The Aesthetic Role of National Traditional Cultural Factors in Mobile Shopping Application Interface Design

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KEYWORDS	ABSTRACT
Aesthetic, National traditional cultural, Interface design, Design aesthetics	This research will explore the aesthetic role of ethnicity traditional culture design factors in mobile shopping application interface design. Firstly, we will introduce the conceptual definition and theoretical connotation to clarify the meaning of ethnicity traditional culture design factors. Then, we will analyse the value and aesthetic role of these factors in mobile shopping application interface design. Subsequently, we will focus on the current situation and look forward to the future development trend. In the fourth part, we will propose strategies to realise the aesthetic role of ethnic traditional cultural design factors. Finally, by concluding the whole paper, we will emphasise the importance of the study and its impact on future design.

1. Introduction

1.1 Conceptual Definition of Ethnic Traditional Cultural Design Factors

Chinese traditional culture is a vast and profound treasure trove whose compositional forms and contents are deeply rooted in the historical soil. As China's national power continues to grow, the exposure of Chinese cultural elements in the international design field has also increased. In the context of this new era, local Chinese designers are tasked with the artistic mission of inheriting and promoting excellent traditional culture (Zhou & Wang, 2023). For mobile shopping application interface design, Chinese traditional culture provides designers with rich inspiration resources.

The challenge for designers is how to skillfully combine design elements extracted from traditional culture with modern fashion to create a unique and compelling shopping experience (Hu, 2019). The diversity of Chinese culture allows designers to draw inspiration from traditional painting, literature, and philosophy and incorporate them into application interfaces so that users can feel the depth and connotation of the culture as well as be aesthetically inspired. In the field of mobile interface design, interface design factors have become an important vehicle for conveying the essence of Chinese culture (Peng& Liu, 2016). By using traditional cultural totems, patterns and colours, designers integrate traditional Chinese

elements into modern interface design to create unique and attractive mobile applications. This integration not only demonstrates the unique beauty of traditional Chinese culture, but also establishes the artistic status of Chinese design on the international stage (Zhou & Wang, 2023). Therefore, local Chinese designers play an important role in the new era by injecting the essence of traditional Chinese culture into modern design through innovation and inheritance, presenting the world with a unique and attention-grabbing design style. This fusion is not only a tribute to traditional culture, but also a continuous exploration of ethnic art, which injects more cultural connotations and artistic inspirations into the interface design of mobile shopping apps (Huang & Huang, 2022). Ethnic traditional cultural design factors refer to the integration of traditional elements of a specific ethnicity or culture into the design to enhance the uniqueness and cultural expression of the design.

1.2 Theoretical Connotation

Chinese traditional culture is a general term for the civilisation, customs and spirit of the Chinese nation. It originated in the ancient cultural period before the age of Shennong, and has been accumulated and precipitated through history, forming a precious cultural heritage that fully reflects the characteristics and appearance of the Chinese nation. It consists of four main parts: material culture, institutional culture, behavioural culture, and spiritual culture, which form a huge and complex system of interpenetration between several cultures and exist in various forms of carriers such as the Chinese people's way of

thinking, value orientation, economic activities, social structure, religion and philosophy, folklore, and art (Huang & Huang, 2022). Among them, as far as ancient traditional dress is concerned, it is a form of externalisation of the content of institutional culture in traditional Chinese culture, which originates from the accumulation of material culture (Peng& Liu, 2016), and at the same time coalesces the connotation of spiritual culture. This concept encompasses a deep understanding of cultural identity, values and traditional symbols, and how these elements can be skillfully integrated into the design to make them part of the user experience.

2. Ethnic traditional interface cultural design factors and user aesthetics

Chinese traditional cultural elements are diverse in form and rich in connotation, which are the cultural treasures of the Chinese nation. With the development of science and technology, mobile phone mobile application has become an important tool for people's life, and more and more Chinese traditional elements appear in mobile interface design. In this section, we will deeply analyse the value and aesthetic role of ethnic traditional cultural design factors in the interface design of mobile shopping applications (Zhou & Wang, 2023). Mobile interface design is the visual design and human-computer interaction design of mobile phone interface, including page layout layout, icon design, font design, colour matching, animation effect design and so on. As a real-time and dynamic interactive medium and a mobile platform for two-way information interaction, the mobile interface design of mobile phones should not only

