5. How do you think we can effectively promote the cultural value of mahogany rattan stools?</p> <p>a) <input type="checkbox"/> Incorporate modern elements into the design to appeal to younger consumers</p> <p>b) <input type="checkbox"/> Strengthen publicity and enhance the public's awareness of traditional cultural furniture</p> <p>c) <input type="checkbox"/> Develop limited edition or customized products to enhance their cultural value</p> <p>d) <input type="checkbox"/> Other recommendations (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>17. How collectible do you think the mahogany rattan stool is?</p> <p>a) <input type="checkbox"/> It has a high collection value</p> <p>b) <input type="checkbox"/> It has a certain collection value</p> <p>c) <input type="checkbox"/> The collectible value is average</p> <p>d) <input type="checkbox"/> The collectible value is low</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				

Figure B 22:Item of objective Congruence: IOC

<p>18. What do you think is the international market prospect of mahogany rattan stools in the context of globalization?</p> <p>a) <input type="checkbox"/> The outlook is very good</p> <p>b) <input type="checkbox"/> The outlook is good</p> <p>c) <input type="checkbox"/> The outlook is so-so</p> <p>d) <input type="checkbox"/> The outlook is poor</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>19. What do you think modern designers should focus on when redesigning mahogany rattan stools? (You can select more than one).</p> <p>a) <input type="checkbox"/> Selection of materials</p> <p>b) <input type="checkbox"/> Inheritance of craftsmanship</p> <p>c) <input type="checkbox"/> The expression of cultural connotations</p> <p>d) <input type="checkbox"/> Satisfaction of market demand</p> <p>e) <input type="checkbox"/> Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>20. What other suggestions or opinions do you have for the use of mahogany rattan stools in modern design and the market?</p>					

Suggestion



 (_____)

Evaluator

Date 12 / 09 / 2024

Figure B 23:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU

Advisor : Dr. Attama Saributr

Co-Advisor : Assoc. Prof. Dr. Chaturong Louhapensang

Question	score			IOC	result
	1	0	-1		
1. Your areas of expertise are: a) <input type="checkbox"/> Furniture design b) <input type="checkbox"/> Furniture history c) <input type="checkbox"/> Traditional craftsmanship d) <input type="checkbox"/> Other (please specify)	/				
2. How many years you have worked in the field: a) <input type="checkbox"/> 1-5 years b) <input type="checkbox"/> 6-10 years c) <input type="checkbox"/> 11-20 years d) <input type="checkbox"/> More than 20 years	/				
3. Do you think the design of the mahogany rattan stool is still practical in the modern home? a) <input type="checkbox"/> Very practical b) <input type="checkbox"/> More practical c) <input type="checkbox"/> Generally practical d) <input type="checkbox"/> Not practical	/				
4. Do you think the traditional shape of the mahogany rattan stool should be retained in modern design? a) <input type="checkbox"/> It should be retained in its entirety b) <input type="checkbox"/> It should be partially retained, combined with modern design elements c) <input type="checkbox"/> Innovative designs should be carried out to retain a small number of traditional elements d) <input type="checkbox"/> should not be kept, completely innovative design	/				
5. What do you think of the design aesthetic of the mahogany rattan stool? (You can select more than one). a) <input type="checkbox"/> The traditional aesthetic value is high b) <input type="checkbox"/> Exquisite craftsmanship c) <input type="checkbox"/> Beautifully shaped d) <input type="checkbox"/> The material is exquisite e) <input type="checkbox"/> Other (please specify)	/				
6. How do you think modern design concepts should be combined to enhance the aesthetic value of mahogany rattan stools? a) <input type="checkbox"/> Add a minimalist element	/				

