

Exploring Local Characteristic Product Analysis from an Emotional Design Perspective

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Abstract. Taiwan's local industries are well-developed; however, over time, various local industries have encountered the problem of transformation. This change has prompted businesses to gradually shift their focus to aesthetics and emotional design when developing new products. Consequently, Taiwan's Ministry of Economic Affairs and small and medium enterprises (SMEs) share the objective of recreating local commercial opportunities to assist in local industry development and promote product innovation regarding Taiwan's local characteristic industries. The following topics are worthy of further investigation: (1) whether products' added cultural value can elicit consumer acknowledgement and generate deep emotional impressions; (2) whether a correlation exists between the emotional perception of these cultural products and cultural elements; and (3) whether new values can be created using an interdisciplinary collaborative model of local characteristic industries and industry optimization transformation. Considering globalized competition, designers should seek the essence of originality from their own culture and establish a unique cultural distinction for local characteristic products to improve the product design value and competitiveness. Based on data analysis and a literature review, this study analyzed the development of an integrated relationship between Taiwan's local characteristics and design industries. Data from relevant analyses indicated the following: (1) Localized life and cultural characteristics and local spirit can sufficiently influence the innovation of local characteristic products; (2) successful local characteristic products must satisfy three levels of emotional design, namely, the visceral, behavioral, and reflective levels; and (3) integration of local characteristic industries and the experience economy concept requires an interdisciplinary exchange platform to stimulate industry innovation and drive emerging industries.

Keywords: local characteristic industry, emotional design, cultural product, interdisciplinary.

1 Introduction

Driven by globalization and technologization, the twenty-first century features highly competitive markets that have prompted nations throughout the world to shift their

economic focus to a culturally centered industry orientation. Subsequently, innovation and creativity have become the foundations of industry development. A country's prosperity is fundamentally determined by whether it possesses superior innovative mechanisms and abilities, and whether it can obtain an advantage in international competition. The primary role of government is to improve the production environment to stimulate business upgrades and innovations [1]. In 2002, the Executive Yuan in Taiwan began promoting the Challenge 2008: Six-Year National Development Plan as the most important current domestic policy. This plan included the Cultural and Creative Industry Development Plan, which incorporates the One Town One Product (OTOP) policy and generated emerging industry concepts, such as tourism and creative living, to form a more substantial and sustainable economy [2]. Local characteristic industries warrant considerable attention because the majority of people employed in local traditional industries are residents of rural villages, particularly in the Asia-Pacific region. Therefore, enhancing the development of local cultural industries is extremely significant for maintaining economic stability and promoting sustainable development. Relevant knowledge and skills must be transferred to manufacturers, and the value and cultural significance of products must be conveyed to potential consumers [3]. The primary topics discussed were as follows: (1) the correlation between local characteristic industries and cultural products; (2) the relevance of cultural products regarding the mode of emotional experience design; and (3) the correlation between local characteristic industries and design in interdisciplinary collaboration.

2 Literature Review

2.1 Design of Cultural Products with Local Characteristics

Local characteristic industries include industries unique to a region and traditional industries that exhibit individualism and excellent characteristics after repackaging [4]. Cultural product designs target local characteristics to re-examine and reconsider relevant cultural elements, employ creative designs, and emphasize cultural identity to present cultural elements with a new appearance and explore users' psychological satisfaction [5]. Consequently, the relationship between the designer, consumer, and product is further defined on a cultural level, particularly emphasizing the mutual effects of culture and products. Cultural product designs do not only originate from the designers' knowledge and imagination, but also from the designers' understanding of consumer lifestyles and the influence of a product's cultural background. In addition to embodying traditions and symbolism, culture plays an active role through commercialized creativity [6]. With culture as a medium, local characteristic products provide satisfaction to consumers on both functional and psychological levels. Finally, designers project their personal experiential affect onto products by illustrating cultural perceptions that resonate with consumers and satisfy their affective needs (Fig. 1).

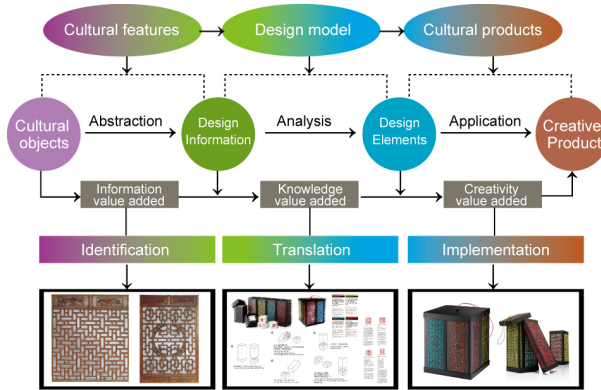


Fig. 1. Mode of value added through cultural creativity (Lin, 2007)