meet the needs of software users for the functionality of mobile applications and information communication, but also satisfy people's needs for the aesthetics of visual design, i.e., the mobile application should not only be easy to understand and operate, but also bring people a pleasant visual feeling and human-computer interactive experience (Huang & Huang, 2022). In recent years, the interface design style of mobile phone mobile applications has changed, from the previous 3D and anthropomorphic style to the modern flat and minimalist style. Nowadays, mainstream design firms are leading the trend of flat interface design (Hu,2019). In China, the interface design style of some mobile phone mobile applications has a homogenised tendency, which makes it difficult to highlight the characteristics of traditional Chinese culture. Therefore, mining and researching Chinese local elements, combining Chinese traditional elements with mobile interface design trends, and designing and developing mobile interfaces that reflect Chinese characteristics are issues that designer should think about.

2.1 Ethnic traditional cultural design factors

Ethnic traditional cultural design factors bring a unique cultural atmosphere to the design so that users can feel the charm of a specific culture during the shopping process. This helps to establish emotional connection and enhance user satisfaction. In the information age, interface design plays an increasingly important role in people's lives, and the usability of interface design involves the user's cognitive, operational and psychological feelings when using a product

(Marcus, 2005). The innovative expression of Chinese traditional elements in interface design does not mean that Chinese traditional patterns do not show a sense of creativity and reality, and that traditional patterns should be discarded, eliminated or even no longer used, but rather that they should be combined with modern pattern design in the form of learning and referring to Chinese traditional patterns to design modern interface design works with Chinese characteristics. Pattern design is a kind of visual space symbol, this kind of design firstly embodies the image and structure of the work, and secondly is the conveyance of thought, emotion and culture, through rich imagination, combined with the way of thinking of the modern people, fully utilising the modern visual form factors and design techniques (Sit et al., 2020), to convey to the people with a unique style of information. Chinese traditional pattern elements contain thousands of years of cultural concepts and ideas, we only fully understand the connotation of these graphics, can be cleverly applied in the design, without being hard and dull. For example, the 2008 Beijing Olympic bid logo is a successful case of modern pattern design, which fully integrates the Chinese traditional art of painting and calligraphy, and takes the Chinese knot, which is a long disc in the traditional mascot picture, as the basic design element, supplemented by the traditional imagery of taijiquan, and injects modern ideas into the graphic, which skilfully integrates the Olympic spirit, traditional Chinese culture and the characteristics of the city of Beijing into a whole. The first thing we feel here is the word "meaning" in the Chinese traditional element,

i.e. to create shape with meaning and to express meaning with shape (Yang & Han, 2020). This is also the case with the logo of China Unicom, which adopts the shape of "Pan Chang", which is one of the Eight Treasures of Buddhism, taking the meaning of "long lasting and unending", and the interlacing lines symbolise the connection between the company and its customers. The meandering lines symbolise the endlessness of Unicom's business. The use of this auspicious symbolism makes our modern design less commercial and more cultural and affinity. In today's society where information exchange is so frequent and rich, interface design should have its own distinctive identity and unity, as well as strong subjectivity and visual impact. Therefore, many designers use all kinds of image materials and techniques to design Chinese aesthetic design with different characteristics. The Chinese element - Peking Opera face is used as the background image with Chinese auspicious patterns. Different Chinese elements are used in the icon part, and they are expressed in modern design and techniques. The whole design is very smooth and has a typical Chinese character (Huang&Huang, 2022). The moment of touching the fingertips, it also stimulates the user's inner national emotion. The interface of this mobile phone has a strong Chinese style, and its personality traits are self-evident. Therefore, in the process of design, the characteristics of traditional elements should be fully considered and analysed to ensure that the extracted elements have independence and representativeness, and the traditional decorative elements should be reasonably refined to best meet

the modern aesthetic tendency of the decorative elements, which embodies a traditional character in the design (Yang & Han, 2020). In the mobile phone interface design interface work, the main design element chosen is the Chinese element - cheongsam. Starting from the unlocking interface to the icon section, the buttons of the cheongsam dress are the focus of the design, and the overall colour is the main colour of the cheongsam: jewel blue, which is very much like the Chinese blue and white porcelain (Huang&Huang,2022). The use of traditional Chinese elements in interface design is a creative design expression, which should be based on a scientific and realistic attitude, removing the false and leaving the true, so as to make it national and realistic. This not only highlights the national cultural characteristics, but also expresses the fashionable and leading ideological trend, which strongly promotes the development of human civilisation (Sakandar et al., 2020). Therefore, we need to grasp the spiritual essence and connotation of design and traditional culture, and let such a cultural rhyme naturally expressed in the hands of designers. In conclusion, with the development of the society, it is necessary to make the perfect combination of Chinese traditional patterns and modern interface design under the premise of inheriting and carrying forward the long-lasting traditional culture of the Chinese nation to develop Chinese interface design.