Figure B 24:Item of objective Congruence: IOC

<p>b) <input type="checkbox"/> Infused with contemporary colours</p> <p>c) <input type="checkbox"/> Optimize the structural design</p> <p>d) <input type="checkbox"/> Other recommendations (please specify)</p>						
<p>7. Do you think the main materials of mahogany rattan stools (mahogany and rattan) should continue to be used in modern furniture design?</p> <p>a) <input type="checkbox"/> It should be continued</p> <p>b) <input type="checkbox"/> Modern alternative materials should be considered</p> <p>c) <input checked="" type="checkbox"/> Traditional materials should not be used, but should be fully innovative</p>	/					
<p>8. Do you think the traditional craftsmanship of mahogany rattan stools (e.g. mortise and tenon structure, rattan weaving) should be retained in modern furniture making?</p> <p>a) <input type="checkbox"/> It should be retained in its entirety</p> <p>b) <input type="checkbox"/> should be partially retained, combined with modern technology</p> <p>c) <input type="checkbox"/> Innovations should be made to replace them with modern processes</p>	/					
<p>9. What do you think of the performance of the mahogany rattan stool in terms of environmental protection and sustainability?</p> <p>a) <input type="checkbox"/> The material is environmentally friendly</p> <p>b) <input type="checkbox"/> The production process is energy-saving</p> <p>c) <input type="checkbox"/> Conducive to sustainable development</p> <p>d) <input type="checkbox"/> Environmental performance needs to be improved</p> <p>e) <input type="checkbox"/> Other (please specify)</p>	/					
<p>10. Do you think modern design should consider incorporating more eco-friendly materials and craftsmanship into the making of mahogany rattan stools?</p> <p>a) <input type="checkbox"/> It should be vigorously promoted</p> <p>b) <input type="checkbox"/> It should be tried gradually</p> <p>c) <input type="checkbox"/> Not necessarily</p> <p>d) <input type="checkbox"/> Other recommendations (please specify)</p>	/					
<p>11. What do you think of the user experience of the mahogany rattan stool? (e.g. comfort, durability, etc.).</p> <p>a) <input type="checkbox"/> Very comfortable and durable</p> <p>b) <input type="checkbox"/> It is more comfortable and durable</p> <p>c) <input type="checkbox"/> Generally comfortable and durable</p> <p>d) <input type="checkbox"/> Comfort and durability need to be improved</p>	/					
<p>12. How do you think the user experience of the mahogany rattan stool should be improved to meet modern needs?</p> <p>a) <input type="checkbox"/> Improve the material to improve comfort</p> <p>b) <input type="checkbox"/> Adjust the design to enhance functionality</p>	/					



Figure B 25:Item of objective Congruence: IOC

<p>c) <input type="checkbox"/> Improve the manufacturing process to increase durability d) <input type="checkbox"/> Other (please specify)</p>					
<p>13. What are your thoughts on the applicability of mahogany rattan stools in different usage scenarios (e.g., home, commercial space)?</p> <p>a) <input type="checkbox"/> Perfect for b) <input type="checkbox"/> More suitable c) <input type="checkbox"/> Adaptability is average d) <input type="checkbox"/> Less adaptable</p>	/				
<p>14. Do you think that when designing a mahogany rattan stool, do you need to consider the modular design so that users can assemble it by themselves?</p> <p>a) <input type="checkbox"/> It is very necessary b) <input type="checkbox"/> There is a certain need c) <input type="checkbox"/> Not necessarily d) <input type="checkbox"/> Not at all necessary</p>	/				
<p>15. What do you think is the potential of mahogany rattan stools in the modern market?</p> <p>a) <input type="checkbox"/> The market potential is huge b) <input type="checkbox"/> There is a certain market potential c) <input type="checkbox"/> The market potential is limited d) <input type="checkbox"/> The market outlook is not good</p>	/				
<p>5. How do you think we can effectively promote the cultural value of mahogany rattan stools?</p> <p>a) <input type="checkbox"/> Incorporate modern elements into the design to appeal to younger consumers b) <input type="checkbox"/> Strengthen publicity and enhance the public's awareness of traditional cultural furniture c) <input type="checkbox"/> Develop limited edition or customized products to enhance their cultural value d) <input type="checkbox"/> Other recommendations (please specify)</p>	/				
<p>17. How collectible do you think the mahogany rattan stool is?</p> <p>a) <input type="checkbox"/> It has a high collection value b) <input type="checkbox"/> It has a certain collection value c) <input type="checkbox"/> The collectible value is average d) <input type="checkbox"/> The collectible value is low</p>	/				

