

Research on the Design of Beijing Carved Lacquerware Derivatives from the Perspective of Experience Design

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Abstract

This paper aims to study the design strategy and method of Beijing carved lacquerware derivatives based on experience design. Firstly, the application advantages and feasibility of experience design in Beijing carved lacquerware derivatives are clarified. Through the analysis of the current situation of Beijing carved lacquerware and its derivatives, combined with the KANO model, the product characteristics demand of consumers for Beijing carved lacquerware derivatives is analyzed. EEI model is used to analyze user experience and feasible design path one by one from the expectation stage, behavior event stage and influence stage combined with relevant experience design theories. At the same time, combined with the unique cultural connotation of Beijing carved lacquerware, the design strategy of Beijing carved lacquerware derivatives with good experience is summarized, and then effectively promote the spread of Beijing carved lacquerware culture. And provide reference for the design methods of other intangible cultural heritage derivatives.

Keywords: Beijing carved lacquerware derivative, experience design, EEI model

1. Experience Design and Beijing Carved Lacquerware Derivatives

1.1 Concept and Advantages of Experience Design

As early as the 1990s, Donald Arthur Norman emphasized human-centered design in his book *Psychology of Design*, integrating cognitive psychology and behavioral science into product design (Donald Norman, 2003). Nathan Shedroff, in his book *Experience Design*, defined experience design as integrating the participation of consumers into the design. In the design, the service is taken as the “stage”, the product as the “prop”, and the environment as the “scenery”.

Since then, *Experience Design* has been used independently (Nathan Shedroff, 2001).

Product design based on experience design, through the focus on user experience, improve people's feelings when using products, so as to effectively enhance the value of products, and even make users feel respected (Xiangyang Xin, 2019). The advantage of experience design is that experience and design are not only in a moment, but also throughout the whole process of design and experience. Users go through five processes of “perceptual awakening—behavioral triggering—emotional activation—relationship building—cognitive

shaping” in using products, so as to realize the empowerment of product design. The design of cultural and creative products or derivatives based on the perspective of experience can meet diverse needs, effectively improve the value and connotation of products, and promote the transformation of cultural creativity and innovative development (Lili Yang, 2020). Therefore, integrating the experience perspective into the derivative design of intangible cultural heritage can effectively improve the cultural value and user experience (Haipeng Wu, 2018).

1.2 Feasibility Analysis of the Application of Experience Design in Beijing Carved Lacquerware Derivatives

Beijing carved lacquerware is one of the representative intangible cultural heritages of China, and together with cloisonne, ivory carving, jade carving, palace carpet, Beijing embroidery, gold lacquer inlay and silk inlay, it is called “Eight wonders of Yanjing”. With the development of industry and the emergence of a variety of new materials and industrial technologies, Beijing carved lacquerware is also out of the category of daily necessities and the nature of use, like other handicrafts, to more appreciation of hand-made art; In contemporary times, although Beijing carved lacquerware has been preserved as a cultural form, the inheritance and protection of handicraft is not optimistic, so that it gradually fades out of the public’s vision, far away from daily life (Peihong Fan, 2021); And most of the current carved lacquer derivatives lack of life, unable to meet people’s physiological, psychological, emotional, spiritual and other aspects of experience, little combination with modern cultural elements, most of them are mainly ornamental art, based on the perspective of experience to study the design method of Beijing carved lacquerware derivatives, is based on the unique characteristics and culture of Beijing carved lacquerware. Seek design elements and design path of Beijing carved lacquerware derivatives in line with the needs of contemporary humanistic life, improve the value and connotation of Beijing carved lacquerware derivatives, based on the correlation between experience design and derivatives in sense, emotion, thinking and behavior, meet the growing experience needs of people in the new era, improve the science and effectiveness of the design and development of Beijing carved

lacquerware derivatives, so that users can get rich experience, Carry forward the Beijing carved lacquerware culture.

The experience design includes a variety of design methodologies and models. The design research of Beijing carved lacquerware derivatives based on experience design can be carried out in the following aspects: First, the research on the current situation of Beijing carved lacquerware and its derivatives, so as to clarify the cultural characteristics and existing market positioning of Beijing carved lacquerware, and determine the design objectives. Secondly, through questionnaires or user interviews, KANO model is constructed according to the satisfaction of the existing Beijing carved lacquerware derivatives, to clarify the needs and objectives of consumers. Then combined with EEI model (Xiangyang Xin, 2019), namely “expectation-event-impact”, with consumer demand as “expectation (E)”, the contact points between Beijing carved lacquerware derivatives and users are transformed into a series of “events (E)”, “events” include use path, functional feedback, design form, duration, etc. (Wanru Zhao, 2015). Design points and function points are defined. In order to ensure that Beijing carved lacquerware derivatives can carry the culture of Beijing carved lacquerware derivatives and have a positive “influence (I)” on consumers, which is to conduct culture to users through function points and obtain good experience. Through the above analysis, the design needs of Beijing carved lacquerware derivatives are obtained, and the design strategy of Beijing carved lacquerware derivatives is proposed based on the experience design theory. Finally, the evaluation and verification are carried out.

