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## The Visual Effect Of Culture On The Chinese Web Interface

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Lixuan Yang<sup>1</sup>, Mustaffa Halabi Bin Azahari<sup>2</sup>

<sup>1</sup>City University, Malaysia  
[yangyangyang@126.com](mailto:yangyangyang@126.com)

<sup>2</sup>City University, Malaysia  
[drmustaffa.azahari@city.edu.my](mailto:drmustaffa.azahari@city.edu.my)

### Abstract

**Introduction:** Due to the differences between Eastern and Western cultures, significant differences in the visual effects of web interfaces. Different cultural backgrounds from different thinking habits and cognitive styles, thus producing different information organization and representation patterns. Adapting to the Chinese way of thinking helps designers to better build visual effects according to the user habits of the Chinese cultural circle and create a Chinese web visual design with higher user satisfaction.

**Methodology:** Based on the influence of cultural background on the visual effect of web interfaces, the researchers explored and summarized the visual characteristics of web interfaces under Chinese cultural background through the comparative analysis of different Chinese and Western cultural backgrounds. Qualitative research methods and descriptive literature data were mainly used.

**Themes and findings:** The results show that compared with Westerners, Chinese people tend to classify according to relationships, and their thinking mode is often synthetic and specific. The Chinese tend to show a sense of the whole. For example, web page visual design in Western countries emphasizes individualism in content presentation, while China pays more attention to collectivism; the content of Chinese web page information presentation is intuitive. Its specific presentation form is the richness, diversification, and intuitive display of content and the collective presentation of information organization mode.

**Conclusion and recommendations:** We follow the related design concepts and principles in the visual design of web pages. We can better build visual effects according to the use habits of users in the Chinese cultural circle. That helps to help designers create Chinese web visual design effects with higher user satisfaction.

**Keywords:** Web interface, Chinese culture, Visual effects

## **1. Introduction**

Because the Eastern and Western cultures originate differently, therefore, they are pretty different from each other. Different cultural backgrounds decide different thinking habits and cognitive styles, thus producing different information organization and representation patterns. The visual effects of web interfaces formed in different cultural backgrounds also vary greatly. For example, web design in Western countries emphasizes individualism in content presentation, while China emphasizes more collectivism; Chinese websites emphasize more intuitive information presentation, while Western websites emphasize logic and rationality. Chinese web pages' specific presentation form is rich, diverse, intuitive, and the collective expression of display content and information organization mode. Adapting to the Chinese way of thinking and following the related design concepts and principles will help designers to create a more suitable web page visual effect for Chinese users.

Based on the influence of cultural background on the visual effect of the web interface, researchers mainly explore and summarize the visual characteristics of the web interface in the comparative analysis of different Chinese and Western cultural backgrounds through qualitative research methods and descriptive literature data.

## **2. Literature review**

Cross-cultural web interface research is of accepted significance. Hofstede, Edward Hall, Shalom Schwartz, and Trompeters have put forward their unique insights on cross-cultural research and formed their respective theoretical systems. Numerous academics have performed in-depth study fusing cross-cultural and interface design ever since the invention of graphical user interfaces. These research initially largely concentrated on the induction of thinking mode and information structure before eventually penetrating the web interface's aesthetic impact. The Chinese way of thinking and cognition also impacts the visual effect of the Chinese web interface.

### **2.1 Research significance of cross-cultural web interface**

One standard definition of culture is a loosely arranged group of beliefs, customs, and conventions (Chiu, Leung, & Hong, 2010). Differences in human aesthetic habits and visual responses are influenced by cultural background. Moreover, ignorance of cultural patterns and non-verbal communication is the basis of many cases of intercultural misunderstanding (Hall, 1973 AD). Evers and Day (1997) suggested considerable cultural disparities in how various cultural groups see the acceptability of interfaces and emphasized the crucial role that culture

plays in the acceptance of user interfaces. Kondratova and Goldfarb Some studies have demonstrated that culture-appropriate interface design is the major influencing factor of international user access to information (Kondratova, I., and Goldfarb, I. 2005). According to P. Hekkert and H. N. J. Silverstein's (2008) theory, our senses are affected differently by various aesthetic impressions produced by various information systems, and this causes various emotional reactions. People who use various information systems naturally generate various ideas and assessments in their heads. These studies show that Eastern and Western cultures have considerable disparities in design traits.