Figure B 26:Item of objective Congruence: IOC

<p>18. What do you think is the international market prospect of mahogany rattan stools in the context of globalization?</p> <p>a) <input type="checkbox"/> The outlook is very good b) <input type="checkbox"/> The outlook is good c) <input type="checkbox"/> The outlook is so-so d) <input type="checkbox"/> The outlook is poor</p>	/				
<p>19. What do you think modern designers should focus on when redesigning mahogany rattan stools? (You can select more than one).</p> <p>a) <input type="checkbox"/> Selection of materials b) <input type="checkbox"/> Inheritance of craftsmanship c) <input type="checkbox"/> The expression of cultural connotations d) <input type="checkbox"/> Satisfaction of market demand e) <input type="checkbox"/> Other (please specify)</p>	/				
<p>20. What other suggestions or opinions do you have for the use of mahogany rattan stools in modern design and the market?</p>	/				

Suggestion

(Signature)
 (5d.98 7572 107.5)
 Evaluator

Date 5 / 12 / 2017.

Figure B 27:Item of objective Congruence: IOC

<p>c) <input type="checkbox"/> Brand credibility d) <input type="checkbox"/> Price e) <input type="checkbox"/> Cultural values f) <input type="checkbox"/> Other (please specify)</p>					
<p>7. How satisfied are you with the overall design of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓				
<p>8. How satisfied are you with the comfort level of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓				
<p>9. How satisfied are you with the durability of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓				
<p>10. How satisfied are you with the quality of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓				
<p>11. Do you think the design of the mahogany rattan stool meets your aesthetic needs? a) <input type="checkbox"/> Very much in line with b) <input type="checkbox"/> More in line with it c) <input type="checkbox"/> So so d) <input type="checkbox"/> Not quite quite so e) <input type="checkbox"/> Not at all</p>	✓				
<p>12. How satisfied are you with the value for money for a rosewood rattan stool?</p>					

Figure B 29:Item of objective Congruence: IOC

<p>a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>						
<p>13. What problems have you encountered in the process of using mahogany rattan stools? (You can select more than one). a) <input type="checkbox"/> Cannot be used for long periods of time b) <input type="checkbox"/> The material is worn c) <input type="checkbox"/> Poor comfort d) <input type="checkbox"/> Color change e) <input type="checkbox"/> Other (please specify)</p>	✓					
<p>14. How do you think the mahogany rattan stool performs in everyday use? a) <input type="checkbox"/> Very good b) <input type="checkbox"/> Better c) <input type="checkbox"/> So so d) <input type="checkbox"/> Poor e) <input type="checkbox"/> Very poor</p>	✓					
<p>15. How satisfied are you with the difficulty of maintaining your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓					
<p>16. How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	✓					
<p>17. Would you like to recommend Mahogany Rattan Stool to others? a) <input type="checkbox"/> Very willingly b) <input type="checkbox"/> willing c) <input type="checkbox"/> So so d) <input type="checkbox"/> Unwilling e) <input type="checkbox"/> Not at all</p>	✓					

Figure B 30:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU

Advisor : Dr. Attama Saributr

Co-Advisor : Assoc. Prof. Dr. Chaturong Louhapensang

question	score			IOC	result
	1	0	-1		
1. Your age group?					
a) <input type="checkbox"/> 15-24 years old	✓				
b) <input type="checkbox"/> 25-34 years old	✓				
c) <input type="checkbox"/> 35-44 years old	✓				
d) <input type="checkbox"/> 45-54 years old	✓				
e) <input type="checkbox"/> 55 years of age and older <i>Age 55 years and above</i>	✓				
2. Your Occupation?					
a) <input type="checkbox"/> student	✓				
b) <input type="checkbox"/> office worker	✓				
c) <input type="checkbox"/> freelancer	✓				
d) <input type="checkbox"/> retiree	✓				
e) <input type="checkbox"/> Other (please specify) _____	✓				
3. Your current place of residence?					
a) <input type="checkbox"/> city <i>urban</i>	✓				
b) <input type="checkbox"/> suburbs	✓				
c) <input type="checkbox"/> countryside	✓				
4. The main uses for which you buy a mahogany rattan stool are?					
a) <input type="checkbox"/> Household use	✓				
b) <input type="checkbox"/> Office use	✓				
c) <input type="checkbox"/> Commercial decoration	✓				
d) <input type="checkbox"/> collection	✓				
e) <input type="checkbox"/> Other (please specify) _____	✓				
5. The main reasons why you buy a mahogany rattan stool are?					
a) <input type="checkbox"/> I love traditional furniture	✓				
b) <input type="checkbox"/> Admire the mahogany material	✓				
c) <input type="checkbox"/> Pursue a high quality of life	✓				
d) <input type="checkbox"/> As a collectible	✓				
e) <input type="checkbox"/> Other (please specify) _____	✓				
6. The most important factors you value when buying a mahogany rattan stool are?					
a) <input type="checkbox"/> Aesthetically pleasing design	✓				
b) <input type="checkbox"/> The material is excellent	✓				