2. Analysis of the Status Quo of Carved Lacquer in Beijing

2.1 Market Status of Beijing Carved Lacquerware Derivatives and Cultural Creation

Through visiting the exhibition halls of relevant museums and cultural and creative markets, as Mr. Ge Pei once said, “Modern lacquer art production mostly follows the tradition, especially in the style of Ming and Qing dynasties. Its craft is full of piling, complex and complex. In terms of aesthetics, the artist likes to talk about the aesthetic trend of exquisite carving and exquisite workmanship, inheriting more than creating, and less modern design

concepts.” (Pei Ge, 2008). The patterns and patterns on the lacquer carving objects are still similar to the traditional Chinese paintings and patterns, such as vegetation and landscape, dragons and phoenixes, insects and fish, pavilions, auspicious patterns and characters, as well as some folk stories, myths and legends. The form carriers of lacquer carving are mainly furniture and decorative arts and crafts, some of which have practical functions and some simply play a decorative role. It can be seen that contemporary lacquer carving objects are more inclined to collection and appreciation functions (Peihong Fan, 2021), aiming at inheriting the “noble property” of Beijing carved lacquerware, and few derivative products for the public, therefore, Beijing carved lacquerware derivatives can not bring more in-depth cultural experience to the mass consumers.

2.2 Consumer Demand Analysis of Beijing Carved Lacquerware Derivatives Based on KANO Model

KANO model prioritizes based on user demand classification, and consumer satisfaction is proportional to the degree of demand, which helps to reflect the nonlinear relationship between product performance and user satisfaction (Kurt Matzler & Hans H. Hinterhuber, 1998). Noriaki Kano can be divided into the following five categories according to the relationship between product characteristics and consumer satisfaction: Must-have quality, aspirational quality, attractive quality, undifferentiated quality and reverse quality (Wei Zi, 2014), as shown in Figure 1. Therefore, when studying the design strategy of Beijing carved lacquerware derivatives, KANO model can be introduced to analyze consumers’ needs and preferences, so as to improve people’s experience when buying and using its products.

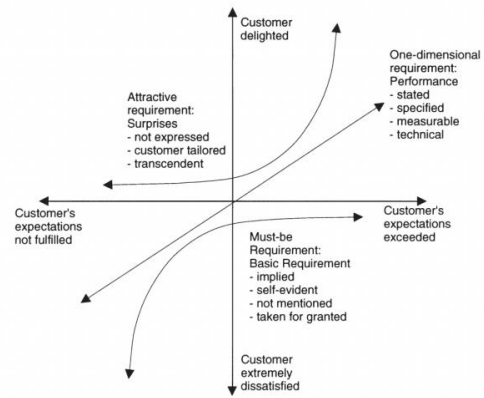


Figure 1. KANO model diagram (Kurt Matzler & Hans H. Hinterhuber, 1998)

The method of questionnaire and interview is adopted to investigate the needs of users of Beijing carved lacquerware derivatives. The Kano model questionnaire is designed according to the characteristics of Beijing carved lacquerware derivatives. The design method of the questionnaire is as follows: to find people aged between 24 and 45 who have certain understanding of Beijing carved lacquerware derivatives and have bought or want to buy Beijing carved lacquerware derivatives, and conduct targeted research. The questionnaire is divided into five levels of demand (satisfaction) for each product feature, very need - necessary quality, need - expectation quality, indifferent - charm quality, can tolerate - no difference quality, very need - reverse quality. According to the results of the questionnaire of Kano model of Beijing carved lacquerware derivatives, different levels of demand for its product characteristics are summarized, as shown in Table 1. With the degree and quantity of consumer demand as the measurement result, the characteristics of Beijing carved lacquerware derivatives are divided into different types of quality.