## **2.2 Cross-cultural research theory**

From 1968 to 1972, Dutch social psychologist Hofstede surveyed the staff of IBM branches worldwide and analyzed 116,000 questionnaires. He stated that all variations may be attributed to one or more fundamental dimensions. Individualism/collectivism, Power Distancing, Masculinity/Femininity, and Uncertainty Avoidance are these aspects. (Hofstede, 1980 G.) Hofstede and Bond (1988) identified a fifth cultural component, Long-term Orientation/Short-term Orientation (also known as Confucian dynamics or the embrace of traditional Confucian principles), in a study of Chinese values conducted in the early 1980s.

In his widely accepted cultural framework, Edward Hall (1976, 2000) asserted that all cultures might be linked by how they communicate. Low-context cultures communicate primarily through explicit statements in writing and language, such as those of the Scandinavians, Gelman, and Swiss. Other cultures, such as Japan and China, categorized as high-context cultures, transmit information through additional familiar cues in addition to text and language, such as body language and silence. High-context communication relies on the listener or reader's capacity to deduce meaning from the context, uses indirect, non-confrontational, and ambiguous language, and suggests a message through unsent messages. Include paralinguistic clues, behavior, and context as elements of mixed

Shalom Schwartz (1994) published a set of alternative value dual relationship models. In addition, Schwartz is able to identify factors that promote self-transcendence while enhancing oneself. Hierarchical (the validity of the power hierarchy) and mastery (self-assertion, self-perfection, and active control of the social environment), which are comparable to Hofstede's capacity for power and masculinity, are the two self-reinforcing elements. Harmony (with nature) and egalitarian commitment (altruistic motive and volunteer service in an autonomous community) are the two components of self-transcendence. (Schwartz, S. H. (1994). pp.85–119)

In 1998, the Trompenaars used the seven cultural dimensions of the analytical framework to explain the relationships between people in the social system. (Trompenaars, F., & Hampden-Turner, C. 1998.)

### **2.3 Cross-cultural and web-page combination**

The Xerox Palo Alto Research Centre (Xerox PARC) researchers invented the software and "direct operation, a key concept in graphical user interface design" in the 1970s. John Maeda and his Aesthetics and Computing team investigated the convergence of typography and programming to take advantage of the impacts of computer processing rates.

In the essay "Counterstream: Cultural Dimensions and Global Web User Interface Design," Aaron Marcus and Emily West Gould examined Hofstede's study on cultural dimensions and speculated how it might affect user interface design. (Aaron Marcus and Emily West Gould, 2000).

A set of dimensions for fostering trust on the web have been created by Bailey, Gurak, and Constein (2001). They contend that the significance of these factors varies by culture and that these variations need to be investigated to forecast outcomes in other cultures. (Bailey, B.P., Gurak, L. J., & Constein, J. A. 2001. )

Human-computer interaction researchers Gavriel Salvendy and Waldemar Karwowski (2021) thoroughly analyze cross-cultural challenges in user interface design. The inclination to organize and display information varies among cultures, which needs to be considered when designing menu layouts for persons with diverse cognitive types. (Gavriel Salvendy&Waldemar Karwowski,2021,pp.252-279)

Morling and Lamoreaux (2008) studied SMEs in Asia often have more intimate social ties, and their behavior exhibits indirect communication and covert self-disclosure; The SMEs in the United States tend to have wider social networks, and their business practices show more openness to direct communication and audacious self-disclosure. Additionally, these online communities frequently mirror similar cultural traits. They are more individualistic with American social culture and collectivist with Asian social culture, indicating that online culture may constitute an important cultural product.