Figure B 32:Item of objective Congruence: IOC


<p>c) <input type="checkbox"/> Brand credibility d) <input type="checkbox"/> Price e) <input type="checkbox"/> Cultural values f) <input type="checkbox"/> Other (please specify) _____</p>	<p>✓ ✓ ✓ ✓</p>				
<p>7. How satisfied are you with the overall design of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓ ✓ ✓ ✓ ✓</p>				
<p>8. How satisfied are you with the comfort level of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓ ✓ ✓ ✓ ✓</p>				
<p>9. How satisfied are you with the durability of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓ ✓ ✓ ✓ ✓</p>				
<p>10. How satisfied are you with the quality of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓ ✓ ✓ ✓ ✓</p>				
<p>11. Do you think the design of the mahogany rattan stool meets your aesthetic needs? a) <input type="checkbox"/> Very much in line with b) <input type="checkbox"/> More in line with it c) <input type="checkbox"/> So so d) <input type="checkbox"/> Not quite quite so e) <input type="checkbox"/> Not at all</p>	<p>✓ ✓ ✓ ✓ ✓</p>				
<p>12. How satisfied are you with the value for money for a rosewood rattan stool?</p>					

Figure B 33:Item of objective Congruence: IOC

<p>a) <input type="checkbox"/> Very satisfied</p> <p>b) <input type="checkbox"/> satisfied</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> dissatisfied</p> <p>e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					
<p>13. What problems have you encountered in the process of using mahogany rattan stools? (You can select more than one).</p> <p>a) <input type="checkbox"/> Cannot be used for long periods of time</p> <p>b) <input type="checkbox"/> The material is worn</p> <p>c) <input type="checkbox"/> Poor comfort</p> <p>d) <input type="checkbox"/> Color change</p> <p>e) <input type="checkbox"/> Other (please specify)</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					
<p>14. How do you think the mahogany rattan stool performs in everyday use?</p> <p>a) <input type="checkbox"/> Very good</p> <p>b) <input type="checkbox"/> Better</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> Poor</p> <p>e) <input type="checkbox"/> Very poor</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					
<p>15. How satisfied are you with the difficulty of maintaining your mahogany rattan stool?</p> <p>a) <input type="checkbox"/> Very satisfied</p> <p>b) <input type="checkbox"/> satisfied</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> dissatisfied</p> <p>e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					
<p>16. How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool?</p> <p>a) <input type="checkbox"/> Very satisfied</p> <p>b) <input type="checkbox"/> satisfied</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> dissatisfied</p> <p>e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					
<p>17. Would you like to recommend Mahogany Rattan Stool to others?</p> <p>a) <input type="checkbox"/> Very willingly</p> <p>b) <input type="checkbox"/> willing</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> Unwilling</p> <p>e) <input type="checkbox"/> Not at all</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>					

