Evaluation of Involvement and Multi-Dimensions for Cultural Creativity Products in Remote Districts

Ying-Jye Lee

Department of Cultural and Creative Industries, National Kaohsiung University of Applied Sciences 415 Chien Kung Road, Kaohsiung 807, Taiwan, ROC
E-mail: yjlee@cc.kuas.edu.tw

KEYWORDS Cultural Creativity Product. Pingtung Image. Involvement. Remote District

ABSTRACT The main purpose of the study is to evaluate the product involvement and multi-dimensions evaluation for innovative and cultural creativity products of the remote districts in Taiwan. A total of 120 subjects divided into two groups (including local group and non-local group) participated in the investigation. In order to achieve the research objective, revised Personal Involvement Inventory designed by Zaichkowsky was applied to evaluate product involvement of the cultural creativity products with Pingtung image. In addition, this study adopted the multi-dimensions evaluation scale to assess four dimensions including the coincidence degree of the cultural image, utility, preference, and intention to purchase. Results showed that “the spice jar with the image of the Onion”, “the spice jar with the image of the Sisal”, and “the spice jar with the image of the Port” were relatively good cultural creativity products on the evaluations of the product involvement and multi-dimensions evaluation by local group and non-local group. Furthermore, it is expected that the research model can be expanded to other remote districts in Taiwan for the research and development of cultural creativity products and can be a model of cultural and creative industries with the combination or cultural creativities and economy to provide the highly valuable reference for industries, officials, and academic research.

INTRODUCTION

Globalization is the process when the social life is re-assembled across the boundary of time and space, departed from the society, and transmitted to the global societies, cultures, systems, and individuals through the media, generating the cross-correlations (Giddens 1990). Localization, on the other hand, is the interpersonal relationship and life style adopted by local citizens in a restricted space, where such daily life is taken for granted and is habitual and repeated cultural activities, in which people could freely exercise the rights of cultural autonomy without being interfered by external world (Featherstone 1993). Globalization is the way to develop enterprises that how to remain the local characteristics in pursuing globalization becomes critical (Moalosi et al. 2004). In the wave of globalization, establishing personal cultural brands, enhancing technology, and covering creative design and humanistic concerns are the keys for Taiwan to master in the global economy; besides, they are the objectives of the Government to promote cultural and creative industries. Cultural factors are the primary indices of design evaluation. Under the competitive environment in the globalized market, cultural differences have become the trend to design a unique product in the globalization. Such changes explain the important issue of developing design value for future design industries (Yair et al. 1999, 2001; Aydin 2013).

The idea of cultural industry was proposed by Adorno and Horkheimer of Flange Frankfurt School in the mid-twentieth century (Adorno 1975). In the beginning, the general scholars discriminated and criticized the elitism and popularization of culture. After the differentiation for a long period of time, the boundary was to some extent clarified, but directly resulted in some types of culture being the property of dignitary elites and high-level people. Throsby (2001) defined cultural industry as an industry which contained certain intellectual property rights and delivered symbolic cultural goods and services in the production process. Theoretically, cultural industry presents the characteristics of (1) industrial activities applying certain creativities in the production process, (2) industrial activities being regarded as the generation of symbolic meaning and related to communication, and (3) the products possibly containing certain forms of intellectual property rights. Creative industry was defined, in England, as an industry presenting creative wealth and employment potential when generating or developing intellectual property with the originally individual creativities, skills, and talent (Jones et al. 2004).
Cultural and creative industries in Taiwan have been considered as the key national development since 2002, that is, the core of economic development, which is an industrial development promoted and encouraged globally. The Executive Yuan in Taiwan proposed six emerging industries in May 2009, including bio-technology, green energy, medical care, exquisite agriculture, cultural creation, and tourism. The coverage of cultural and creative industries presents the emphasis of the Government. Cultural and creative industries is a creative industry combined with culture and economy and applying the integration of technology and humanities, proceeding creative transformation of culture contents to become an external expression of the products and promote the added value. In other words, the applications of cultural industry are the value of knowledge economy.

