DIFFERENCES IN DESIGN INNOVATION FORMS IN CREATING ARTISTIC CULTURAL COMMODITIES

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Abstract: We conducted a prospective study trial of cultural commodity creation using different design innovation forms, working with 37 junior students of the visual communication design department (14 males, 23 females). The process of transforming artworks into cultural commodities is distinguished by three forms of innovation: 1) Copying form (artist led—the commodity almost completely retains the original appearance of the original artwork), 2) Deconstructive form (a designer transforms the piece, breaking through its construction or function), and 3) All new form (designer led—a designer extracts the inspiration from the artwork or artist). Different design situations and constraints elicit variable mental iterations, therefore, we treated two different limited situations of design: 1) non-constrained condition, and 2) constrained condition. In an experiment in making commodities under a non-constrained condition, 17 works were in the copying form, 11 works were in the deconstructive form, and nine were in the all new form. Under a constrained condition, we found 12 works in the copying form, 16 deconstructive, and nine were all new.

Keywords: Cultural & Creative Industries, Design Innovation, Cultural Commodity

1. Introduction

Jack Welch, the ex-chairman of General Electric (GE) Company, said that the culture industry, which is the big cake, belongs to the most aggressive businessman! Since the Taiwan government promoted cultural and creative industries into “Challenge 2008: National Develop Project,” cultural commodities have been more developed than ever. However, most cultural commodity developments focus on museums, local, aboriginal, and Hakka culture at present, and rarely consider artists’ artworks. Many artists do not have a good understanding of the cultural and creative industries. They devote themselves to individual art creation over a long term, then are promoted via an agent or art mediator. Artists cannot think concretely of the commercialized design of artwork; they may still think of cultural commodities in terms of traditional souvenirs. Figure 1 shows souvenirs made based on the work of artist Ting-Shih Chen. These are not designed—the artwork is simply printed on a product.

Our research has two purposes:
1) Through different design innovation forms, we can get rid of completely non-designed traditional souvenirs.
2) By observing the process of transforming artworks into cultural commodities and with different design limits, we can explore cultural commodities that are designer led, using the form of the artwork or the concept of the designer.

1.1. Design Innovation

Innovation, which becomes an emerging issue in scholar field nowadays, comes from several different domains about the understanding and application of methods (e.g., design, business and social science) [2]. Bezerra & Owen think that innovation is not just introducing some new things, the popular acceptation of innovation is also more important [3]. The definition and scope of innovation are generally various. We listed the relevant points of view as
the basis of our research, as table 1.

In brief, our research intends to use artwork as a resource for making money by executing new ideas. Moreover, making use of artistic knowledge can inspire designers.

1.2. Cultural Commodities

The UNESCO definition of cultural commodities shows that consumer goods can communicate opinions, symbols, and lifestyles. Cultural commodities rethink the cultural aspects of implements and focus on entirely new modern features of its cultural factors through design, to pursue spiritual fulfillment in using goods [13]. Thus, cultural commodities, such as museums, cultural industries or tourism, are not only meaningful for consumers but also created for consumers; they communicate cultural meanings and new aesthetic styles.

From the design viewpoint, Lee addressed a cultural frame with multiple layers, including layers representing artifacts, values, and basic assumptions. These layers are identified by key design attributes that represent function, aesthetics, and symbols [14]. Leong and Clark set up a structure that distinguished cultural objects by three spatial perspectives: an outer “tangible” level, mid “behavioral” level, and inner “intangible” level [15]. Based on previous studies [16,17], Lin also proposed a framework of studying cultural factors, as summarized in Fig. 4, in which culture can be classified into three layers:

Table 1. The relevant definitions of innovation

<table>
<thead>
<tr>
<th>Author</th>
<th>Definitions of Innovation</th>
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<tbody>
<tr>
<td>Drucker (1985)</td>
<td>Innovation is the new ability that makes resources to create fortunes and become real resources.</td>
</tr>
<tr>
<td>Tushman &amp; Nadler (1986)</td>
<td>Innovation is the invention of a new product, service, or process for a company.</td>
</tr>
<tr>
<td>Van de Ven &amp; Andrew (1986)</td>
<td>1. Innovation is a shift from the expansion of staff and executing new ideas that in order to deal with other people in company continuously.</td>
</tr>
<tr>
<td>Betz (1987)</td>
<td>Innovation is an adjustment or invention of a new concept.</td>
</tr>
<tr>
<td>&amp; Franklin (1990)</td>
<td>new concept to conform to present or potential requirements.</td>
</tr>
<tr>
<td>Holt (1988)</td>
<td>Innovation makes use of knowledge or crucial information to create or introduce useful stuff.</td>
</tr>
<tr>
<td>Gattiker (1990)</td>
<td>An innovative activity is the creation of product or program via effort and activity of an individual, group, and organization.</td>
</tr>
<tr>
<td>Nonaka (1991)</td>
<td>The essence of innovation is based on a specific perspective or an ideal to create a whole new world.</td>
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<tr>
<td>Robbins (1996)</td>
<td>Innovation is a new thought that can be applied to operate or enhance some product, process or service. The innovation of an organization contains productive innovation, new production process techniques, new structure and management systems, and new programs and management plans.</td>
</tr>
</tbody>
</table>
1) Physical or material culture;
2) Social or behavioral culture;
3) Spiritual or ideal culture.