2.2 Aesthetic Role

Through the clever use of traditional cultural elements, interface design can present a more artistic and aesthetic appearance, attract users' attention, and improve the attractiveness and

perceivable value of the interface. With the development of Chinese society and economy and the improvement of its international status, Chinese traditional culture has started to show its new face on the world stage, and more and more art works have been created based on Chinese elements. More and more art works have been created based on Chinese elements, such as the familiar films "Kung Fu Panda", "Mulan", "The Great Sage of Qi Tian", etc., and various international fashion shows with the theme of Chinese style (Zhu, 2021). Although the "Chinese style" works of foreign designers are not recognised by the public in China, and are considered to be unable to express the true meaning of traditional Chinese culture, it can be seen that "Chinese style" is on the rise. However, it can be seen that "Chinese style" is on the rise, and "Chinese style" design inspires Chinese people's love for their own national culture and allows them to regain their national self-confidence, as well as allowing international friends to see the profoundness of traditional Chinese culture (Hu, 2019). Domestic interface designers have also actively carried out such research and exploration practices, and in recent years, some excellent "Chinese style" interface designs are changing the aesthetic perception of interface design, highlighting national traditions and stimulating national pride. For example, in the interface design of the "Daily Forbidden City" mobile application, the overall design is antique, which is similar to traditional Chinese ink paintings and has excellent expressive power (Yang & Han, 2020). The logo design is a combination of variations of the Chinese character "宫" and

traditional Chinese auspicious cloud patterns, and the colour scheme is a gradation of gold and yellow, which expresses the sense of dignity of the ancient royal family. On the launch page, you can see the dynamic expression of traditional Chinese images and hear the sound effect of bells, making the experience solemn and wonderful. The Daily Forbidden City mobile application is an official software launched by the Palace Museum, which not only serves to pass on and develop traditional culture, but also has commemorative and ornamental values (Tian, 2021). The icon design of the mobile application uses golden gradient auspicious cloud elements, with red Chinese traditional seal elements in the upper right corner, exuding a strong Chinese flavour (Wu, 2022). The mobile application has a simple interface with clear functions. The calendar date is designed as a hollowed-out number, and today's collection can be seen by clicking on it. The background page of the interface uses Chinese-style patterns and gradient pattern elements (Marcus, 2005). In terms of colour scheme, the designer used traditional Chinese colours to give the mobile application an aura of classical beauty. The jump icons in the interface adopt traditional symbols, and the functions of different modules are clearly presented in a simple vertical linear layout, which gives the mobile application a sense of history and exudes the aesthetics of traditional Chinese culture, and cleverly achieves the "new use of ancient methods". The Daily Palace mobile application will push a collection for users every day, and users can also view the history of the collection by sliding the interface left and right, which makes the mobile

application interact with users, and also allows users to understand traditional culture more deeply, enhance their knowledge of traditional art, and make people better inherit traditional culture. The Daily Palace mobile application presents Chinese traditional culture in a unique way on the Chinese style mobile interface design, which allows users to deepen their understanding of traditional culture while enjoying Chinese history and culture (Chen & Chen, 2021).

3.The current status of the application of Chinese traditional cultural elements in user interface design

At present, some mobile shopping applications have begun to try to incorporate ethnic traditional cultural design elements. However, this is still in the primary stage. Interface design has been developing rapidly in China in recent years, but most enterprises and designers' knowledge of interface design still stays at the level of visual design and lacks the design of product interaction and experience (Tian, 2021). There are cases of imitating foreign design works in design style, failing to form a unique Chinese style. Although domestic enterprises such as Tencent and Xiaomi have actively explored and compensated for the lack of originality in interface design to a certain extent, they have failed to show obvious competitive advantages in the global market. Overall, the originality of interface design still has more room for development (Plocher et al., 2021). With the rise of the national trend, many designers are trying to combine the visual elements of traditional culture with their own design content, and the overall application of traditional Chinese

cultural elements has increased compared to the past (Yang &Chen ,2015). At present, the domestic interface design embodies traditional cultural elements of the products are mainly national style game products, national style science and technology products, traditional cultural elements design style class skin theme several aspects. Most of the products have presented traditional Chinese cultural elements in the interface design through visual means, such as adding traditional paintings, patterns, Peking Opera, calligraphy, ink and other Chinese elements, which has a certain visual art effect (Chen & Chen, 2021). However, there are some problems: some products only pay attention to the surface visual form, used to copy and pile up traditional Chinese cultural elements, lack of cultural connotation, and lack of cultural heritage, making the design effect superficial.

