



Development of Integrating Design Value Product Culture Aesthetic Framework for Linxia Handicraft Toward Marketability

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Abstract

Traditional culture handicraft products have reflected to the culture and heritage of the region from which they originate. These products are typically unique, exhibiting the artisan's skill and creativity. Ensuring consistent quality can be difficult due to the handmade nature of products that leading to variability that might not meet consumer expectations and successful in the market. For it successful, innovation is always referred and considered for business success and survive in the global as well as competitiveness in the marketplace. Through innovation in traditional culture handicraft product development can lead to a new breath and sustainable in the market. In modern uses, an integrating with the modern design elements able to create the products appeal to contemporary tastes. However, the development a new innovative traditional culture handicraft product always lacks innovation strategy. Hence, the research aims to develop a new framework that integrate the design value related culture and aesthetic elements toward marketability. In this research, it was specifically evaluated the traditional culture handicraft product in Linxia, Gansu Province as a case study. To provide the background and critical issue, the comprehensive literature review was conducted with emphasis on design value, culture, and aesthetic of Linxia traditional culture handicraft products. Furthermore, the empirical investigation also conducted involved with the design experts and experienced product users through Sampling Product Analysis of Brick Carving of Linxia attempt to recognise the valuable product elements. The result found and recognised twenty-nine (29) design value related culture and aesthetic elements that significantly contribute toward marketability of Linxia traditional culture handicraft products. In addition, a new framework namely Design Value Product Culture Aesthetic (DVPCA) was developed as become a guidance for designers and craft practitioners in the development of a new Linxia traditional culture handicraft product in Hetaomin toward marketability.

Keywords: Traditional culture handicraft product, Chinese culture, innovation strategy and product development

1. Introduction

Crafts represent the places, populations and cultures to which they belong (Igwe et al. 2018). Mevhibe and Ozdemir (2012) argue that crafts have for centuries echoed the rhythms of everyday life with their rich materiality, deep-rooted cultural identities, and high-quality intrinsic values. UNESCO defines 'handicrafts' as follows: Handicrafts can be defined as products made entirely by hand or with the help of tools. They can be practical, aesthetic, artistic, creative, cultural, decorative, functional, traditional, religious, socially symbolic and important' (UNESCO, 2001). The inheritance and development of handicrafts activate the



practicality that serves social life, the culturality that carries history, humanity, and lifestyle, and the ethnicity that is the unique wealth of each ethnic group. It shows its contemporary value in building economy and livelihood, shaping people's culture and spirit, and developing civilisation (Zhong et al. 2023). According to the United Nations Conference on Trade and Development (UNCTAD) in 2001, John Hawkins put forward the concept of creative economy in which he argued that creativity and creative assets can provide extraordinary value, economic development and wealth. Creative industries are the foundation of the creative economy (UNCTAD, 2008). Crafts and design are recognised as part of the creative industries respectively (UNCTAD, 2008). At the same time, traditional crafts are tangible expressions of cultural identity and creativity, contributing to the local economy, sustainable development and the preservation of traditional knowledge and skills. (He et al., 2019) For traditional cultural handicraft products to be preserved in modern times, their value significance must be promoted, understood, recognised and appreciated by the wider society (McIntyre, 2010; Fillis 2012).

With industrialisation, handicrafts are constantly undergoing transformations in form and function. However, the rapid development of modern society has shown a decline in the market competitiveness of traditional cultural handicrafts. According to Guo and Ahn (2021), many traditional art forms have gradually disappeared or are facing continuous difficulties. In addition to this, they are gradually being forgotten and replaced due to outdated technology, limited materials and traditional techniques. Small and medium-sized handicraft enterprises are facing the problem of limited investment capital, raw materials, technology, human resources, production, marketing and other quality and price (Patimah, & Maulana. 2023). Meanwhile, Ghaisani et al. (2019) the craftsmen group generally have low education and lack of skill training support. Suharyanto (2023) online media as an effective marketing medium is not widely used in craft products. Handicrafts decline lacks more advanced manufacturing processes (Shivaraju, 2019). Shafi et al. (2022) argued that traditional cultural handicraft products lack innovation and need integration of artistic aesthetics, scientific aesthetics and technological aesthetics. Traditional cultural handicraft products are the most tangible manifestation of intangible cultural heritage (Aljaber & Al-Ogaili, 2021), and the management of the handicraft sector faces many problems, including the lack of handicraft databases; and product system coding. These traditional methods of production and design have led to the handicrafts sector also being considered as a technologically backward sector (Yang et al., 2018).

While facing problems, there are also opportunities for crafts development. In China, the government has recognised the need to strengthen cultural protection and revitalise traditional handicrafts, which is essential for building a sustainable traditional Chinese cultural system (Guo & Ahn, 2021). China has issued documents such as the Guiding Opinions on Promoting the Development of Industry and Culture, the Plan for Revitalising Traditional Chinese Handicrafts, and the Regulations on the Protection of Non-Heritage Handicrafts to encourage the revival and development of traditional handicrafts and arts and crafts, and to set out the main tasks and regulations for the development of traditional handicrafts and their protection. Specific measures for development are clearly defined (Chen, 2019). Silverman and Blumenfield (2013) show that the protection and stimulation of intangible cultural heritage in the form of ICH has become a national strategy in China.

1.1 HandiCraft and innovative design

Innovation is often considered essential for every product to survive and remain competitive in the marketplace (Damanpour & Schneider, 2006). Innovation can reward products in terms of higher sales, profits, market share and business growth (Yang & Shafi, 2020). In recent years, traditional handicrafts are not selling well and low value. One of the reasons is the lack



of innovation and creativity in most craft skills (Guo & Ahn, 2021). Innovation helps to preserve the heritage of traditional crafts and expand them to a wider market (Mokhtar 2018;). The integration of modern design with traditional crafts promotes innovation and creativity, and experimenting with new materials, techniques, and forms can advance traditional crafts (Wang et al., 2024). Enhance the innovation of traditional handicraft products to improve artistic taste, artistic value and artistic infectivity. Product designers need to collect and excavate regional cultural materials, refine design elements of cultural archetypes, and express design ideas through technology (He et al., 2019). It is also necessary to determine the consumer group, conduct target positioning and market analysis. The quality and added value of traditional handicrafts can be improved by introducing modern design concepts and methods (Cheng & De Bont, 2022).

