# A Study on the Application of Cultural Elements in Product Design

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**Abstract.** In recent years, there has been a trend of using Chinese/ Taiwanese cultural elements in consumer electronics (CE) products. This innovative design method has resulted in many works that won significant awards in Taiwan and international design competitions. The award-winning works included mass-produced products and conceptual design works, and the great appraisals have proven that this kind of design method could create added-value for a product. Therefore, "how to use design elements with cultural meanings" has become an important issue. This research has studied cases that used Chinese/Taiwanese cultural elements in product design, including five cases in Taiwan's electronics industry and 15 award-winning works in international design competitions. The purpose was to compare how the design methods used in mass-produced products are different from the ones used in conceptual design works. The results revealed that: 1) The mass-produced products utilized Chinese calligraphy and paintings as the main cultural elements, while the conceptual design works used Chinese calligraphy and paintings in not only artifacts and daily-use items, but also in the expression of custom and behavior, aesthetics, religion rituals, or even Chinese philosophy. 2) The mass-produced products made direct use of Chinese/Taiwanese cultural elements. Namely, some Chinese calligraphy and painting totems were copied on the products, thus presenting Chinese-style appearances. On the contrary, the award-winning works selected and translated the cultural elements more skillfully. The application of cultural elements was used in product appearances and functions. The designers were expressing their interpretation and deeper meanings of Chinese culture by their unique renovation. If the industrial designers could learn from these award-winning works and use the same kind of design method in CE products, new industrial opportunities could be created.

**Keywords:** Design competition, cultural elements, consumer electronics industry.

## 1   Introduction

China/Taiwan possesses cultural traditions with a long history. Nowadays, people are keen to study Chinese-style aesthetics, and the cultural heritage has become the new resource of design ideas. The precious cultural elements, including Chinese calligraphy, paintings, literature, utensils, and philosophy, have brought vitality to

Taiwan's design industry. In view of this, the Industrial Development Bureau, Ministry of Economic Affairs, once entrusted the academic community to research on the styling design in Taiwan. The project collected 1,500 pieces of Taiwan's artifacts, and there were 30 cases of which further studies were done (Wei, et al., 2006).

Under the trends of globalization and knowledge-based economy, the low-cost manufacturing industries of the past can hardly survive in today's international market due to the fierce competition. Faced with international manufacturers and their brands, Taiwan's industries have known how to use the advantages of creativity and design ability and develop high value-added products with unique aesthetics. In this way, brand competitiveness could be increased. Currently, this is also the crucial developed part in the knowledge-based economy of the countries all over the world. In 2005, Jun-Liang Chen's work, Round Sky & Square Ground Ceramics Tableware, won the most influential Design Award in Asia. It has brought a big inspiration to Taiwan's design community. Also, it has shown that the method of using Chinese cultural elements in product design would give Taiwan an opportunity to be on the international stage. The design work skillfully mingled tradition and culture with modern utensils, and its unique aesthetics were indeed thrilling.

Besides, in recent years Taiwan's manufacturers have actively promoted the products of nostalgic styles, emphasizing cultural images. For example, BenQ once launched some CE products with limited supply (BenQ5250C Scanner, Joybook8000 Notebook, and fp785 Notebook). In these products, "Chinese culture" was the main design theme, and they had brilliant sales performance. Because the company received great appraisal in the market, an excellent brand image was established. Another phenomenon that is worthy to be mentioned is that there has been an annual increase on the works that used cultural elements as their design themes to win awards. This was observed in several important design competitions, including the Lite-On Creative Design Awards, Gigabyte Great Design Contest, IF Design Awards, and the Asia Design Awards. This indicated that cultural design has become the main stream of conceptual design, and it has been gradually accepted by the public.

This research discussed the current situation of Taiwan's electronics industries and how they have used Chinese cultural elements in product design. By comparing the differences between the mass-produced products and the award-winning works, the temptation was to find out a set of rules for Taiwan's industrial design, especially on the application of cultural elements and design methods. This research hoped to bring the most benefits to Taiwan's industrial design, thus increasing the competitiveness of Taiwan's products.