4. Strategies for realising the aesthetic effect of national traditional cultural design factors

The design team should study the target culture in depth to understand its traditions, symbols and values to ensure the accuracy and depth of the design. Through user participation and feedback, the views of users from different cultures should be collected to continuously optimise the design and make it more in line with user expectations. In the future, cross-cultural design methods can be adopted to make the design more inclusive, taking into account the habits and preferences of users from different cultures.

(i) Enhance national confidence and cultivate Chinese culture Chinese traditional elements have distinctive Chinese characteristics, and the use of colours, images, symbols, etc. to highlight the

unique cultural charm of a certain era in China (Yang & Chen ,2015) can make the design more rhythmic. Many designers, especially foreign designers, have little understanding of traditional Chinese culture and are confused about the traditional Chinese culture of a long time ago. For example, in the film "Mulan", the film draws on China's late Tang Dynasty "forehead yellow make-up", but the overall make-up is rough, the viewing degree is not good, and there is a big difference with China's historians after a lot of research to restore the "forehead yellow make-up" make-up, and the core content expressed in the film is not the same as the Chinese people's culture, and the film is not the same as the Chinese people's culture. The core content expressed in the film is also quite different from that expressed in the "Magnolia Words", which is well known to Chinese people. The reason for this is that foreign artists do not have a systematic and in-depth understanding of Chinese traditional culture. This is due to the fact that foreign artists do not have a systematic understanding of traditional Chinese culture, and designers need to further cultivate traditional Chinese culture if they want to make better use of Chinese elements (Plocher et al., 2021). Chinese culture has a long history and can be studied in different time periods. The use of elements should be systematic; mixing elements of different categories from different eras and using the same element repeatedly are just copying the same thing, and the connotation of "Chinese style" naturally cannot be expressed (Huang & Huang, 2022). Taking traditional Chinese motifs as an example, designers love to use traditional Chinese motifs in

modern interface designs such as web pages and games, and the number of such motifs is increasing day by day, but the works that users see are often not the best examples. Traditional Chinese tattoos have different characteristics in different dynasties. During the Yin and Zhou Dynasties, the tattoos used were more often derived from animals, mostly in symmetrical shapes, and were used to express a solemn and mysterious atmosphere. During the Tang and Song dynasties, there were more exchanges with foreign countries and the people were relatively open, so the colour varieties and decorative styles of tattoos underwent great changes, and the features of tattoos in this period retained both national and foreign characteristics. When using tattoo elements in interface design, we should pay attention to the origin and specific meaning of tattoos and avoid using them indiscriminately. Only by deeply cultivating Chinese traditional culture can we avoid a one-sided understanding of Chinese elements and be able to draw on and design "Chinese style" works with ease.

(ii) Master the design principles and avoid rigidity Interface design belongs to the category of "science" in the final analysis, and the design of an outstanding page is not purely based on feelings (Zhu, 2021). Interface design needs to be purposeful, with a clear understanding of product positioning, user needs, interaction habits, and appropriate styles, based on which the design is based on user experience and iterated based on user feedback. As the purpose of interface design, "based on user experience" naturally gives rise to a series of design rules and norms. For example,

users should be able to access information quickly, hierarchical relationships should be regularised, users' habits should be followed, and attention should be paid to user-friendly design (Chen & Chen, 2021). If the designers themselves do not follow the relevant design rules, they will not get extra points for the Chinese style design. Reasonable colour scheme, symmetrical design elements, effective visual guidance, unified style features and other interface design techniques are more important than irrationally applying traditional Chinese elements, and the logic of the interface and the convenience of interface operation should not be sacrificed for the sake of a single interface presentation effect.