Culture could be the core power for economic development and the promoter of industry enhancement that aesthetic is not simply a creative idea and life philosophy, but the production principle; sense of beauty is not simply the essentials of artistic works, but the basic requirements of modern people toward consumer products. “Economic miracle” has been created in Taiwan; however, such advantages have been replaced by other developing countries because of the emergence of digitalization and globalization and the global flow of talents, capitals, and resources. In particular, under the strong competition in the globalized market during the era of knowledge economy, the integration of cultural creativities and technology and the investment in cultural and creative industries in Taiwan are worth expecting and encouraging. Domestic definition of cultural and creative industries refers to it of cultural industry or creative industry in other countries and considers the specialties of industrial development in Taiwan. In the Law for the Development of the Cultural and Creative Industries announced in the beginning of 2010, cultural and creative industries were defined as “that originate from creativity or accumulation of culture which through the formation and application of intellectual properties, possess potential capacities to create wealth and job opportunities, enhance the citizens’ capacity for arts, and elevate the citizens’ living environment.” Cultural creativities, as the source and thrust of cultural development, involve human cultural activities in the initial, updated, broad, and wide ideas. Even with great differences among various cultures, the growth and expansion of culture require creative capabilities. According to the definition and spirit of cultural and creative industries, fifteen industries, such as visual arts, music and performing arts, applications of cultural assets and exhibition and performing facilities, craft, film, radio and television, publication, advertisement, product design, visual communication design, fashion design, architectural design, digital content, creative life, pop music, and cultural content, and other industries assigned by central competent authorities are covered.

Since people knew to produce living tools with stones, fire, and animal bones, such tools are products. With the act of trading, the products present economic values and become goods. Cultural products refer to re-inspect and reflect the cultural factors in the equipment, look for brand-new appearance with design, and find the spiritual satisfaction with the equipment that cultural products are different from general products. With the cultural identity, the cultural factors are covered in products through the styles, usage, management, and marketing. In fact, each country appears distinct history, specific culture, and unique representative imagery, such as Eiffel Tower in France, kangaroos and koalas in Australia, Statue of Liberty in the U.S.A., Mount Fuji in Japan, and Phra Phrom in Thailand. There are unique history and culture in Taiwan as well. To have the world understand the beautiful island and Taiwan present competitiveness in the world, it is necessary to develop products which could be identified by most people, presents symbols, represents local cultural image, could be identified by local citizens, and are worth cherishing by tourists. Local identity refers to individual experiences in the environment and activities, which are transformed into memories or share and being internalized into self-identity to become a part of self-experiences (Claval 1998, Msila 2013). Moreover, the development of cultural creativity products corresponding to local image allows inheriting and marketing the culture by using such cultural products, and further establishes representative cultural image (Lee 2010). In this case, it should be a common objective to explore the cultural elements in Taiwan and develop unique cultural products for culture inheritance.

In the well-developed international trade, cultural products could be the media for deliver-
ing cultural message. The distinctly economic traits of cultural and creative industries from manufacturing industry result in differently economic operation model from the originally industrial economy (Caves 2000). From the aspects of product design and brand, product design in various countries presents consistently internationalized style because of the trend of economic globalization and living global-village that the products are lack of individual characteristics and cannot present the local cultural traits. In recent years, consumer-oriented design has affected people tending to individualized or differential products and even looking for products with cultural identity or cultural characteristics. Design styles focusing on personal cultural characteristics are also developed globally (Lee 2004; Leong and Clark 2003).