Design is an important tool for driving product differentiation, creating value for consumers and companies, driving consumer preference and creating sustainable competitive advantage (Kumar et al., 2015). Design can contribute to products as a strategic tool for building sustainable long-term relationships with consumers. Design can breathe life into the continued future of crafts at a time when traditional crafts that contain multiple elements are declining. (Angat & Hassan, 2023). Traditional craft elements play a key role in the creative and cultural industries to enhance novelty in the marketplace. Changing traditional elements to meet contemporary needs (Petruzzelli & Albino, 2012). These elements must be redesigned into new products that meet current socio-cultural trends to fulfil contemporary performance and utility criteria (Petruzzelli & Savino, 2015). Therefore, design-based innovation of traditional cultural handicraft products can not only provide designers with more effective, diverse, scientific and practical methods, but also play an important role in the heritage development and value innovation of handicraft products. Wang et al. (2024) studied the impact of modern design culture on traditional handicraft products from the perspective of the design industry and market dynamics, and it can be concluded that cultural and creative handicraft products have grown into a huge industry and market segment. However, this growth has intensified competition between designers and brands and highlighted the need for innovation and differentiation in the market (Banerjee & Mazarella, 2022).

1.2 Design value of handicrafts

The design value of handicrafts includes various aspects such as cultural significance, sustainability, consumer experience, and regional uniqueness. (mohammed et al., 2018) emphasise the importance of incorporating design elements that reflect regional culture. In addition, the design of handicrafts focuses on aspects such as functionality, uniqueness, and ease of use to meet market needs and enhance product appeal. BOP Consulting and the University of the Arts London's (UAL) School of Social Design (SDI) developed the Design Value Framework in 2022. The Design Value Framework helps to measure design metrics and significance, assessing the value of design in four related domains: socio-cultural, environmental, democratic, and financial economic (see Figure 2.4). Founder Sadies Morgan 2020 says: 'Design needs to take a broader view of traditional definitions of value. The value of design should be seen in how it positively impacts on society by raising environmental awareness, social care and individuals.

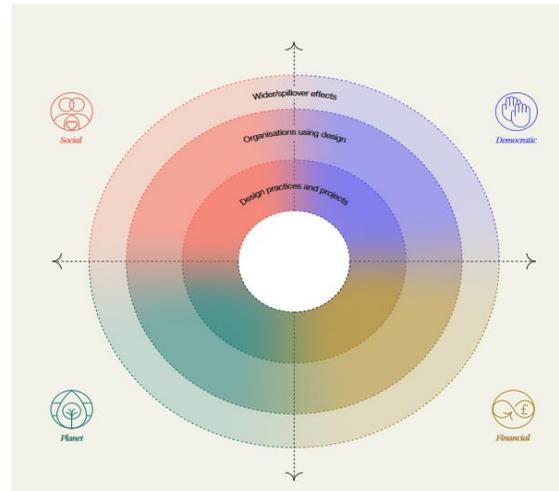


Figure 1: Design value framework

(Source by BOP Consulting and the School of Social Design (SDI) at the University of the Arts London (UAL))

1.3 Cultural attributes of traditional handicrafts

Traditional handicraft products are an important part of intangible cultural heritage, which are behavioural patterns, techniques and related products formed and inherited by the peoples in their long-term social life practices. Traditional cultural handicraft products were initially produced to meet the needs of local populations (Zhong et al. 2023). Mevhibe and Ozdemir (2012) argue that handicrafts reflect the natural and historical characteristics of a region and society. Culture is the whole way of life (Freccero, 1999), which generally refers to the patterns of human activity and the symbolic structures that give meaning to this activity, reflecting different criteria for assessing human activity or the theoretical foundations of understanding through various definitions. In fact, culture has been described as dealing with the results of the evolutionary process of human civilisation, a process based on sociological studies, anthropology and linguistics, involving language, customs, religion, art, thought and behaviour (Lin, 2007). Culture is an implicit and explicit dynamic structure that ensures the survival of a group and includes norms, values, behaviours, attitudes and beliefs (Matsumoto & Juang, 2012).

Due to economic globalisation, the development of product design is faced with the conflict between localisation and globalisation (Huang et al., 2011). Research has shown that one of the major design trends in the global market is the integration of 'culture' into modern products (Lin, 2007). Design plays an important role in integrating cultural factors into products and increasing their value in a competitive global market (Lin et al., 2009). Therefore, product design with local culture becomes a key issue in product design to highlight its cultural value (Halskov & Christensen, 2018; Ma & Liu, 2023) Designers should provide a different way of thinking about the interactive experience between cultural attributes and product features, i.e., products with cultural attributes are important to enhance product value and satisfy users' needs (Yang, 2022). The most important solution to influence the success of a product is to consider cultural characteristics (Portugal, 1997). However, cultural constraints such as behaviours, beliefs and attitudes cannot be ignored (Ros et al., 2001). Indeed, products derive their meaning from culture (Press & Cooper, 2017). In this way, the goal of cultural respect can be achieved by incorporating the user's historical and aesthetic values into the product design process, and designers need to think about the ways in which cultural norms and values are incorporated into, and how they are incorporated into, product design (Popovic et al., 2007). Modern product developers try to redesign products according

to the cultural needs of different regions (Shuzhen & Qin, 2009). Making 'cultural self-awareness' is reflected in life and behaviour (Li, 2023).

Razzaghi and Ramirez (2005) identified five (5) main reasons why manufacturers are reluctant to use cultural factors in the product development process: the additional cost of cultural research, gaps in manufacturers' knowledge, designers' lack of knowledge in cultural design, globalisation of products and the tendency of both designers and manufacturers to work on the technical case. Moalosi et al (2008) proposed three (3) domains for culture-oriented product design process: user domain, designer domain and product domain. Lin et al (2007) proposed a model for transforming cultural factors in modern products into design elements to enhance their design value. The process of cultural product design is formed by examining cultural factors. The model consists of three parts: a conceptual model, a research methodology and a design process (Lin et al. 2007).

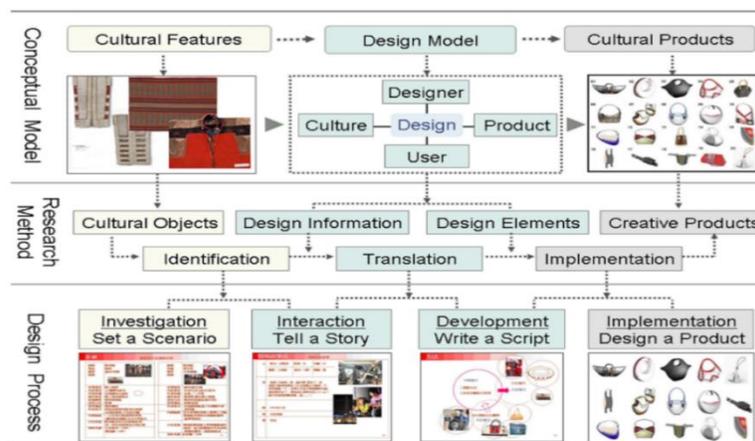


Figure 2: Cultural design model
(Source by Lin et al., 2007)