2.2 Emotional Design of Local Characteristic Products

Considering the development trends and effects of a globalized economy, designs have gradually exhibited a consistent and international style that corresponds to the increasing similarity of lifestyles despite environmental variations. However, without individual characteristics, these designs cannot reflect regional cultural characteristics [7]. Various countries throughout the world have begun developing design styles that accentuate their personal cultural characteristics; this has resulted in design variations that highlight the current globalized design trend of seeking differences within commonality. This trend entails enhanced shaping of characteristics through design localization to address the current challenges of market globalization. Furthermore, greater emphasis is placed on adding value to products through design to transfer key elements, such as brand culture and value [8]. Norman identified another crucial factor for products besides function, that is, emotion. Emotional design comprises the following three levels: visceral (the external appearance and texture of products), behavioral (product function), and reflective (individual feelings and perceptions) levels. Thus, emotional design is crucial for future developments in the design and service industries, which increasingly emphasize customization and interactive design to accommodate the design principles of different levels [9]. According to the above

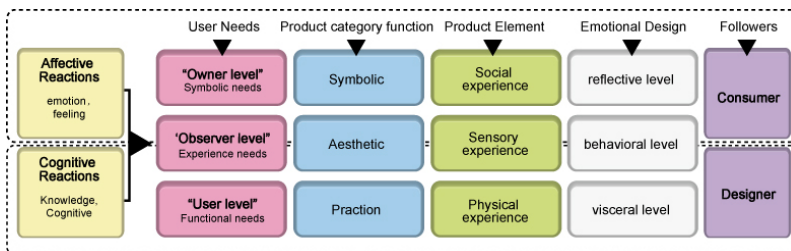


Fig. 2. The five dimensions of affective and cognitive reactions (Source: data compiled in this study, 2012)

discourse, which is summarized in Fig. 2, the emotional perception of local characteristic products reflects the mutual effects of the affective and cognitive reactions produced by the designer and consumer through the five dimensions of user needs, product function, product element, emotional design, and followers.

2.3 Local Characteristic Industries and Interdisciplinary Design Collaborative Models

Globally, industry development has shifted from the previous unitary manufacturing pattern to comprehensive experience economies. Similarly, Taiwan's economic activities have switched from traditional agriculture to business and services. With rapid industry and community changes, local characteristic industries have adopted diverse and comprehensive development directions [10]. Interdisciplinary resource collaboration for local characteristic industries endeavors to increase the design service capacity and expand the application dimension of design aesthetics. The incorporation and cooperation of different industry disciplines can generate innovative creative elements (Fig. 3). Using interdisciplinary collaboration to resolve financial and aesthetic issues through design requires the participation and cooperation of interdisciplinary qualified design professionals. Thus, innovative local characteristic development can be achieved, stimulating the clustering of design service activities and facilitating the development of local characteristic industries [11].

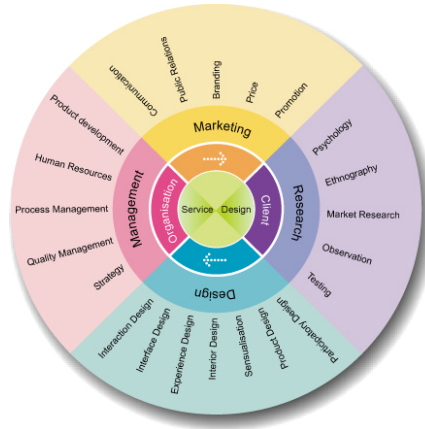


Fig. 3. Service design requires an interdisciplinary collaborative team and collaborative creation methods

3 Research Methods

This study primarily employed a literature review and content analysis methods to conduct an investigation. The primary topics discussed were as follows: (1) the correlation between local characteristic industries and cultural products; (2) the relevance of cultural products regarding the mode of emotional experience design;

and (3) the connection between local characteristic industries and design in interdisciplinary collaboration. This study was conducted in four phases, which are briefly described below.