The factors in the value of creative products, including originality, perceived worthiness, and integrity, are the specific performance of the creativities (Sobel and Rothenberg 1980). The new design, structure, or concept of a product could present the originality. The perceived worthiness of a product is expressed by the continuity, understanding, and effect as well as the visual stimulation or the emotional effects on the viewers. When both originality and perceived worthiness are presented, the creativities of the product would be extremely displayed. Furthermore, the value of product identity could be divided into customer-desired value and customer-received value. The former refers to the value which customers tend to acquire from the received products/services and the provided businesses; the latter, on the other hand, refers to the value acquired from actual experiences of the products/services (Flint and Woodruff 2001). To have customers experiencing the received value, inputting cultural elements into products would be an effective method, where the value of cultural products is established by the effect of inducing “symbol resonance”. In this case, the possession of cultural differentiability, creativity, and symbolic knowledge would become the principal assets of cultural industries. Leong and Clark (2003) stated that a tangible product started from basic life to enhance the spirit or the orientation and demand of an article by connecting with social knowledge to be the value of the product being functioned. As a result, design would make culture be a valuable system, and the cultural factors in cultural objects would have the product enhance the added value. Taiwan is entering an era where cultural creativities are driving aesthetic economy that cultural products being commercialized is a consequential characteristic in cultural and creative industries (Wu 2002). The combination of culture and design would become the trend in future design. Besides, the abstract of cultural elements and the transformation of creativity into the design of life necessities to deliver and understand the culture has become a primary issue.

This study expects to discuss the unique cultural elements in the remote districts in Taiwan through the development of cultural creativities, to develop cultural creativity products with the unique image of these remote districts by the integration of culture, creativity, art, and design, to understand, inherit, and market culture from the use of cultural products, and to appeal the public to emphasizing the cultural industries in the remote districts. Meanwhile, having creative product design to promote the development of local economy allows the traditional culture combining with innovative design, remaining the uniqueness of the remote towns, presenting the new appearance of the cultural content, and establishing the representative cultural image of the districts. With the example of remote districts in Pingtung County, this study aims to understand the historic background, local culture, traditional industries, local characteristics, and legends for exploring the cultural elements, transforming such elements with creativities, and further developing ideas to combine with potential living necessities. After evaluating the feasibility, those feasible ideas would be transformed into actual cultural and creative living products with cultural and creative equipment and further constructed 3D models with 3D CAD and high technological equipment. Rapid Prototyping 3D Printing System, to integrate the culture, creativity, design, and technology for a 3D model. In order to ensure the developed cultural creativity products being able to represent the cultural image and the feasibility of commodification in the remote districts, this study tends to evaluate the involvement and multi-dimensions in cultural products and the cultural image. It is expected to further understand the involvement of consumers in the developed cultural products so as to find out the cultural creativity products representing the local culture for the reference of future development of rele-
vant cultural and creative products. Furthermore, it is also expected that the research model can be expanded to other remote districts in Taiwan for the research and development of cultural creativity products and can be a model of cultural and creative industries with the combination or cultural creativities and economy to provide the highly valuable reference for industries, officials, and academic research.

A Series of Cultural Creativity Products with Pingtung Image

This research followed the author’s (Lee 2011) previous research which included five main research works described as follows:

(1) Culture investigation in Pingtung County, Taiwan
(2) Exploration of cultural elements
(3) The creative transformation of the cultural elements and feasible idea assessment
(4) Cultural creative product design
(5) Construction of the 3D CAD model by rapid prototype system

The rapid prototype system (Dimension SST 768) was used to assist in making realistic 3D mockups. Regarding the operating process of the Dimension SST 768, seven steps were described as follows:

**Step 1:** Construct 3D models of the feasible idea of the cultural creativity products by 3D CAD software.

**Step 2:** Convert 3D file format to STL accepted by the rapid prototype system.

**Step 3:** Adjust the XYZ axis direction of the 3D model to the proper perspective and process the STL.

**Step 4:** Estimate the model and support material needed by the output model and allocate the 3D model file on the suitable position of the forming pad on the rapid prototype system.

**Step 5:** Confirm above correct steps and push the “start” button on the interface of the rapid prototype system to form the 3D mockup.

**Step 6:** Utilize the vise to separate model material from the support material.

**Step 7:** Utilize the ultrasonic cleaner to clean up the 3D mockup.

This study utilized the rapid prototype system (Dimension SST 768) to form the 3D models of the cultural creativity products for each Remote district in Pingtung County, Taiwan. The procedure for forming process of the rapid prototype system was shown as Figure 1. More detailed descriptions have been clarified in related researches (Lee 2010, 2011).