Figure B 34:Item of objective Congruence: IOC

<p>18. Do you think mahogany rattan stools are collectible?</p> <p>a) <input type="checkbox"/> It has a high collection value</p> <p>b) <input type="checkbox"/> It has a certain collection value</p> <p>c) <input type="checkbox"/> The collectible value is average</p> <p>d) <input type="checkbox"/> The collection value is not high</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>19. Do you think the mahogany rattan stool needs to be improved in design?</p> <p>a) <input type="checkbox"/> Very much needed</p> <p>b) <input type="checkbox"/> need</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> No, you don't</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>20. How satisfied are you overall with the mahogany rattan stool?</p> <p>a) <input type="checkbox"/> Very satisfied</p> <p>b) <input type="checkbox"/> satisfied</p> <p>c) <input type="checkbox"/> So so</p> <p>d) <input type="checkbox"/> dissatisfied</p> <p>e) <input type="checkbox"/> Very dissatisfied</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>				
<p>21. Do you have any other suggestions or feedback on the mahogany rattan stool?</p> <p>*****</p>	<p>✓</p>				



 (_____)
 Evaluator
 Date 12 / 09 / 2024

Figure B 35:Item of objective Congruence: IOC

Index of Item-Objective Congruence, IOC

Research topic: Synthesizing Hunan Cultural Capital For Innovative Furniture Design

Researcher: YANG LIU

Advisor : Dr. Attama Saributr

Co-Advisor : Assoc. Prof. Dr. Chaturong Louhapensang

question	score			IOC	result
	1	0	-1		
1. Your age group? a) <input type="checkbox"/> 15-24 years old b) <input type="checkbox"/> 25-34 years old c) <input type="checkbox"/> 35-44 years old d) <input checked="" type="checkbox"/> 45-54 years old e) <input type="checkbox"/> 55 years of age and older	/				
2. Your Occupation? a) <input type="checkbox"/> student b) <input type="checkbox"/> office worker c) <input type="checkbox"/> freelancer d) <input checked="" type="checkbox"/> retiree e) <input type="checkbox"/> Other (please specify)	/				
3. Your current place of residence? a) <input type="checkbox"/> city b) <input checked="" type="checkbox"/> suburbs c) <input type="checkbox"/> countryside	/				
4. The main uses for which you buy a mahogany rattan stool are? a) <input type="checkbox"/> Household use b) <input type="checkbox"/> Office use c) <input type="checkbox"/> Commercial decoration d) <input checked="" type="checkbox"/> collection e) <input type="checkbox"/> Other (please specify)	/				
5. The main reasons why you buy a mahogany rattan stool are? a) <input type="checkbox"/> I love traditional furniture b) <input type="checkbox"/> Admire the mahogany material c) <input type="checkbox"/> Pursue a high quality of life d) <input checked="" type="checkbox"/> As a collectible e) <input type="checkbox"/> Other (please specify)	/				
6. The most important factors you value when buying a mahogany rattan stool are? a) <input type="checkbox"/> Aesthetically pleasing design b) <input checked="" type="checkbox"/> The material is excellent	/				

Figure B 36:Item of objective Congruence: IOC

c) <input type="checkbox"/> Brand credibility d) <input type="checkbox"/> Price e) <input type="checkbox"/> Cultural values f) <input type="checkbox"/> Other (please specify)					
7. How satisfied are you with the overall design of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied	/				
8. How satisfied are you with the comfort level of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied	/				
9. How satisfied are you with the durability of your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied	/				
10. How satisfied are you with the quality of the mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied	/				
11. Do you think the design of the mahogany rattan stool meets your aesthetic needs? a) <input type="checkbox"/> Very much in line with b) <input type="checkbox"/> More in line with it c) <input type="checkbox"/> So so d) <input type="checkbox"/> Not quite quite so e) <input type="checkbox"/> Not at all	/				
12. How satisfied are you with the value for money for a rosewood rattan stool?					

Figure B 37:Item of objective Congruence: IOC

<p>a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	/				
<p>13. What problems have you encountered in the process of using mahogany rattan stools? (You can select more than one). a) <input type="checkbox"/> Cannot be used for long periods of time b) <input type="checkbox"/> The material is worn c) <input type="checkbox"/> Poor comfort d) <input type="checkbox"/> Color change e) <input type="checkbox"/> Other (please specify)</p>	/				
<p>14. How do you think the mahogany rattan stool performs in everyday use? a) <input type="checkbox"/> Very good b) <input type="checkbox"/> Better c) <input type="checkbox"/> So so d) <input type="checkbox"/> Poor e) <input type="checkbox"/> Very poor</p>	/				
<p>15. How satisfied are you with the difficulty of maintaining your mahogany rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	/				
<p>16. How satisfied are you with the environmental and sustainability performance of the rosewood rattan stool? a) <input type="checkbox"/> Very satisfied b) <input type="checkbox"/> satisfied c) <input type="checkbox"/> So so d) <input type="checkbox"/> dissatisfied e) <input type="checkbox"/> Very dissatisfied</p>	/				
<p>17. Would you like to recommend Mahogany Rattan Stool to others? a) <input type="checkbox"/> Very willingly b) <input type="checkbox"/> willing c) <input type="checkbox"/> So so d) <input type="checkbox"/> Unwilling e) <input type="checkbox"/> Not at all</p>	/				