- Phase 1: Based on related literature and using the Taiwan OTOP Design Awards as a case study, the business philosophy and development of this project was examined and analyzed. In addition, this phase targeted the background development of the Taiwan OTOP, assessing and tabulating the differences compared to that of other countries.
- Phase 2: In this phase, 26 winning entries in the product packaging design category of the Taiwan OTOP Design Awards from 2007 to 2012 were analyzed. Specifically, the visual design elements of each entry were examined regarding cultural significance, cultural characteristics, and the correlation between brand culture and local industries.
- Phase 3: From the perspectives of design material, function, and connotations, analysis was conducted using the degree of cultural perception regarding the local characteristic products of the case study. The analysis results were then matched to the three levels of emotional design (i.e., visceral, behavioral, and reflective levels).
- Phase 4: The local characteristic industry development model of the Taiwan OTOP project was investigated using the content analysis method. Four design companies were targeted to conduct analysis regarding interdisciplinary collaboration with traditional industries. An integrated examination was performed after the local characteristic products that possess the three main elements of emotional design for each company were combined. This was conducted to identify the essence of Taiwan’s local cultures and to establish the cultural value and connotations of local characteristic industries.

4 Research Results and Discussion

4.1 Case Study Background and Business Philosophy

With local industries as the foundation, the Ministry of Economic Affairs has promoted the Taiwan OTOP project to achieve various goals, such as establishing an innovative economy, encouraging consumerism, and building a lifestyle of health and sustainability (LOHAS). Consequently, the policy objectives of revitalizing and promoting local economies and employment can be accomplished.

Table 1. Various global representatives promoting the OTOP/OVOP (One Village One Product) movement each year

Country	Japan(OVOP)	Taiwan(OTOP)	Malaysia(SDSI)	Thailand(OTOP)	Malawi(OVOP)	Philippines(OTOP)	Indonesia(OVOP)	Peru(OVOP)	Senegal(OVOP)	Kenya(OVOP)
Age	1979	1989	1992	1997	2003	2004	2004	2010	2011	2011
Logo										

This global chronology shows that the OTOP movement, which originated in Asia, has spread to most countries throughout the world. This movement has attracted the attention of industries and markets and is the primary development policy of several governments worldwide, thereby achieving globalization. Table 1 shows that Taiwan began considering and promoting local characteristic policies fairly early; however, Taiwan's local cultural industries continue to experience subsistence difficulties. Further investigation of local industry attributes and maturity is required to effectively address the inadequate depth and scope of local characteristic industries and provide assistance accordingly.

4.2 Visual Design Elements of Local Characteristic Products

This study sampled and tabulated 26 winning entries in the product packaging design category of the Taiwan OTOP Design Awards for 2007 to 2012. In this study, four commonly examined visual design elements (i.e., text, imagery, structural shapes, and materials) were summarized and analyzed. The results, as presented in Fig. 4, show that the majority of the designers used structural shapes complemented with storytelling to strengthen the link between the cultural characteristics and the product. The second most commonly employed design element was the inclusion of Chinese characters that expressed the essence of the work and demonstrated the integration of a unique local cultural spirit.



Fig. 4. Visual design element analysis of the entries winning Taiwan OTOP Design Awards

4.3 Analyzing Local Characteristic Products through Emotional Design

This study conducted a three-level emotional design analysis of the 26 winning entries in the product packaging design category of the Taiwan OTOP Design Awards. Visceral design refers to the product's external appearance, form, and texture. The visceral level is users' first impression of the product appearance; thus, functional design has a direct effect on the affect and resonates with the viewer. Attraction is a visceral-level phenomenon, a reaction to the object's appearance [12]. This study analyzed the texture and material dimensions of local characteristic products, which were defined by the extrinsic cultural attributes of visceral design. The classification

of general and local materials shown in Fig. 5 indicates that most (19) of the 26 designers used general materials, and seven used local materials.



Fig. 5. Visceral design analysis of local characteristic products

Typically, behavioral design is directly correlated to usage and comprises functionality, comprehensibility, ease of use, and physical sensation. Among these, functionality is considered the most crucial on the behavioral level regarding product experience [13]. The behavioral design of local characteristic products emphasizes functional significance. At this level, designers strive for a supplementary function that enables users to experience Taiwan's unique cultural atmosphere when using the product. This study conducted behavioral design analysis of the functional dimension of local characteristic product packaging designs. As shown in Fig. 6, a classification of single-function and multi-function designs shows that most (22) of the designs were single-function, although four were multi-function.



Fig. 6. Behavioral design analysis of local characteristic products

Reflective design focuses on the meaning of the message, culture, and product. Awareness, feelings, emotions, and perceptions exist only on the reflective level, which easily varies according to differences in culture, experience, education, and among people. Design on the reflective level can induce strong and continuous effects in users that typically requires a reaction and time to develop [14]. The reflective design of local characteristic products emphasizes memories and individual perceptions and cognition. At this level, designers endeavor to create a memorable and shareable story for users. A classification of the natural landscape and historical human elements indicates that either of these two elements accounted for 50% of the entries (Fig. 7).