Traditional handicrafts are not only a practical object, but also a vehicle for cultural transmission and play an important role in cultural sustainability (Guo & Ahn 2021). For artisans, financial motives are largely less important. Non-financial motives are important, e.g., personal well-being, independence (Bell, 2022; Hung, 2023), desire for cultural identity (Vitasurya, 2016). As Makhmudova (2022) points out, culture is a social heritage. Schabracq (2007), the culture of a country is never a single homogeneous thing, culture is a result of historical, self-organised development (Guiso et al., 2006). Culture is defined as those traditional beliefs and values that are transmitted largely unchanged by ethnic, religious and social groups through generational change (Zhong et al., 2023). Cultural self-consciousness and national rejuvenation, and the common development of human civilisation have gradually become the spiritual aspirations of contemporary people. However, with the trend of globalisation and the acceleration of modernisation, the ecology of human life and consumption has changed dramatically. As traditional technologies have been replaced by their original utility, they have encountered many new problems in terms of survival, preservation and development. As a result, they are facing a difficult succession situation. Some handicrafts are on the verge of extinction. There is an urgent need for scientific and effective models to promote the contemporary inheritance of traditional handicraft products (Zhong et al. 2023).

1.4 Aesthetic attributes of traditional handicrafts

Aesthetics is regarded as a form of knowledge that focuses on factors such as culture, values,

identity, image and style (Mangham & Overington 1987). The word 'aesthetics' was first used in the 18th century by the philosopher Alexander Baumgarten, to refer to perception through the senses, i.e., sensory knowledge. Later, it was used to refer to the perception of beauty by the senses, in art. Kant drew on this usage and applied it to the judgement of art and natural beauty. Then later, the concept was applied continuously in various fields. It now not only refers to itself but also applies to attributes, attitudes, experiences, pleasures or values (Goldman, 2005). Aesthetics includes intuition, aesthetic dimensions, cognitive and affective factors (Lyotard, 1994). Having knowledge of aesthetics can lead to new insights and realisations (John, 2001). The creative process and implementation of art is based on aesthetic values and techniques, selecting elements that fulfil needs. That is why aesthetic elements are especially important in innovation. Aesthetics uses visual language as a two- and three-dimensional expression of visual elements (e.g. fonts, colours, shapes and textures) (Rizali, 2018). On the other hand, aesthetics organises elements through the principles of unity, harmony, balance, rhythm and proportion. This process makes aesthetics concrete and visualised in the product.

Aesthetics emotionally influences users' new behaviours and attitudes towards products, the environment and the market. At the same time, aesthetic factors generate many of the characteristics of sustainable products, including durability, upgradability, serviceability, reparability, regeneration, modularity, reusability, recyclability, etc. (Strati, 2000; Mahoney, 2002). The study of aesthetics in products usually involves two aspects: firstly, the act of creation, which embeds and integrates aesthetics into the process; and secondly, the use of creativity, intuition, recognition, and sensation based on the feelings of the creator, the consumer, to form aesthetics with an experiential sensibility. Zafarmand et al. (2003) verified that an intrinsic relationship also exists between the aesthetics of a product and the sustainability of the product. The main aesthetic attributes of a product are (1) aesthetic durability, (2) local aesthetics and cultural identity, (3) individuality and diversity, (4) logic and functionality, (5) aesthetic scalability and modularity, (6) simplicity and minimalism, and (7) natural forms and materials (Figure3) Zafarmand et al. (2003). In addition, the concept of the aesthetic DNA of a product feature involves defining and consistently applying specific aesthetic principles that embody the brand and resonate with the user. By understanding and utilising these core elements, it is possible to create products that not only satisfy functional needs but also connect with users on an emotional level, enhancing brand image and fostering customer loyalty.

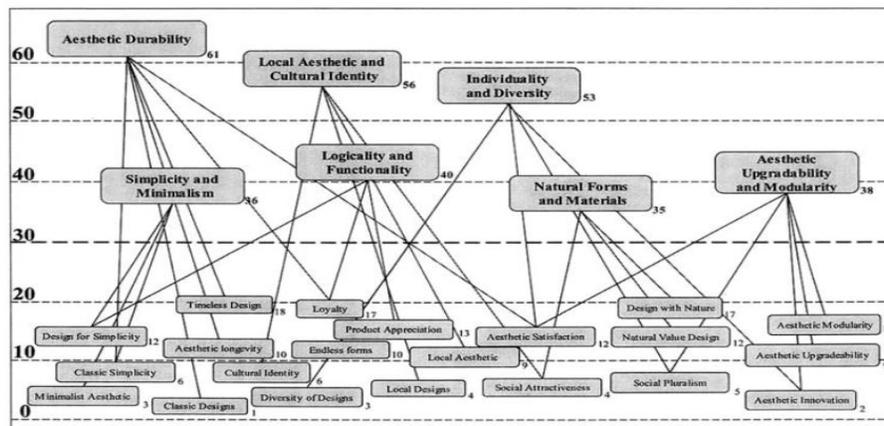


Figure 3: The aesthetic attributes of products
 (Source by Zafarmand et al., 2003)



It follows that aesthetics is a powerful marketing tool to increase product likability (Hoegg et al., 2010; Reimann et al., 2010) Aesthetics is crucial in product design and is a key factor in attracting consumers' interest, creating emotional bonds and influencing purchase choices. Aesthetic attributes have a positive impact on product preference (Yamamoto & Lambert 1994), and consumer purchasing preferences depend on more than just the functionality and suitability of a product (Chuang et al., 2001). According to Postrel (2003), aesthetics has become an important criterion for consumers to evaluate and differentiate products and service offerings and to realise purchase decisions.