Figure B 38:Item of objective Congruence: IOC



Figure B 40:Item of objective Congruence: IOC





Figure B 41:Item of objective Congruence: IOC

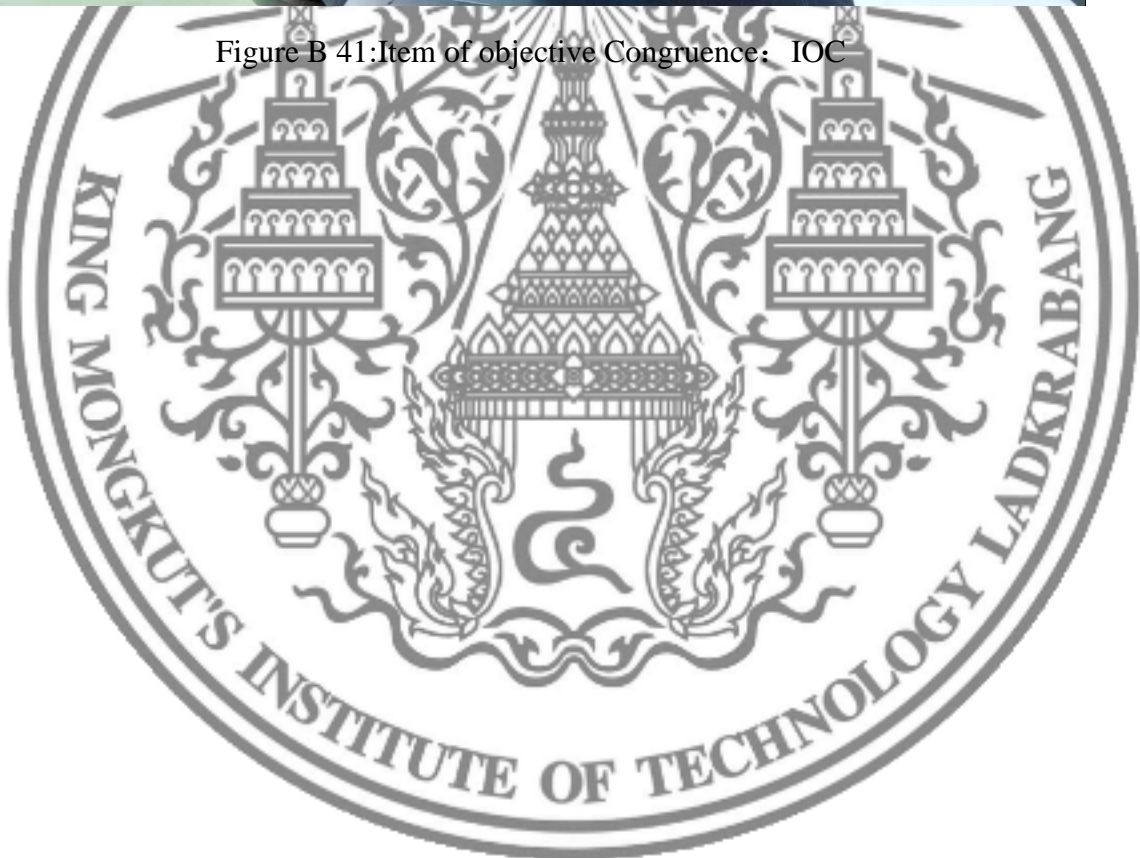