Table 1. Results of the questionnaire on user demand of Beijing carved lacquerware derivatives

| | Practicability | Aesthetic | Portability | Cultural attributes | Collectible value |
|----------------|-------------------|----------------------------|---------------|---------------------|-----------------------|
| Much needed | 43.48% | 34.78% | 39.13% | 39.13% | 52.17% |
| Needed | 17.39% | 43.48% | 21.74% | 43.48% | 13.04% |
| Doesn't matter | 30.43% | 13.04% | 30.43% | 8.70% | 21.74% |
| Can tolerate | 4.35% | 4.35% | 4.35% | 4.35% | 8.70% |
| Very unneeded | 4.35% | 4.35% | 4.35% | 4.35% | 4.35% |
| Modern style | Traditional style | Personalized customization | | Popularization | Local characteristics |

| | | | | |
|--------|--------|--------|--------|--------|
| 39.13% | 47.83% | 39.13% | 30.43% | 34.78% |
| 39.13% | 26.09% | 30.43% | 39.13% | 30.43% |
| 13.04% | 17.39% | 26.09% | 21.74% | 21.74% |
| 4.35% | 4.35% | 0% | 4.35% | 8.70% |
| 4.35% | 4.35% | 4.35% | 4.35% | 4.35% |

A total of 25 people were distributed in the questionnaire. After the questionnaire results were integrated into the KANO model, the top 2-3 demand values of each attribute were arranged after statistics, so as to obtain the necessary quality, desired quality, attractive quality, undifferentiated quality and reverse quality. Must-have quality: practicality, modern style, traditional style; Desired quality: aesthetic, cultural attribute, modern style; Attractive quality: portability, personalized customization; Undifferentiated quality: collection value, local characteristics; Reverse quality: none.

Therefore, in the design of Beijing carved lacquerware derivatives, the first consideration should be practicality and the integration of traditional style and modern style. On this basis, consumers hope to make it have aesthetic and cultural attributes, and the demand for collection value and local characteristics is smaller than other characteristics. Based on the above survey data, it provides reference for consumption preferences of product attributes for the design strategy of Beijing carved lacquerware derivatives in the future.

3. Design Strategy of Beijing Carved Lacquerware Based on EEI Model

3.1 The Expected Experience Stage of Beijing Carved Lacquerware Derivatives

The expected experience stage (E) is the experienter's selection and meaning creation process guided by a specific purpose and driven by a specific emotion. The difference between the experienter's expectations, results and expectations, the energy invested, and the emotion paid or felt all affect the creation of the experience story (Xiangyang Xin, 2019). Through the preliminary questionnaire survey and consumer interview, the demand of consumers for Beijing carved lacquerware derivatives is summarized. The characteristics of the product will affect consumers' cognition of the cultural value of Beijing carved lacquerware. At the same time, the characteristics of the product will also affect the purchase decision and the usage.

Therefore, consumers' demand for the characteristics of Beijing carved lacquerware derivatives can also be transformed into the expected experience stage of consumers.

In the process of buying a product, users often predict the subsequent experience based on their previous perception, experience and cognition, and form their expectations for the product through the prediction. This kind of expectation can have an impact on the subsequent experience of the product, which is called expectation effect (TOLMAN E C., 1932). Therefore, in the design of Beijing carved lacquerware derivatives, it is necessary to first meet consumers' expectations of the necessary quality and desired quality of the products, which will greatly strengthen consumers' experience of the subsequent practical products. Based on the preliminary research, we can know that consumers' expectations for Beijing carved lacquerware derivatives are: practicability, modern style, aesthetic, cultural attributes, traditional fusion of modern style. Therefore, Beijing carved lacquerware derivatives need to bear the culture of Beijing carved lacquerware on the premise of meeting consumers' expectations, so as to carry forward the artistic connotation and cultural deposits of Beijing carved lacquerware through product design.

3.2 Event Experience Stage of Beijing Carved Lacquerware Derivatives

Event (E) itself is the main stage of the experience. A series of behavioral contact points in the interaction between consumers and products can be understood as consumers' experience events of the product itself (Xiangyang Xin, 2015), designers can manipulate consumers' behaviors and emotions through product design, so as to give users a good experience. For Beijing carved lacquerware derivatives, it is through the use and contact between consumers and Beijing carved lacquerware derivatives to let consumers perceive the culture and characteristics of Beijing carved lacquerware derivatives, so as to

generate cultural resonance and form a positive experience. Therefore, it is necessary to design from the three aspects of theme conception, sensory experience and cultural penetration of Beijing carved lacquerware derivatives.