## 2   The Cultural Elements of a Product

Encyclopedia Britannica (1990) mentioned that the term "culture" originated from the Latin word "cultura", meaning the cultivation of a land or some plants. Afterwards, it meant the cultivation of a human being's body and spirit. Webster's Dictionary (2002) said that the meaning of "cultural awareness" should be a human being's psychological process of understanding his survival, lifestyle, and various activities of spiritual and physical realms. In 1871, Taylor proposed that "culture" is the

combination of knowledge, beliefs, art, morals, laws, customs, and other abilities and habits being created and inherited through history (Su, 2005). Therefore, the context of a culture becomes people's attitudes in life, and it is interpreted in people's memory. By the way of understanding and experiencing a culture, People would self-interpret and have extensive perspectives toward things.

In Chinese ancient books, culture means the achievements in culture and education. Ruth Benedict (1976) proposed that "cultural behaviors" are regional, artificial, and with great diversities. A culture would have a trend of being united, and it is like a human being with a set of ideology and behavior model. Chen (1996) indicated that the Frankfurt School gave "culture" the most general definition: all the laboring results of human beings could be considered as the products of the culture, and all of the human activities could be regarded as cultural activities.

In summary, "culture" could be defined as the symbol of human behaviors, and its purpose is to express viewpoints. Therefore, "cultural elements" would appear differently in various levels of people's social lives, and cultural elements would give meanings and possibilities to a culture. When conducting product design, the designer could select the appropriate cultural elements and use them on a new product. The product should be able to arouse certain people's association with that culture, thus stimulating people's nostalgic or immersive feelings and leaving people with a good impression about the product.

In the book Cultural Anthropology, Keesing explained the term "culture". It means a community's life style, meaning the activities that would occur repetitively and regularly. "Culture" indicates an organized system of knowledge and beliefs. By that system an ethnic group could establish their experience and perception, setting standards for their behaviors and choices (Chang, 1989). Therefore, briefly speaking, culture is "the life style of the entire society", and it includes the various social activities.

A Culture is consisted of multi-levels. Stephan (2004) believed that it could be divided into the visible and the invisible. Schein (1999) and Lee (2004) proposed that cultural characterization could be interpreted by three levels: basic assumptions, values, and artifacts. Furthermore, Hampden-Turner, Trompenaars (1997), and Spencer-Oatey (2000) divided culture into 4 levels: 1) basic assumptions and values, 2) beliefs, attitudes and conventions, 3) systems and institutions, 4) artifacts, products, rituals and behaviors.

Xu (2004) utilized Leong's theory "spatial perspective of culture" (2003), and matched the spatial structure of a culture and the three cultural levels. Concerning the design factors, the design attributes of cultural products were distinguished according to different cultural levels. The three spatial attributes of a culture are: 1) The outer "tangible" level, including colors, texture, shapes, surface ornamentation, lines, details, and components. 2) The Mid "behavioral" level, including functions, operation methods, ease of use, security, and the combinations. 3) The inner "intangible" level, including products with special meanings, stories, affections, and cultural features.

## 3   Research Methods

This research collected five of mass-produced products that used cultural elements in product design, including Transcend JetFlash, A-DATA MyFlash, BenQ 5250C Scanner, Joy book 8000 Notebook, and BenQ Fp785 Monitor. These products produced by Taiwan's manufacturers were designed to have cultural themes. In addition, 15 award-winning works (2002-2006) were selected, including works in Lite-On Awards, Gigabyte Great Design Contest, Asia Design Awards, IF Design Awards, Taiwan International Design Competition, and Intel PC Creative Stylist Competition. The selecting principle was that the works had to be with Chinese-originated cultural elements in their design theme.

2001-2006 mass-produced electronics products manufactured in Taiwan and the 15 award-winning works selected in this research were analyzed in aspects of design features, cultural meanings, cultural elements, and design techniques as in Table 1.