Figure B 42:Item of objective Congruence: IOC





APPENDIX C

Design details

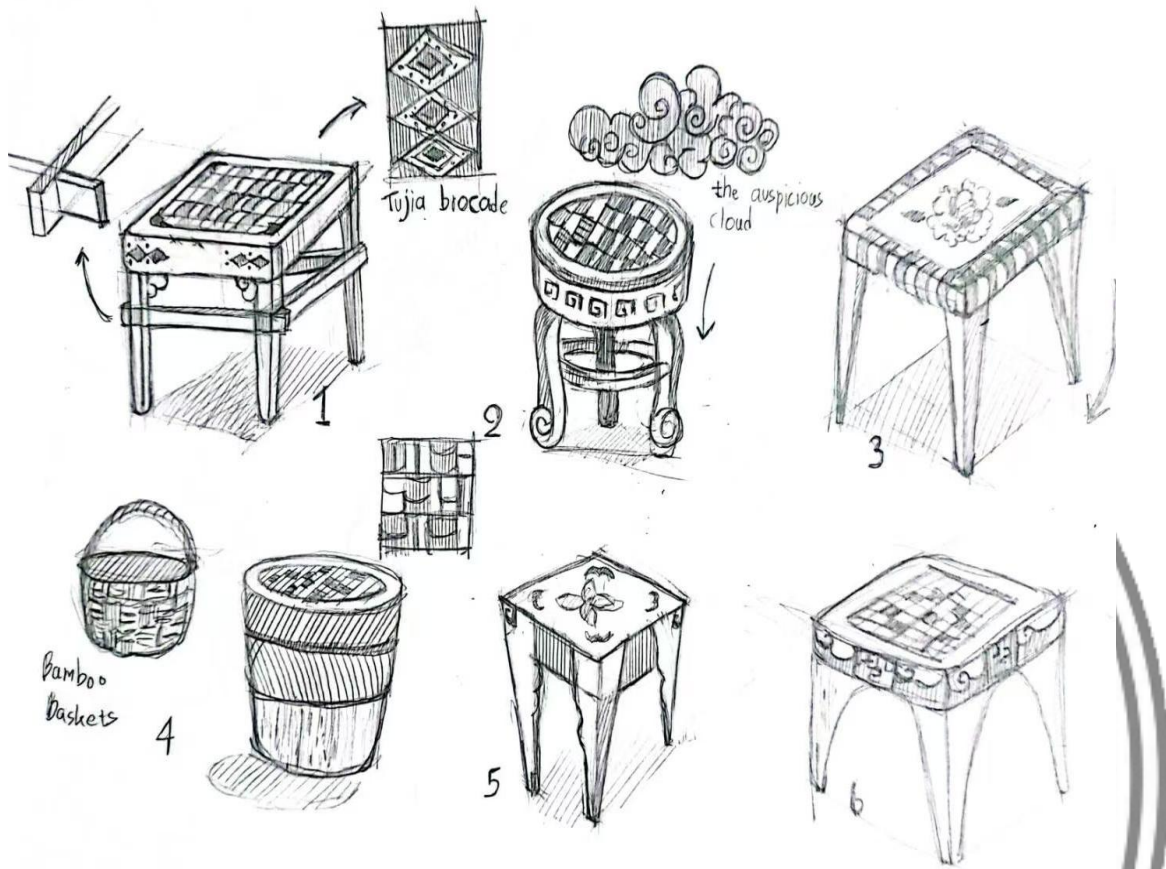
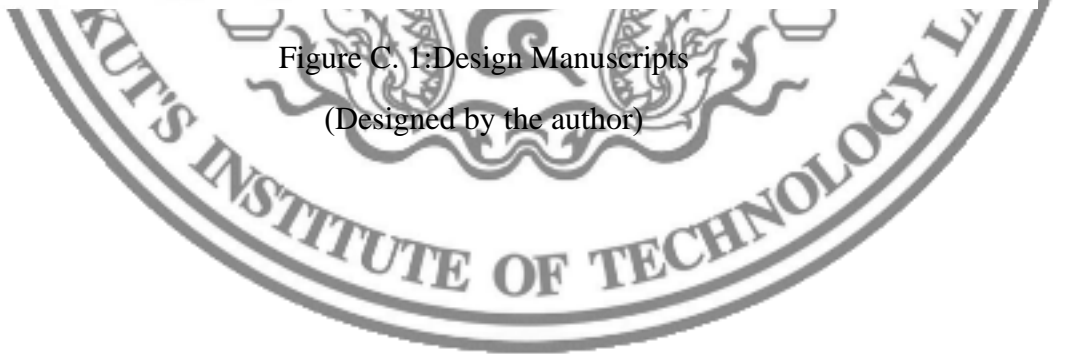
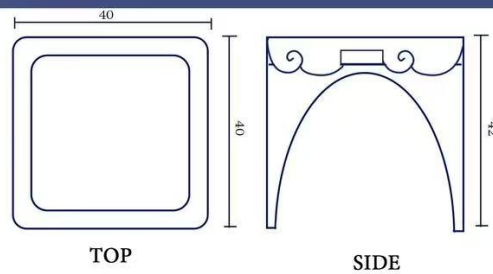