### **2.4 Specific study on the visual effects of the cross-cultural web interface**

In the 1990s, rapid development focused on the cultural influence on computer user interface design, mainly on language concerns, information display formats, various information codes, graphic symbols, metaphors, and other cultural influences. (Nuray Aykin, 2005, p503)

In order to make the web page better adapt to different cultural environments, Tony Fernandes proposes to change the language, consider the question of nationalism, pay attention to the date and time format, pay attention to the measurement unit and currency form, pay attention to the

differences in cultural values. (1994)

Tony Fernandes (1994) suggests changing the language, taking nationalism into consideration, paying attention to the date and time format, paying attention to the measurement unit and currency form, and paying attention to the various cultural values to make the website more adaptable to various cultural environments.

Richard e Nisbet (2003) discovered that Westerners and Asians "read" photographs differently due to different cognitive characteristics. R. E. Nisbett (2003).

Nuray Aykin affirms the impact of cultural differences on web design, using comprehensive research methods to conduct an in-depth analysis of the cultural differences in the website from the perspective of management and information display (text language, number, Etc., name, address, color, and layout). (Nuray Aykin, 2005)

Liu Shuqing, Liang Tianyi, and Shao Shuai said that culture-related designs would affect people's perceived availability, aesthetics, and happiness. These reflect the influence of culture on web page design. Culture influences many design features, including layout, navigation, links, multimedia, colors, and text. To facilitate human-machine communication, it is necessary to design an interface to match the user's preferences for local culture and communication. (2020)

Dianne Cyr et al. (2005) studied the impact of Human Images on the vision of e-commerce sites on users of different cultural backgrounds, selecting 90 respondents from Canada, Germany, and Japan for research analysis and using Experimental Tasks, Questionnaire and Instrument Validation, Interviews, and other methods. They have shown that human pictures influence consumers' perceptions of an image's beauty and social presence. It also shows that the culture will have different psychological reactions to cultural groups when they see human images on e-commerce web pages.

## **2.5 Visual Features of the Chinese web interface in cross-cultural Contrast**

Choongnc Slvency(1998,1999) examined how cultural variations between the US and Chinese populations affected cognitive style and thought processes. The outcomes showed that while American participants outperformed Chinese ones in abstract representation and functional structure, Chinese subjects outperformed American ones in particular representation and theme structure throughout the information search test.

Alexander, N. Thompson, and D. Murray investigated the design differences between the Australian and Chinese governments, media, and news website home pages in 2017. The findings indicate that whereas Australian websites open links more quickly in a new window, Chinese websites employ more multimedia and navigation with parallel structures. (Alexander, N. Thompson, and D. Murray, 2017, pp.75–89).

### **3. Method**

Based on the influence of cultural background on the visual effect of web interfaces, the researchers explored and summarized the visual characteristics of web interfaces under Chinese cultural background through the comparative analysis of different Chinese and Western cultural backgrounds. Qualitative research methods and descriptive literature data were mainly used.

### **4. Findings**

Numerous academics have investigated the intersection of multicultural and interface design in-depth since the invention of the graphical user interface. Significant disparities have developed in the visual design of web interfaces due to the cultural distinctions between Eastern and Western societies. Different cultural backgrounds from different thinking habits and cognitive styles, thus producing different information organization and representation patterns. Previously, these studies mainly focused on the induction of thinking mode and information structure and then gradually penetrated the visual effect of the web interface.

Compared with Westerners, Chinese people are more inclined to classify relationships, and their way of thinking is often synthetic and specific. The Chinese tend to show a sense of the whole. For example, web page visual design in Western countries emphasizes individualism in content presentation, while China pays more attention to collectivism.

### **5. Conclusion**

The content of Chinese web page information presentation is intuitive. Its specific presentation form is the richness, diversification, and intuitive display of content and the collective presentation of information organization mode.

Adapting to Chinese thinking will help designers create web visual effects more suitable for Chinese users. In the visual design of web pages, we follow the use habits of Chinese cultural users and follow the relevant design concepts and principles, which can build a better visual effect of web pages.

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