---

**Fig. 1. Procedure for the forming process of the rapid prototype system**
Considering the characteristics of the townships in Pingtung County, the main townships of the remote districts were explored in this study included Fangshan, Shuangliu, Dafu, Hengchun, Dongyuan, Jiadong, Sandimen, and Wutai, etc. According to results proposed by Lee (2011), the main representative cultural elements for each township included “Irwin Mango” in Fangshan Township, “Hat Mountain” in Shuangliu Township, “Stone Vase” in Dafu Township, “Onion, Sisal, and Port Tea” in Hengchun Township, “Butterfly Ginger” in Dongyuan Township, “Sinensis” in Jiadong Township, “Wild Lily” in Sandimen Township, “Clouded Leopard and Eagle” in Wutai Township and so on. The cultural creativity products designed by this study were shown as Table 1.

The Involvement Scale and the Multi-Dimensions Evaluation Scale

Aiming at the designed cultural creativity products, this study tends to evaluate the involvement and multi-dimensions and analyze the involvement differences in cultural products between local group and non-local group. The evaluation of involvement in cultural creativity products refers to Personal Involvement Inventory (PII), proposed by Zaichkowsky (1986), which contains the dimensions of importance and value of products for consumers and the demand and interest of consumers in the product. With various reliability and validity tests, the scale could completely measure the involvement and can be applied to the different involvement evaluations. By responding to the opinions of various researchers, Zaichkowsky (1994) further revised the previous PII and deleted abundant questions for Factor Analysis. The scale was then condensed to ten questions, called Revised PII (Revised Personal Involvement Inventory), to measure the involvement of consumers in products or services.

Referring to Revised PII, this study revised the questions for being suitable for this research and semantized the questions to reduce the difficulties in answering (Table 2). Aiming at the designed cultural creativity products for the remote districts in Pingtung, the involvement in cultural creativity products was evaluated. The questions were evaluated by ticking “V” on the 100mm horizontal line for easy calculation and analyses. With the example of the second question (Q A02) in the scale, the left of the scale represents “the cultural creativity product” being “interesting”, but “boring” on the right (Fig. 2).

Table 1: A series of cultural creativity products with Pingtung County image

<table>
<thead>
<tr>
<th>Product ID</th>
<th>Product name</th>
<th>Cultural product</th>
<th>Cultural image</th>
<th>Remote district</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Shoe rack</td>
<td>Irwin Mango</td>
<td><img src="image" alt="Irwin Mango" /></td>
<td>Fangshan</td>
</tr>
<tr>
<td>P2</td>
<td>Candlestick</td>
<td>Hat Mountain</td>
<td><img src="image" alt="Hat Mountain" /></td>
<td>Shuangliu</td>
</tr>
<tr>
<td>P3</td>
<td>Bookshelf</td>
<td>Stone Vase</td>
<td><img src="image" alt="Stone Vase" /></td>
<td>Dafu</td>
</tr>
<tr>
<td>P4</td>
<td>Spice jar</td>
<td>Onion</td>
<td><img src="image" alt="Onion" /></td>
<td>Hengchun</td>
</tr>
<tr>
<td>P5</td>
<td>Spice jar</td>
<td>Sisal</td>
<td><img src="image" alt="Sisal" /></td>
<td>Hengchun</td>
</tr>
<tr>
<td>P6</td>
<td>Spice jar</td>
<td>Port Tea</td>
<td><img src="image" alt="Port Tea" /></td>
<td>Hengchun</td>
</tr>
<tr>
<td>P7</td>
<td>Perfume bottle</td>
<td>Butterfly Ginger</td>
<td><img src="image" alt="Butterfly Ginger" /></td>
<td>Dongyuan</td>
</tr>
<tr>
<td>P8</td>
<td>Perfume bottle</td>
<td>Sinensis</td>
<td><img src="image" alt="Sinensis" /></td>
<td>Jiadong</td>
</tr>
<tr>
<td>P9</td>
<td>Perfume bottle</td>
<td>Wild Lily</td>
<td><img src="image" alt="Wild Lily" /></td>
<td>Sandimen</td>
</tr>
<tr>
<td>P10</td>
<td>Hook</td>
<td>Clouded Leopard</td>
<td><img src="image" alt="Clouded Leopard" /></td>
<td>Wutai</td>
</tr>
<tr>
<td>P11</td>
<td>Hook</td>
<td>Eagle</td>
<td><img src="image" alt="Eagle" /></td>
<td>Wutai</td>
</tr>
</tbody>
</table>