1.5 Product innovation and marketability

Product innovation and marketability are important aspects of modern business strategy. Product innovation plays a crucial role in improving competitiveness and economic growth. The goal of new product development is the commercialisation of innovative products, emphasising the importance of bringing new products to market (Callon, 2017). Studies have shown that product innovation plays a vital role in the growth of craft SMEs (Abubakar et al., 2021). The positive impact of product innovation on the growth of handicrafts is highlighted. However, it is worth noting that product innovation may face unique challenges in the context of handicrafts (Aldina & Margunani, 2022). For example: designers need to bridge the gap between idea and practice and link artistic and creative elements to practical and achievable outcomes (Dodgson et al., 2005). Uniqueness in design is related to the ability of artisans to differentiate their products from those of their competitors (Wu et al., 2017). This differentiation is achieved through unique designs embedded in a specific culture (Hegarty & Prezeborska, 2005). Secondly, crafts firms also stand out for the high level of manual skills, creativity and design required for their products, as well as for their close connection to the history and cultural traditions of a particular country (Storey, 2018). Product innovation in handicrafts is associated with improvements in product attributes, changes in production quantities, and the speed at which products are brought to the market (Mendoza-Ramírez & Toledo-Lopez, 2014). Shafi et al., (2019) discusses the two main types of innovations in the field of handicrafts: product innovation and process innovation. Shaffi et al. (2019) argued that both types of innovations add market value to craft firms. Marques et al. (2019), through a review of the literature, identified in detail six factors of innovation in the craft sector; value-added products; new product development; uniqueness of design; experience of artisans; competence of artisans; cultural uniqueness

Innovation ensures that crafts remain relevant and can survive in the marketplace (Ariffin et al., 2023). Without innovation, traditional crafts would die out due to lack of demand in competition with modern goods, and even reduce the attractiveness of younger generations to become consumers or operators of traditional crafts (Ariffin et al., 2023). Market-based innovation not only provides designers with more effective, diverse, scientific and practical practical methods of practice, but also plays an important role in the inheritance and development of traditional cultural handicraft products towards marketability.

1.6 Current situation of Linxia cultural handicrafts

Chinese traditional culture has a long history and contains rich and colourful cultural wealth. Linxia City in Gansu Province, according to records as early as 5,000 years ago, became a political, economic and cultural hub because of its special geographical environment. For example, the Silk Road, Tang Fan Road, Ganchuan Road, etc. intersected here. Historically, the Silk Road culture, the Yellow River culture, Huangshui culture formed a unique regional characteristic, breeding the cultural space of Linxia handicraft culture. Different cultural dialogue, cultural change, cultural interaction, cultural integration, formed its diversified cultural relations, but also constitutes the Linxia handicraft grand and heavy cultural resources. Therefore, Linxia traditional cultural handicraft products are not crafts and



industries developed in isolation from each other, but are cultural ecosystems closely related to history, culture, productivity level, material needs and social structure. At the same time, Linxia has been a multi-ethnic settlement since ancient times, inhabited by Hui, Dongxiang, Tu, Salar, Baoan and other ethnic minorities, which has always maintained the survival relationship and communication ties between multi-ethnic groups. To sum up, Linxia handicraft is a cultural product of multi-ethnic and multi-cultural interaction and exchange, which is representative and typical. Linxia handicraft products are diversified and rich, which are not only the material products out of the needs of life, but also the spiritual products of multicultural integration and coexistence. The most famous handicrafts in Linxia include copper art, brick carving, wood carving, embroidery, paper-cutting, gourd carving and so on. Among them, Linxia brick carving is the most representative form of national handicraft in Linxia. It is also a national intangible cultural heritage which is famous at home and abroad. It is famous for its exquisite carving skills and cultural connotation. However, with the change of people's modern lifestyle, the traditional cultural handicrafts located in the ethnic areas show the loss of cultural characteristics and the slow updating of technology and culture, which leads to the gradual shrinkage of the market. Therefore, the cultural forms of traditional handicraft development in Linxia need to be innovated, and traditional product forms and sales concepts must be upgraded to meet the needs of the times (Arroyo & Bravo)

In summary, the results of the study show that the core of traditional handicraft product innovation lies in the design of the product, how to improve the value of product design to promote the marketability of the product? How can design value be used as a reference to establish design norms for traditional cultural handicraft products in a marketable context? The literature provides the relationship between design and handicrafts, design, cultural aesthetics and innovative design value, and the design method based on the integration of variable elements provides specific ideas, which include the excavation, extraction and integration of tacit and explicit knowledge of handicraft products. This is particularly important for how traditional cultural handicraft products can be transformed into new market-oriented products.

In this chapter, design values, cultural and aesthetic elements and other related elements are highlighted to provide a framework for establishing new Linxia traditional cultural handicrafts towards marketability. The literature found that there are many studies dedicated to improving the marketability of products, but they are limited to the identification of industry processes for overall product design, ignoring specific design solutions based on design value, or based on a collection of aesthetic element databases, lacking the identification of cultural factors and aesthetic elements with the goal of marketability. In addition, the lack of recognition of the integration of these two themes, as well as the steps of product design methodology are also a major problem faced. These are all relevant issues that need to be better addressed. There is no specific methodology that can be referred to, which combines the product design specification with the product design value to increase its share in the market. Therefore, there is a need to improve the design framework for the marketability of traditional cultural handicraft products in Linxia, so that the products can have a greater chance of success in the market. The purpose of this study is to develop a new product design methodology for handicrafts in the Linxia region of Gansu. The methodology serves as a design guide for product designers and product developers, and the process of the methodology incorporates variables such as design values and product design specifications at the product development stage. The significance of this methodology will potentially help to achieve higher marketability for handicraft products.

2. Method

In order to achieve the research objectives, this study adopts a quantitative approach and

incorporates secondary literature. The first objective is to identify the design value factors of Linxia handicrafts towards marketability. The second objective is to identify the cultural and aesthetic elements related to the marketability of Linxia handicrafts. These variables were collected through questionnaires from 30 experts and 200 users as respondents. Four types of Linxia handicraft products were selected as assessment objects in the expert questionnaire and five types of brick carving products were selected as assessment objects in the user questionnaire. The survey was carried out by stratified sampling and snowball sampling methods among the respondents related to handicraft products in Linxia. The data will be analysed and integrated can be in the process of handicraft product development. The data was analysed using Statistical Package for Social Sciences (SPSS) to analyse the results, which were collected as a conclusion of the study.

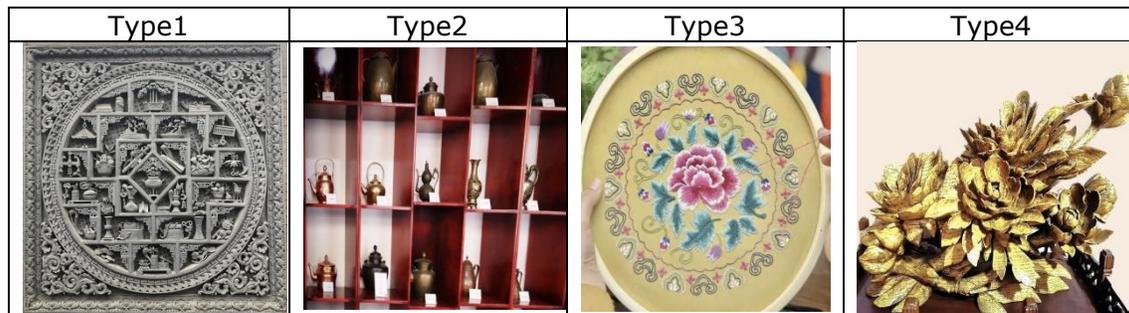


Figure 4: Linxia brick handicraft products(Type 1-4)
(Source by author)