**Table 1.** The cultural attributes and design techniques of product samples

| | | Cultural elements | | | | | Product representation | | | | | Design techniques | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Chinese Calligraphy | Chinese brush paintings | Utensils | Religion | Philosophy | External images | Comprehensive impression of theme | Detailed decorations | Operation methods | Functional symbols | Simile | Metaphor | Metonymy | Making direct use of cultural elements | Making indirect use of cultural elements |
| Mass-produced Products | BenQ Digital Scanne | ˇ | | | | | ˇ | | | | | | ˇ | | ˇ | |
| | A-DATA USB Flash Drive | ˇ | ˇ | | | | ˇ | | | | | | | | ˇ | |
| | Transcend USB Flash Drive | | ˇ | | | | ˇ | | | | | | | | ˇ | |
| | BenQ Notebook | ˇ | ˇ | | | | ˇ | | | | | | ˇ | | ˇ | |
| | BenQ Monitor | | ˇ | ˇ | | | ˇ | | | ˇ | | ˇ | | | ˇ | |
| | Total: 5 pieces | **3** | **4** | 1 | | | **5** | 1 | | 1 | | 1 | 2 | | **5** | |
| Awa | German IF Digital Scale | | ˇ | | | | | ˇ | ˇ | ˇ | | ˇ | | | | ˇ |
| | CD Stereo | | ˇ | | | | | ˇ | ˇ | | | | | | ˇ | ˇ |

**Table 1.** (*continued*)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD Player | | ˇ | ˇ | | ˇ | | ˇ | | | | ˇ | ˇ | | |
| Intel Personal Computer | ˇ | | | ˇ | | ˇ | | | | ˇ | ˇ | | | ˇ |
| Lite-On Answering Machine | | ˇ | ˇ | | | ˇ | ˇ | ˇ | ˇ | ˇ | | | | ˇ |
| Lite-On Music Player | | | | ˇ | | ˇ | | ˇ | | | | ˇ | | ˇ |
| GIGABYTE Conceptual E-Schoolbag | | ˇ | | | | ˇ | ˇ | ˇ | ˇ | ˇ | | | | ˇ |
| Lite-On Conceptual Stereo | | ˇ | | | | ˇ | | | ˇ | | | ˇ | | ˇ |
| Lite-On Digital Amulet | | ˇ | ˇ | | | ˇ | | | ˇ | | | ˇ | | ˇ |
| Lite-On Media Player | | ˇ | | | | ˇ | ˇ | | | | | ˇ | ˇ | |
| Lite-On Conceptual Keyboard | | ˇ | | | | ˇ | | ˇ | ˇ | | | ˇ | | ˇ |
| Lite-On Remote Control | | ˇ | | | | ˇ | | ˇ | ˇ | | ˇ | | | ˇ |
| Lite-On Conceptual E-book | | ˇ | | | | ˇ | | | ˇ | | | | | ˇ |
| GIGABYTE Media Player | | ˇ | | | | ˇ | ˇ | | | | | ˇ | ˇ | |
| GIGABYTE Photo Frame | | | ˇ | ˇ | ˇ | ˇ | | ˇ | | | | ˇ | | ˇ |
| Total: 15 pieces | 1 | **11** | 4 | 4 | 1 | **15** | 5 | 6 | **10** | 4 | 2 | **9** | 3 | **12** |

## 4 Analysis and Discussion

Table 1 shows that among the five mass-produced electronics products, there were three of them using Chinese Calligraphy as the main cultural elements, and four using Chinese paintings. Only one of them used both Chinese Calligraphy and paintings, and that one utilized the images of daily utensils. As to the 15 award-winning conceptual works, the application of cultural elements included Chinese Calligraphy,

artifacts, daily utensils, behaviors, aesthetics, religion, rituals, and even Chinese ideology and philosophy. Utensil images were the most popular application in product design, while religion and philosophy was used in four of the design works. Analyzed from the perspective of cultural levels, most of current mass-produced products used the elements in the "material level", and the decoration of Chinese Calligraphy and paintings could create obvious images of Chinese culture. Although most of award-winning conceptual works used the elements in the "material level" as well, they selected functional utensils to present cultural meanings. Some works even tried to explore the cultural and the metaphysical levels, including contents like religion, beliefs, rituals, behaviors, aesthetic ideology, or philosophy.