QA<sub>02</sub>: “A cultural product” is interesting/boring to me

![Fig. 2. The involvement scale for evaluating cultural creativity products in remote district](image)
an evaluation was called “Point estimation method” by Chameau and Santamarina (1987). The ten questions in Personal Involvement Inventory not only could understand individual value and demands for cultural products, but could compare the evaluating results, according to the involvement in cultural creativity products of different groups (local and non-local). T-test was applied to evaluating the differences.

In addition to evaluate individual involvement in cultural products, Multi-Dimensions Inventory was designed for evaluating the coincidence degree of the cultural image, utility, preference, and intention to purchase (Table 3). The questions were also evaluated by ticking “V” on the 100mm horizontal line. With the example of the first question (QB01) in Multi-Dimensions Inventory, the left presented the cultural image contained in “the cultural product” being “extremely not corresponding to local culture”, while the right showed the cultural image in “the cultural product” being “extremely corresponding to local culture”, Figure 3. This study further compared the evaluation of cultural creativity products in the four dimensions. T-test was also applied to evaluating the differences between local group and non-local group.

**METHODS**

The main objective of this study is to evaluate the involvement and multi-dimensions of a series of cultural creativity products with Pingtung image in Taiwan. In order to explore the involvement of the cultural creativity products and multi-dimensions evaluation and attain effective results, this study designed a questionnaire with revised Personal Involvement Inventory (Zaichkowsky 1994), involvement scale, cultural image evaluation scale and adopted the fixed random sampling for investigation in each remote districts including Fangshan, Shuangliu, and other remote communities.

<table>
<thead>
<tr>
<th>Evaluation item</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>QA01</td>
<td>“The cultural product” is important/unimportant to me</td>
</tr>
<tr>
<td>QA02</td>
<td>“The cultural product” is interesting/boring to me</td>
</tr>
<tr>
<td>QA03</td>
<td>“The cultural product” is relevant/irrelevant to me</td>
</tr>
<tr>
<td>QA04</td>
<td>“The cultural product” is exciting/unexciting to me</td>
</tr>
<tr>
<td>QA05</td>
<td>“The cultural product” is means a lot to me/means nothing to me</td>
</tr>
<tr>
<td>QA06</td>
<td>“The cultural product” is appealing/unappealing to me</td>
</tr>
<tr>
<td>QA07</td>
<td>“The cultural product” is fascinating/mundane to me</td>
</tr>
<tr>
<td>QA08</td>
<td>“The cultural product” is valuable/worthless to me</td>
</tr>
<tr>
<td>QA09</td>
<td>“The cultural product” is involving/uninvolving to me</td>
</tr>
<tr>
<td>QA10</td>
<td>“The cultural product” is needed/not needed to me</td>
</tr>
</tbody>
</table>

*Note: Scale of 0-10 points (tick “V” mark on the involved scale)*

<table>
<thead>
<tr>
<th>Evaluation question</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>QB01</td>
<td>The degree of “the cultural product” corresponding to local cultural image?</td>
</tr>
<tr>
<td>QB02</td>
<td>The utility of “the cultural product”?</td>
</tr>
<tr>
<td>QB03</td>
<td>The subjective preference to “the cultural product”?</td>
</tr>
<tr>
<td>QB04</td>
<td>The intention to purchase “the cultural product”?</td>
</tr>
</tbody>
</table>

*Note: Scale of 0-10 points (tick “V” mark on the cultural image evaluation scale)*

![Fig. 3. The multi-dimensions evaluation scale for cultural creativity products](image-url)
ACKNOWLEDGMENTS

The author would like to thank the National Science Council of the Republic of China for financially supporting this research under Contract No. NSC 100-2410-H-151-029. Additionally, the author also thanks the students (Qian-Chi Huang, Chia-Yi Chang, Wan-Yi Luo, and Yi-Ling Lin) who assist in proposing creative ideas and constructing 3D models.

REFERENCES