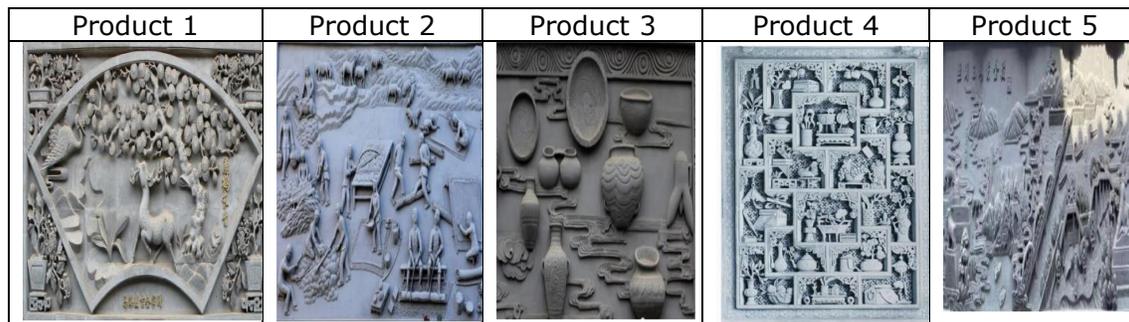


Figure 5: Linxia brick carving products(Product 1-5)
(Source by author)

3. Results and discussions

This survey involved 50 experts, including craft designers, artisans, manufacturers, researchers from government agencies, intangible cultural heritage bearers, design researchers, and academics. These experts are professionals with specialised skills and extensive knowledge in the field of craft product design. Focusing on different areas of crafts, they play a key role in aesthetically pleasing, functional and user-centred products, interfaces, environments and experiences. The interviewed users were selected from 200 product users who have experience with Linxia craft products. They were generally familiar with specific Linxia craft product types. These users had a level of purchasing experience and a depth of knowledge that enabled them to use the products effectively and understand the characteristics and needs of the product users. This is critical for designers and developers who work to create products that meet the expectations of these experienced users.

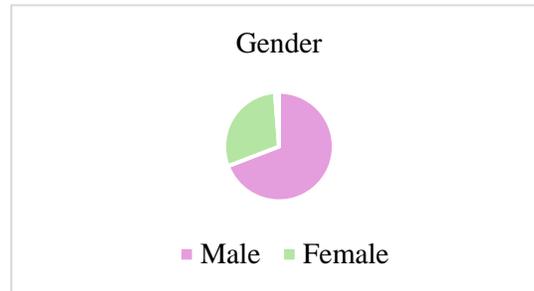
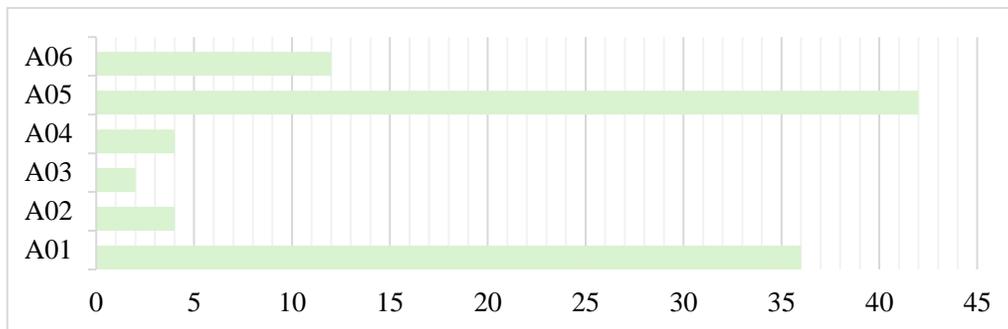


Figure 6: The gender of experts

Figure 6 shows the respondents that were acknowledged as design experts of gender that took part in this survey. The results indicate N=35(70.0%) of the respondents is male and N=15(30.0%) female.



Note: A01-Designer; A02-Craftsman; A03-Manufacturer; A04-Government agency; A05-Inheritors of intangible cultural heritage; A06-Design researcher / scholar

Figure 7: The designation of experts
(Source by author)

Figure 7 shows the designation of the design experts. The results indicate that respondents consist of Inheritors of intangible cultural heritage with N=21(42.0%) followed by N=18(36.0%) Designer, N=6(12.0%) design researcher / scholar, N=2(4.0%) Craftsman Manufacturer/ Government Agency and N=1(2.0%) manufacturer.

There are 200 respondents involved in this survey acknowledged as Experienced Product Users.

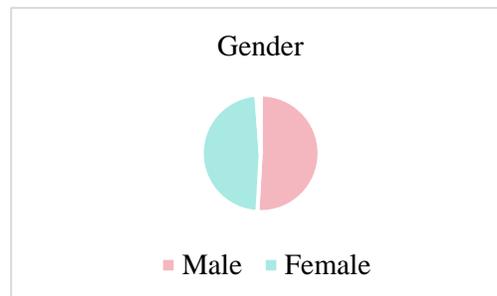


Figure 8: The experienced product users of gender

Figure 8 shows the gender of experienced product users that took part in the survey. The results indicate N=103(51.5%) of the respondents is male and N=97(48.5%) female.