In terms of product representation, all of the five mass-produced electronics products were "external-image-oriented". There was one piece of work presenting the comprehensive impression of theme, while another one presenting the product's operation methods. On the contrary, all of the 15 conceptual works presented their comprehensive impression of themes, and 10 of them expressed design ideas through functional symbols. There were five pieces of works having the attribute of "detailed decoration", while six of them having the attribute of "operation methods". Only one piece of work had the attribute of "external image". The attributes that these conceptual works had were very different from the mass-produced products.

In terms of design techniques, all of the five mass-produced electronics products made direct use of images on the products. One of the five used the simile technique, while two of the five used metaphors. What was different from the abovementioned mass-produced products was that there were 12 of the award-winning works making indirect use of cultural elements, and nine of the 15 were using metonymies. Some of the work pieces made direct use of images like the way mass-produced products used. In the conceptual works, there were four using similes, while there were two using metaphors. The above analysis revealed that although mass-produced products would use similes or metaphors to develop design ideas and convey messages, in fact they did not go beyond the direct use of cultural elements. Decorations of Chinese Calligraphy (characters) and Chinese paintings (totems) were copied on the products to display Chinese styles. Therefore, there was no need for the designers to go through any symbol translation process, and they just directly presented the cultural elements on the product surfaces, without any modifications. As to award-winning conceptual works, most designers used metonymies, making indirect use of cultural elements in order to present deeper cultural meanings. Hence, the design procedures were very different from the ones of the "material level". The designers needed to explore the cultural and the metaphysical levels and transform the possible design elements through observation and re-interpretation. Afterwards, the new product could be developed according to the traditional design steps.

## 5   Conclusion and Suggestions

The purpose of this research was to compare the cultural attributes, design elements, product features, and other design techniques of the abovementioned creative cultural products. Through analysis and integration, the data of product differences and

correlations were known, hoping to serve as a future reference for the industry and the design community. The research results were as follows:

(1) The mass-produced products used Chinese Calligraphy and paintings as the main cultural elements, while the conceptual design works used various elements such as Chinese Calligraphy, Chinese brush paintings, artifacts, daily utensils, behaviors, aesthetics, religion, rituals, and even Chinese philosophy. In other words, not only the images of daily use items and utensils were used, but also the custom, affection, religion, and art were included. From the perspective of cultural levels, mass-produced products were having less application of cultural elements, especially in lack of the elements in the cultural and the metaphysical levels. Therefore, most of the mass-produced products were in the material (utensil culture) level, using outward cultural factors to present products' features. However, the conceptual design works covers cultural elements of the cultural (living life) and the metaphysical (spiritual life) levels, using inward elements to display cultural features. This phenomenon might be due to the fact that mass-produced products have more pressure on the manufacturing costs and functional limitations, thus having more restriction on the selection and translation of cultural elements.

(2) The mass-produced products made direct use of Chinese/ Taiwanese cultural elements, coping Chinese Calligraphy and paintings on the product surfaces in order to display Chinese styles. On the contrary, the award-winning works more skillfully selected and translated the cultural elements, using the cultural images or partial of the proto-type on the product forms or functions in order to present deeper Chinese/ Taiwanese cultural meanings.

From the way the award-winning works used Chinese cultural elements, Taiwan industrial designers could apply the similar design methods to the domestic CE products in order to develop the international market and business for Taiwan's enterprises. Nevertheless, the international market acceptance was surely one of the reasons why the mass-produced products were using cultural elements in "the material" level instead of "the metaphysical" level. Therefore, strategically speaking, in order to truly and effectively use Chinese/ Taiwanese cultural elements in product design, the cultural elements in the lower level should be tested and experienced first, and then the ones in the middle and the higher levels could gradually be applied in product design.

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