Figure C. 1: Design Manuscripts
(Designed by the author)

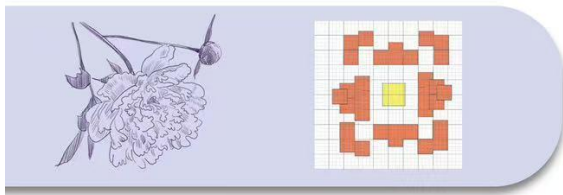


SKETCH DESIGN

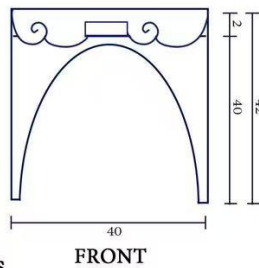


TOP

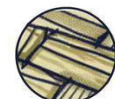
SIDE



The use of Chinese flowers in design as patterns woven from natural materials.



FRONT



Oak wood



Rattan



Chinese ornamental design.



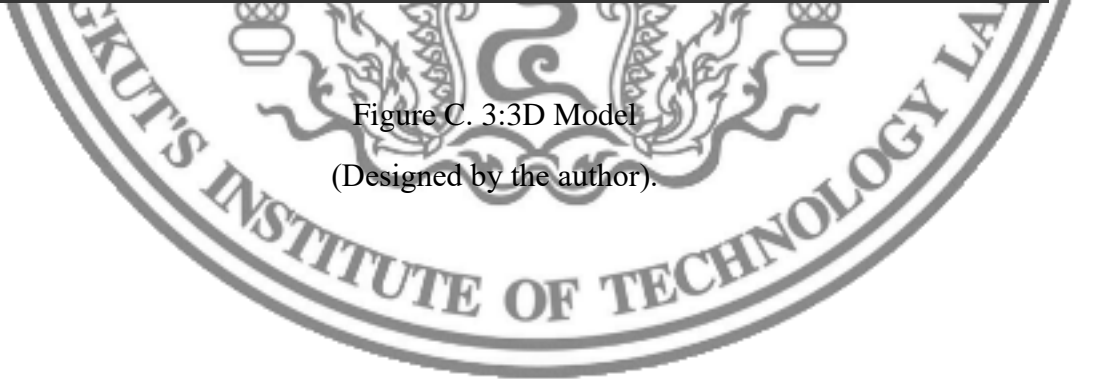
Traditional Chinese mortise and tenon.

Figure C. 2: Rosewood Vine Stool

(Designed by the author).



Figure C. 3:3D Model
(Designed by the author).



AUTHOR BIOGRAPHY

Name-Surname	Mr. Yang Liu
Date of Birth	January 5, 1999
Place of Birth	Changsha, Hunan, China
Education	<p>In 2024 enrolled in Technology of Industrial Design Program at King Mongkut's Institute of Technology Ladkrabang.</p> <p>In 2023 ,Graduated Bacherlor Degree of Integrated Innovation for Products and Services at King Mongkut's Institute of Technology Ladkrabang.</p> <p>In 2020, Graduated from Guilin University of Technology, Guangxi, majoring in engineering cost</p>
Current Address	Dcondo Onnut-Suvanabhumi
Publication	Click or tap here to enter text.
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