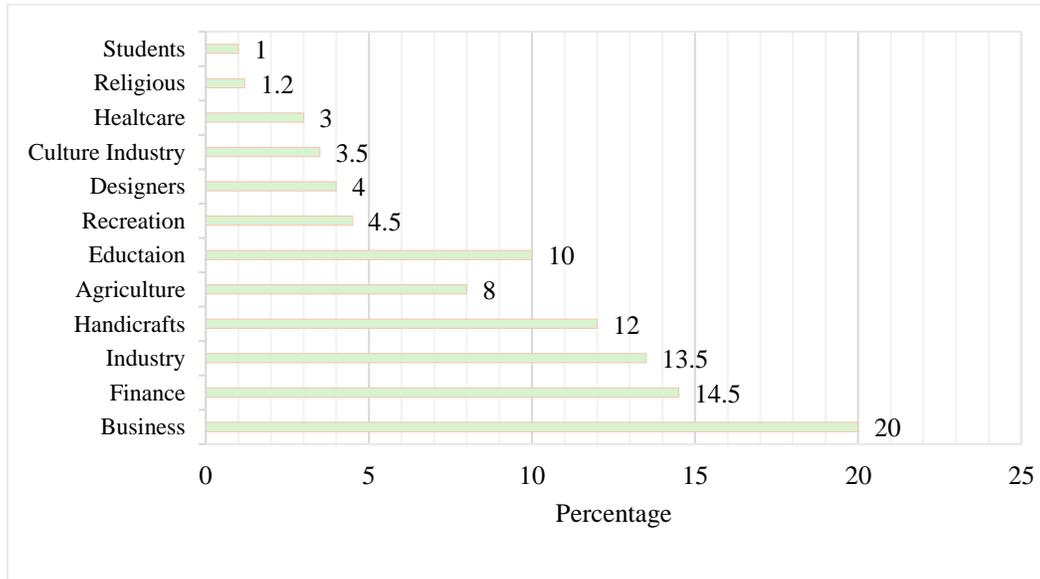


Figure 9: Occupation of experienced product users

Figure 9 shows the occupations of the 200 of experienced product users. The result shows that the highest number of respondents are engaged in industries are business N=40(20.0%) followed by finance N=29(14.5%), industry N=27(13.5%), handicrafts N=24(12.0%), education N=20(10.0%), agriculture N=16(8.0%), recreation N=9(4.5%), designers N=8 (4.0%), cultural industry N=7 (3.5%), healthcare N=6(3.0%), religious N=3(1.2%), and lastly students N=2(1.0%).

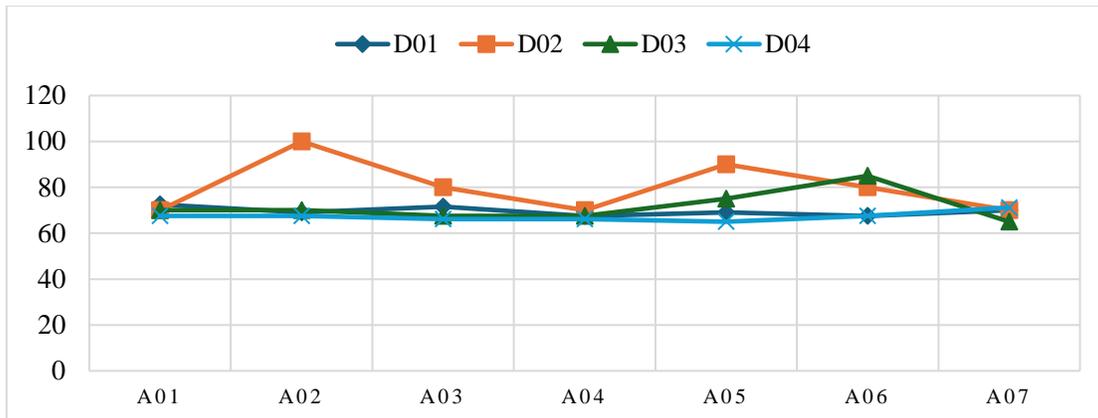
3.1 Product design value characteristics

Design value refers to the benefits and positive impacts that good design brings to products, services, businesses, and society as a whole. It encompasses a wide range of dimensions. Design values influence a product's aesthetic, appeal, functionality, usability, economy, and emotional resonance. By understanding and leveraging these dimensions of design value, organisations can create products and services that not only meet functional requirements but also enhance user satisfaction, drive economic growth, and contribute positively to society and the environment.

Table 10: The design value for Linxia handicraft products toward marketability

Design Value	N	Median	Mode	Min	Max	Mean	Sum
Cultural value	50	4.00	4	1	5	3.48	174
Social value	50	4.00	5	1	5	3.54	177
Market value	50	3.00	3	1	5	3.26	163
Sentimental value	50	4.00	5	1	5	3.48	174
Sustainable value	50	4.00	4	1	5	3.48	174
Aesthetic value	50	4.00	3	1	5	3.52	176
Artistic value	50	4.00	3	1	5	3.50	175

Table 10 shows the design value for Linxia traditional culture handicraft products toward marketability. The results indicate that the respondents emphasised on social value (mean=3.54) is become the crucial for Linxia traditional culture handicraft products toward marketability followed by aesthetic value (mean=3.52), artistic value (mean=3.50), cultural value, sentimental value, sustainable value (mean=3.48), and lastly is market value (mean=3.26).

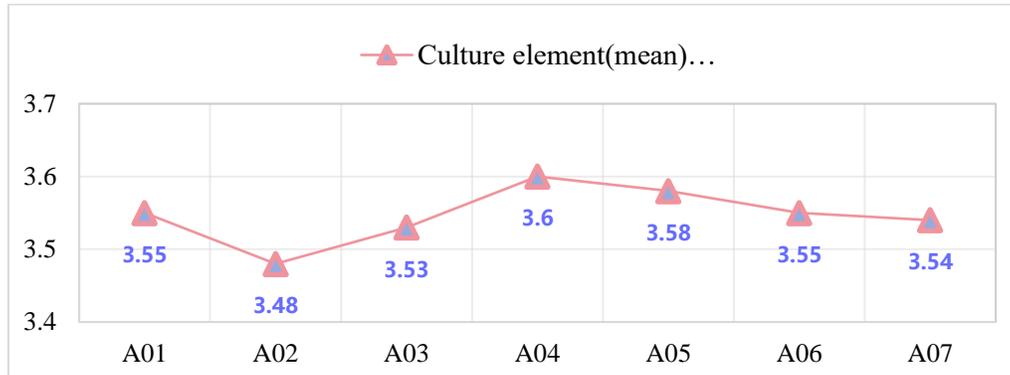


Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving
 A01-Aesthetic Value;A02-Artistic Value;A03-Cultural Value;A04-Market Value;A05-
 Sustainable Value;A06-Social Value;A07-Emotional Value
 Figure 11: Linxia crafts four types of product design value

Figure 11 shows the design value evaluation of 50 experts on four types of handicraft products in Linxia in terms of marketability. The results show that in type 1 (brick carving), the most important design value is aesthetic value (72.5%), followed by cultural value (71.6%), emotional value (70.0%), artistic value (69.1%), sustainable value (69.1%), market value (67.5%) and social value (67.5%). In Type 2 (copper art), the most critical design value is artistic value (100%), followed by sustainable value (90.0%), cultural value (80.0%), social value (80.0%), aesthetic value, market value and emotional value (70.0%). In Type 3 (embroidery), social value (85.0%) is the most important, followed by sustainable value (75.0%), aesthetic value (70.0%), artistic value (70.0%), cultural value (67.5%), emotional value (65.0%), and market value (60.0%). In Type 4 (wood carving), respondents rated the most important design values as emotional value (71.2%), aesthetic value (67.5%), artistic value (67.5%), social value (67.5%), cultural value (66.2%), sustainable value (65.0%) and market value (63.7%).