(III) Refine the scope of design and make clear the theme of design. To use traditional Chinese elements in interface design, on the one hand, it is necessary to be full of respect and reverence for traditional Chinese culture, and on the other hand, it is necessary to break through and innovate, and pay attention to experiencing the essence of traditional Chinese culture in the process of innovation. There is a rich selection of traditional Chinese elements, which in turn leads to the arbitrary use of traditional elements in the process of interface design. In the process of innovation, it is necessary to have a deep understanding of the existing traditional culture, and then extract the parts that are valuable to the creation. In the process of Chinese style interface design, it is better to reduce the selection range of traditional Chinese elements, refine them, categorise, filter and combine the elements according to the theme of interface design, accurately position the

interface design style, find the commonality of the elements, reduce the sense of clutter and enhance the reasonableness (Zhu, 2021). For example, when using traditional elements, we can consider using patterns and images designed specifically for a certain dynasty. For example, when using traditional elements, we can consider using patterns and images that are specific to a certain dynasty from the perspective of dynasty, or from the perspective of category, using the development of a certain category to run through different pages (Chen & Chen, 2021). From the designer's point of view, this avoids the probability of making mistakes when using traditional elements, and it is easier to fit the principle of unity in interface design; for the user, when using and enjoying the interface, he or she can concentrate more on learning a certain aspect of traditional Chinese cultural knowledge, which is easy to understand and summarise.

5. Summarise the significance of the application of Chinese traditional elements in mobile interface design

With the continuous development of globalisation and the fusion of Eastern and Western cultures, Chinese traditional culture is facing certain challenges under the impact of modern and foreign cultures. As a new field of mobile phone interface design, most of the groups facing it are young people, who are the main force to inherit Chinese traditional culture in the future. In mobile phone interface design, the new generation of Chinese designers should shoulder the mission of inheriting Chinese culture, combine traditional Chinese cultural elements with mobile phone interface

design, explore and design quality interfaces with traditional Chinese culture and modern aesthetics, and contribute to the development of China's mobile phone interface design and the inheritance of traditional Chinese culture (Zhu, 2021). To use traditional Chinese culture elements in mobile interface design, designers should pay attention to the following issues. First, we should learn how to make trade-offs. After determining the design theme and style, designers should collect materials in line with the theme, classify and organise the relevant elements, and not only assemble and collage the relevant elements when designing the mobile interface, but also present a certain mood, so as to show the oriental cultural flavour in the design. Secondly, we should fully understand and recognise traditional Chinese cultural elements. At present, some people's understanding of Chinese style is superficial, and some designs are empty of elements, but it is difficult to show the connotation of traditional Chinese culture. For this reason, designers should have a deep understanding of traditional Chinese culture and use it effectively in mobile interface design. Third, we should learn to innovate (Sakandar et al., 2020). Designers should focus on extracting the colours, forms, words and spiritual connotations of traditional Chinese culture, and explore the strategies of combining traditional Chinese elements with mobile interface design while boldly using Chinese elements. Designers should not only explore and excavate excellent traditional Chinese cultural elements, but also absorb new design concepts, integrate emerging technologies, and incorporate new design perspectives into their designs, so that traditional

Chinese elements can be updated and iterated through new carriers to keep abreast of the times, and then design mobile interfaces that truly highlight the characteristics of traditional Chinese culture (Zhu, 2021). On the basis of preserving and inheriting China's excellent traditional culture, designers should endeavour to promote "Chinese design" and "Chinese creativity" to the world and create a mobile interface design style that reflects Chinese characteristics. While learning and absorbing foreign cultures, designers should base on and inherit the excellent local culture, combine with the characteristics of the development of the times, and explore the road of mobile interface design with Chinese characteristics.

In the process of interface design, designers should unswervingly learn, inherit and promote the excellent traditional Chinese culture, and while applying the latest design concepts and design forms, they should also follow the future development trend of interface design, so as to find the best combination point between traditional Chinese cultural elements and mobile phone interface design. In addition, designers should try to break away from the constraints of cultural forms and use modern design language to show the connotations of traditional culture, so as to design excellent interface design works with Chinese cultural characteristics. The emergence of interface design has led to the diversification of artistic expressions. With the development of digital products and the digital culture industry, artistic expressions have been realised for the general public, and at this time interface design has become the backbone of the design field. In the era of art

sharing, the design style of interface design is influencing the aesthetic view of users. Incorporating Chinese style elements can effectively promote the dissemination of China's excellent traditional culture and bring it into line with the world. The creation of Chinese style interface design should respect history, study Chinese culture in depth, dig deep into the connotation of the elements, find the common points and connections between traditional elements and modern design, and effectively draw on and innovate the design. Designers should control and guide the aesthetic trend of the public, follow the principles and features of interface design, base on user experience, and design works with significant national characteristics by using beautiful traditional Chinese elements, so as to let the world know China's excellent culture.

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