The first is the theme idea. In the design and development process of Beijing carved lacquerware derivatives, it is necessary to closely follow the theme, clear positioning, select the carrier, and refine the product audience, so that the audience can feel the theme in the process of experience, feel the cultural connotation and characteristics of cultural and creative products under the guidance of the theme, and obtain its unique and strong sense of experience, improve the degree of recognition (Haipeng Wu, 2018). In the conception and determination of the theme, first of all, we need to consider what kind of derivative carrier is selected for development and design, and at the same time, we need to meet the needs and expectations of consumers, such as the unity of practicality and aesthetics, the unity of traditional style and modern style, and so on. Secondly, we need to select the appropriate characteristics of Beijing carved lacquerware and the carrier, which can be patterns, can also be handicraft techniques. The unique theme can meet consumers' strong sense of experience, and through the theme of Beijing carved lacquerware derivatives to more deeply perceive the culture of Beijing carved lacquerware.

The second is the sensory experience. To stimulate consumers' multi-sensory experience through the derivative products of Beijing carved lacquerware is a key part of the enhanced experience. The experience goal of the sensory layer is to use sensory stimulation to generate enjoyment, excitement and satisfaction of beauty (Bernd. H. Schmitt, 2000). Traditional Beijing carved lacquerware derivatives are mostly confined to art appreciation, only satisfying consumers' visual experience, so consumers' experience activities are not sufficient. Therefore, in the design of derivatives, besides making them have the ornamental function, namely aesthetic, they should also be endowed with more characteristics, such as clothing or daily necessities as the carrier, through body interaction, to make it have practical properties; Or in the form of DIY products, by providing raw materials and instructions, enabling consumers to make small objects with personalized and customized properties to

enhance user experience. By increasing the multi-sensory behavioral contact between consumers and the derivative products of Beijing carved lacquerware, users can consciously and actively interact with their deeper experience, and feel the products and the Beijing carved lacquerware culture attached to the products in the experience.

Finally, in terms of cultural penetration, the ultimate purpose of the design of Beijing carved lacquerware derivatives is to convey the culture of Beijing carved lacquerware and make it infiltrate users subtly through derivatives. Therefore, culture should be infiltrated into the product design, but it should not be too straightforward, otherwise the use experience of consumers will be affected. Therefore, the concept of cultural symbols should be introduced. Cultural symbol is a total collection of all meaningful activities in society, is the culture into the contemporary cultural style (Yiheng Zhao, 1990), for example, in the Beijing Fuwa, Nini's external form is taken from the tiger head doll in the Chinese New Year pictures, and with the traditional kite pattern as the head decoration, it takes the Beijing kite "sand Yan" as the design prototype, with "kite flying" meaning flying ideal, with the meaning of "swallow" spreading good luck (Shengbo Sun & Bingxue Gao, 2021), Nini can be a kind of Chinese auspicious cultural symbol. In the design of Beijing carved lacquerware derivatives, we can also learn from cultural symbols to carry out cultural penetration.

3.3 The Experience Stage of the Influence of Beijing Carved Lacquerware Derivatives

The experience of consumers and products not only includes expectation and behavior events, but also the influence of consumers after contact with products (I), which is also the importance and significance of the existence of products (Xiangyang Xin, 2019). Therefore, in the design of Beijing carved lacquerware derivatives, good experience should also be generated by users after contact with them, and the sense of experience can be sustained, so that the continuation of cultural transmission. This requires that in the design, the derivative of Beijing carved lacquerware should become the introduction of cultural communication. After users interact with it, they are more inclined to take the initiative to understand Beijing carved lacquerware, and even stimulate users' interest to learn the handicraft of Beijing carved

lacquerware, so that consumers can empathize with the derivative of Beijing carved lacquerware, just like tourist souvenirs become clues for tourists to recall the events. Through tourist souvenirs evoke the media of this complete experience (Peiyao Li, 2021).

Beijing carved lacquerware derivatives can also add more possibilities to consumers' lifestyles.

EEI model proposed innovative design path for Beijing carved lacquerware derivatives, analyzed and explored the user experience of consumers' expectations, events, influences and other stages respectively, summed up the design strategy suitable for Beijing carved lacquerware derivatives, effectively promoted the user experience of Beijing carved lacquerware derivatives, and then promoted the cultural transmission of Beijing carved lacquerware derivatives.

4. Conclusion

Beijing carved lacquerware is a national intangible cultural heritage as well as a national cultural treasure. Carrying and spreading its connotation through the form of derivatives is an important part of carrying forward the culture of Beijing carved lacquerware. This paper, starting from the experience design, focuses on the design strategy of improving the user experience of Beijing carved lacquerware derivatives, aiming to closely focus on the needs of consumers and improve the quality of product design. Through product design to give consumers a good user experience, improve the purchase and utilization rate of Beijing carved lacquerware derivatives, and then promote the spread of Beijing carved lacquerware culture, at the same time to provide reference for the spread of other intangible cultural heritage.

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