3.2 Product Culture Element (PCE)

Traditional craft products have enormous cultural value and are guardians of heritage, identity and community. Cultural elements are at the heart of traditional cultural crafts and also play a key role in maintaining historical continuity, expressing cultural identity, promoting social bonds, supporting economic sustainability, and encouraging innovation and adaptation. Figure 3.5 shows the culture elements for Linxia handicraft products. The results identified that the traditional culture (mean=3.60) is the main culture elements for the Linxia traditional culture handicraft products followed by social culture (mean=3.58), pop culture (mean=3.54), region culture (mean=3.55), religious culture (mean=3.55), folk culture (mean=3.53), and national culture (mean=3.48).



A01-region culture;A-02 national culture;A03-folk culture;A04-traditional culture;A05-social culture;A06-religious culture;A07-pop culture;

Figure 12: Culture elements for Linxia handicraft products

Table 1.17 shows the cultural element analysis of the five brick carving samples by 200 users. The results show: The cultural elements of product 1 are in order: popular culture (mean=3.72), regional culture (mean=3.71), national culture (mean=3.67), folk culture (mean=3.66), traditional culture (mean=3.62), social culture (mean=3.58) and religious culture (mean= 3.55). The cultural elements of product 2 are in order: traditional culture (mean=3.65), folk culture (mean=3.63), social culture (mean=3.65), popular culture (mean=3.59), religious culture (mean=3.56), regional culture (mean=3.55), and national culture (mean=3.55) 3.51). The cultural elements of product 3 are as follows: national culture (mean=3.75), folk culture (mean=3.67), religious culture (mean=3.64), popular culture (mean=3.63), regional culture (mean=3.57), and social culture (mean=3.55). The cultural elements of product 4 are sorted as follows: regional culture (mean=3.65), traditional culture (mean=3.61), folk culture and social culture (mean=3.59), popular culture (mean=3.56), religious culture (mean=3.50) and national culture (mean=3.47). The cultural elements of product 5 are sorted as follows: regional culture (mean=3.78), traditional culture and social culture (mean=3.76), folk culture (mean=3.75), national culture (mean=3.74), popular culture (mean=3.69) and religious culture (mean=3.67).

Product 1	Product 2	Product 3	Product 4	Product 5

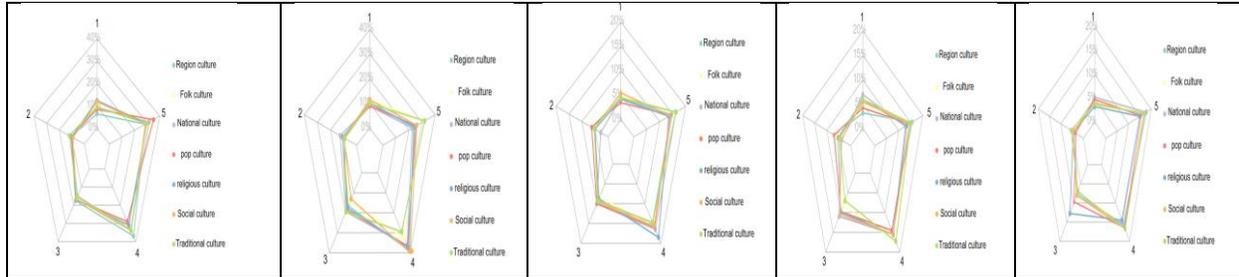


Figure 13: Linxia handicraft five kinds of product cultural elements

3.3 Product Aesthetic Element (PAE)

Compared with cultural communication, aesthetic elements can more directly and quickly convey product information and establish the relationship between products and markets. Aesthetic elements help products establish brand image, convey brand feelings, lead the trend, achieve product differentiation, improve market share, is one of the most effective ways to establish the connection between products and users.

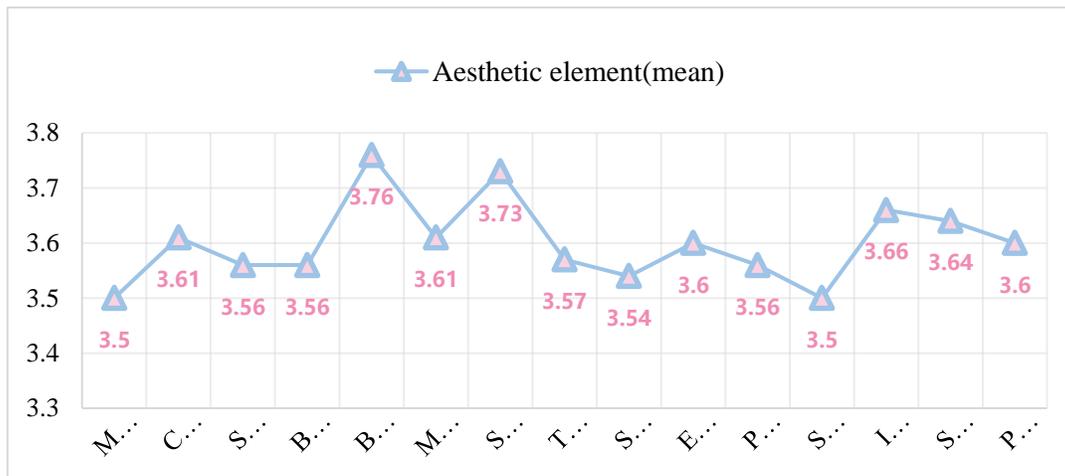


Figure 14: Aesthetic element for Linxia traditional culture handicraft products

Table 4.22 shows the aesthetic element for Linxia traditional culture handicraft products. The results found that brand (mean=3.76) is significant aesthetic elements of Linxia traditional handicraft products shape (mean=3.73), identity (mean=3.66), semantic (mean=3.64), colour and material (mean=3.61), pattern and emotion (mean=3.60), texture (mean=3.57), balance, proportion, and structure (mean=3.56), style (mean=3.54), modelling and semiotic (mean=3.50).

4. Discussion

Linxia traditional cultural handicrafts, as a unique and typical product, have great advantages in cultural significance, commercial value and market potential. In order to improve the marketability of Linxia handicraft products, product design should always be accompanied by innovation. In the process of innovation, it is found that the factors affecting the marketability of Linxia traditional cultural handicraft products include design value factors, cultural factors and aesthetic factors. Literature and empirical research identified 7 Product Design value characteristics (DVC) and 22 Product Culture Design Specifications (PCDS). The 22 Product Culture Design Specification (PCDS) consists of two parts, including 7 product culture characteristics (PCE) and 15 product aesthetic characteristics (PAE).