Fig. 7. Reflective design analysis of local characteristic products

According to the results of the three-level emotional design analysis of cultural products examining the visceral, behavioral, and reflective levels (Figs. 6 to 8), this study differentiated the variations by quantity and concluded the following: (1) From a visceral design perspective, the number of local characteristic products that used general packaging materials more than doubled the number of products that used local characteristic materials; (2) from a behavioral design perspective, the number of single-function winning entries exceeded the number of multi-function winning entries; and (3) from a reflective design perspective, the difference between the number of culture-themed designs that used the natural landscape and the designs that used historical humanity was minimal.

4.4 Interdisciplinary Collaboration Analysis of Local Characteristic Industries

Taiwan OTOP project recommended collaboration by combining differing industries and pathways and using these cooperative relationships to design products with developable value. The results of the survey are summarized as follows: (1) Applying design to create value: transform cultural products, preliminary products, services, and experiences into optimal products or services acceptable to consumers, and promote the value perception of design throughout industries and society to enhance the overall quality of life and the environment. (2) Using creative ideas for design: revitalize traditional products by combining the creative ideas of local characteristic business owners and design professionals, applying local characteristics, and adopting Taiwan's native local materials. (3) Effectively employing innovative technologies for design: Use the advantage of industry clusters and improve technological innovation to prompt the development of traditional industry values, establish interdisciplinary design exchanges, and enhance domestic design development and competitiveness.

Table 2. Case study of interdisciplinary design collaborative models for cultural products

Name	Design Concept	Design in Interdisciplinary Collaboration	Product
Discover Formosa, Let's Enjoy A Cup of Tea Together!	The concept of displaying professional images on postage stamps is used here to express feelings of love for Taiwan. Illustrations are used to distinguish the four steps that convey the careful manufacturing of tea: picking the leaves; drying them in the sun; kneading the leaves; and baking the leaves. Three mouth characters (品) put together form the word for product (品茶), the meaning of which is to view the colors, smell the aroma, taste the flavor and experience the wisdom of this tea product.	Award Winner Magic Creative Advertising Cooperative Unit Cha-Tei Ltd.	
The Xiang Xi Lin Men	The Xiang Xi Lin Men gift box design fuses the festive elements that represent the red double happiness character together with rice cookies to form a 3-D gift box in the shape of the double happiness character (囍), pairing every flavor of miniature rice cookies with traditional Taiwanese joyous celebrations in a reinterpretation of festival culture.	Award Winner Chuan-Li Rice Cookie Food Ltd. Cooperative Unit Arty Design	
ChaTei-Joyful Series Tea Gift Box	Attentive Attitude of ChaTei, Flavor, Taste and Aroma of Freshly Finished. As the homonym of Taiwanese "Drink tea", "ChaTei" means genial greetings and serving tea that embodies the Taiwanese locals' passion and sincerity just as teapot keeps tea warm at the perfect temperature.	Award Winner Cha-Tei Ltd. Cooperative Unit Magic Creative Advertising	
Emotion in Every Grain	This gift box contains Camellia oil and vermicelli full of Hakka characteristics, as its box can serve as the tissue box and the opening of the box is the place where the handkerchief was kept in Hakka blue shirt. The way to draw out the tissue is like that to draw out the handkerchief from the blue shirt.	Award Winner Chuan-Li Rice Cookie Food Ltd. Cooperative Unit 20/20 Creative Co. Ltd.	

5 Conclusion

This study conducted a preliminary investigation of cultural products and the use of emotional design modes by local characteristic industries. This study found that the product packaging designs that use local characteristics are mostly developed from unique local resources to produce differentiable characteristics that can be incorporated into the local image. Overall, interdisciplinary design collaboration enables traditional industries to create works with connotations that convey a mutual understanding. The findings of this study are summarized as follows: (1) Localized life and cultural characteristics and local spirit can sufficiently influence the innovation of local characteristic products. From the perspective of economic development, the emergence of local characteristic industries is based on internal demand. Local characteristic products can be expanded to export sales and, thus, provide a source of survival for local economies. Additionally, industry supply can be increased by cultivating Taiwanese brands, creating product differentiation, and combining products and service; (2) successful local characteristic products must satisfy three levels of emotional design (i.e., the visceral, behavioral, and reflective levels), seek design innovation by overturning traditions, and create a newfound awareness of the local area and an accumulated affect for current generations. Subsequently, the development of local characteristic products in Taiwan can expand and prosper, as well as reinforce intangible values, such as residents' influence, generosity, and skills; (3) the

integration of local characteristic industries and the experience economy concept requires a platform for interdisciplinary design exchanges to stimulate industry innovation and drive emerging industries. The aesthetics of traditional industries must be continually enhanced, and the sustainable development of these industries is only possible through the incorporation of design.

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