Table1 : Variables of Linxia handicraft marketization

Design value Characteristics (DVC)	Product Culture Elements (PCE)	Product Aesthetic Elements (PAE)
Social value	Traditional culture	Brand
Aesthetic value	Social culture	shape
Artistic value	Pop culture	identity
Cultural value	region culture	semantic
sentimental value	religious culture	colour
Sustainable value	Folk culture	material
market value	National culture	pattern
Social value	Traditional culture	emotion
		texture
		balance
		proportion
		structure
		style
		modelling
		semiotic

Table1 It specifically presents 29 Variables of Linxia handicraft marketization, among which design value characteristics (DVC) are as follows: Social value, Aesthetic value, Artistic value, Cultural value, sentimental value, Sustainable value, market value, Social value. The Product Culture Elements (PCE) include: Traditional culture, Social culture, Pop culture, region culture, religious culture, Folk culture, National culture, Traditional culture. The Product Aesthetic Elements (PAE) include: Brand, shape, identity, semantic, colour, material, pattern, emotion, texture, balance, proportion, structure, style, modelling, semiotic. According to the research results, the integration of the above elements can meet the market handicraft product specifications and effectively improve the marketability of Linxia handicraft products. The combination of these elements forms the evaluation process of Marketability Culture Product Requirement (MCPR) of Linxia handicraft products, and finally determines the requirements of marketable products. This process includes two formulas for forming Product Culture Design Specifications (PCDS) and Marketability Culture Product Requirement (MCPR):

$$\begin{aligned}
 & \mathbf{PCDS = [PCE + PAE]} \\
 & \mathbf{DVC + PCDS [PCE + PAE] = MCPR}
 \end{aligned}$$

In addition, based on research and formulas as a decision-making tool, Figure 10 shows a new framework and flowchart for integrating the design value of Linxia handicraft products with the cultural aesthetics of the products. (DVPCA) is a design method to increase the marketability of handicraft products. It is also the process of achieving Marketability Culture Product Requirement (MCPR) for Linxia handicraft products.

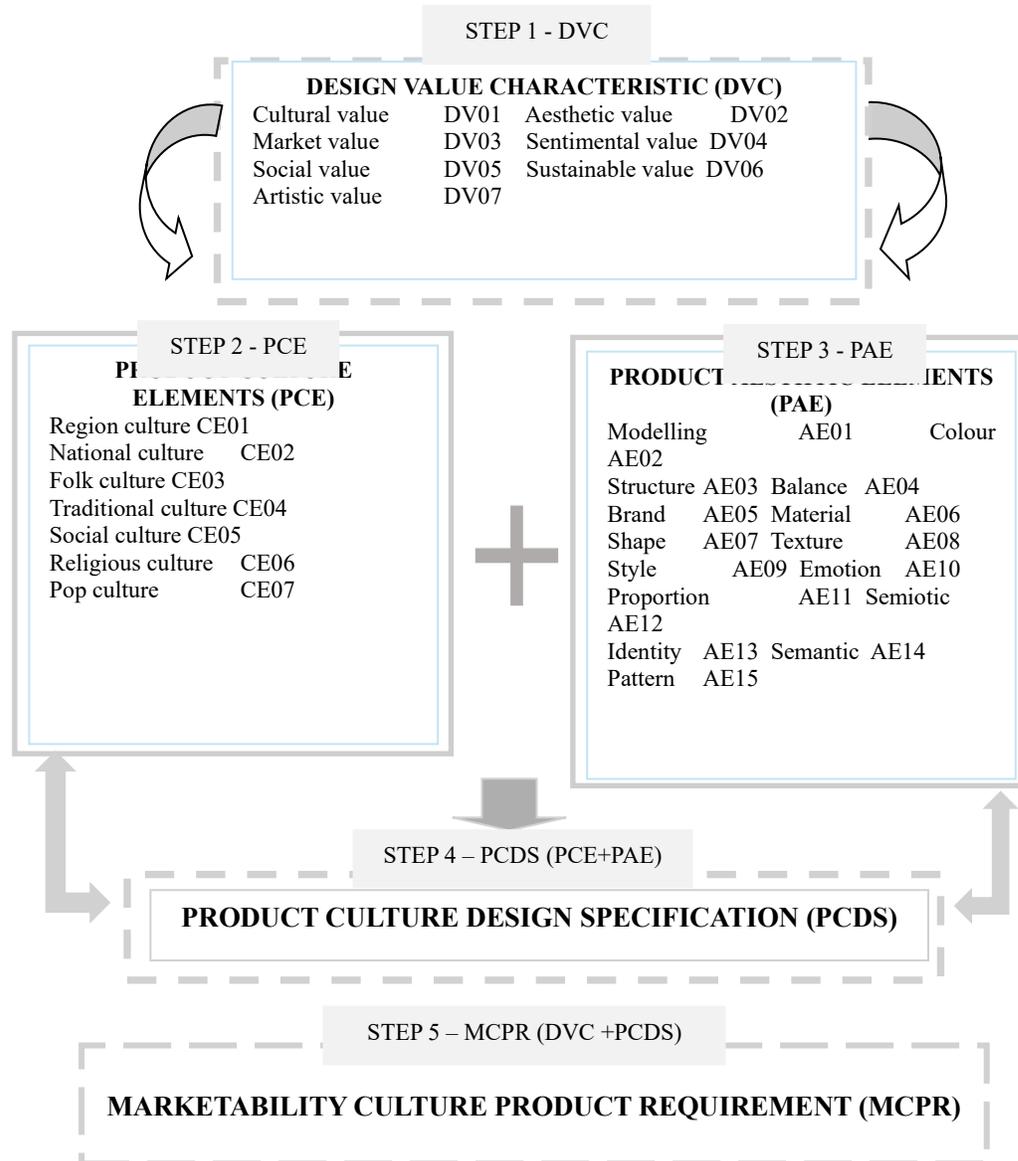


Figure 15 : The Step process of Design Value Product Culture Aesthetic (DVPCA) framework

In this practice process, the relevant needs from experts and users are integrated, and the specific practical methods are also expounded. The whole process is divided into five parts. Step 1 : Define and choose the Design Value Characteristics (DVC) elements. Step 2 : Define and choose the Product Culture Elements (PCE). Step 3 : Define and choose the Product Culture Elements (PAE). Step 4 : Integrate the Product Culture Elements (PCE) with the Product Culture Elements (PAE) has become the Product Culture Design Specification (PCDS). Step 5 : Integrate the Design Value Characteristics (DVC) with the Product Culture Design Specifications (PCDS) has become the Marketability Culture Product Requirements (MCPR)

5. Conclusion

This study introduces a new methodology, the Design Value Product Cultural Aesthetics (DVPCA) framework. Design Value Product Cultural Aesthetics (DVPCA) is an approach that identifies and validates expert and user needs in the design process to improve the marketability of handicrafts by integrating Product Design Value (PDV) and Product Cultural



Design Specification (PCDS). At the same time, a clear and complete implementation process is provided for designers. From product conceptualisation and design to product establishment, it becomes a new decision-making tool in the new product development process for handicrafts.

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