These three layers of culture can be incorporated into Leong's three cultural levels. Where cultural objects can be fitted into cultural design, three design features can be identified:

1) Outer level—including shape, color, texture, decoration, surface pattern, and detail;
2) Mid level—including function, operational concerns, usability, and safety;
3) Inner level—including special content, such as stories, emotions, and cultural features [18].

1.3. Artist Ting-Shih Chen

In the year 1916, Ting-Shih Chen was born into a family of influential Chinese officials. He suffered from hearing loss when he was eight but built up great knowledge of Chinese culture through the nurturing of his literature loving family. He started learning Chinese painting at the age of 13, and when he was 17, he turned to sketching and western painting. At the age of 20, he joined the army and was involved in woodblock printing. When he was 34, he moved to Taiwan, and he began iron welding work when he turned 65. At the age of 84, his works were exhibited in Europe along with other grand masters, such as Picasso.

Ting-Shih Chen devoted himself to the creation of woodblocks, acrylics and watercolor paintings, calligraphy, and ironwork. He collected items from industrial waste, machine components, driftwood, and daily commodities, and pieced them all together. This not only combined the concepts of Dadaism and Simplism, but also represented the Oriental concerns with convenience, variety, trouble, frustration, and agitation caused by a modern technological city [19,20].

![Woodblock—“Hibernating” Ironwork—“Johnny Walker”](source: [21])

2. Three Design Innovation Forms

The process of transforming artworks into cultural commodities can be design led by the form of the artwork or the concept of the designer. As Fig. 3 shows, within the same quantity of transformation (black area), the left figure represents that the design of the cultural commodity is led by the form of the artwork, whereas the right figure represents that the cultural commodity is led by the concept of the designer [22,23,24].

Based on the previous research mentioned in Section 1.2, this paper offers three design innovation forms for studying cultural commodities, as shown in Fig. 4, in which forms of cultural commodities can be classified into three design innovation forms:

1) Copying form (artist led—retaining almost all of the original appearance of the artwork and designed just by changing the physical appearance according to aesthetic principles);
2) Deconstructive form (transforming period—breaking through the construction or function, but the artwork it is from can still be understood);
3) All new form (designer led—the designer adopts the creative spirit of the artwork or artist, then redesigns a cultural commodity with a new look).

![Figure 3. The intensity of design led transformation](source: [21])

![Figure 4. Three layers, levels, and features of cultural objects and three design innovation forms](source: [21])

The meanings of three design innovation forms will be elaborated in the following paragraphs, taking prizewinning works of the “Old is New” modern T-shirt design competition of Taiwan National Palace Museum (NPM) as
examples. The purpose of this competition is to use antiques of the NPM to apply in innovative T-shirt designs. There were almost 3000 works entered in this competition, and from them, there were one gold prize, one silver prize, two copper prizes, and 20 excellent work prizes. In terms of three design innovation forms, these represent 12 copy works, three deconstructive works and nine all new works. Thus, there were more copying and all new works than deconstructive, while the gold, silver and copper prizes were primarily in the copying and deconstructive forms.

2.1. Copying form
Cultural commodities of the copying form retain most of the original appearance of the artwork. Thus, these can be designed by changing the look according to aesthetic principles (e.g., the contrast). Copying form cultural commodities are close to traditional souvenirs, but with a modern appearance. As shown in Fig. 5, on the front of the T-shirt is the artwork: "White-glazed pillow in the shape of a recumbent child." The child is listening to the music and the NPM logo is on the right top side. On the back of the T-shirt, there is CD shaped artwork called "A Palace Concert" with the slogan of competition on the top of the line. Because this design retained much of the original appearance of artwork, we can clearly see which piece of art it is. Therefore, copying form approaches the outer level.

2.2. Deconstructive form
The deconstructive form takes apart the elements of the artwork as a design strategy, but we can still tell which piece of artwork it is from. As shown in Fig. 6, the designer chose the inscriptions of the Western Zhou Dynasty as elements, then disassembled and recombined them. This type of design gradually frees itself from the outer level and breaks through its construction. For this reason, deconstructive form approaches the mid level.

<table>
<thead>
<tr>
<th>Deconstructive form</th>
<th>Prize &amp; concept</th>
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<tbody>
<tr>
<td>Gold Prize</td>
<td>&quot;Dancing words, playing ink.&quot;</td>
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<tr>
<td></td>
<td>Based on inscriptions of the Western Zhou Dynasty, and deconstructing the lines of difficult ancient Chinese characters, the designer reconstructed them as a human face.</td>
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Figure 6. Deconstructive form entry in the Taiwan National Palace Museum (NPM) prize winning works

2.3. All new form
Designers extract the inspiration of an artwork or artist, then design an entirely new looking cultural commodity. This eliminates the original appearance of the artwork. As shown in Fig. 7, the designer abandoned the original appearance of the artwork, and redrew it with an innovative image. Since this type of design adopts the creative spirit of the artwork or artist, the all new form approaches the inner level.

3. Method
Jin & Chusilp suggested that under different design situations (e.g., 1) problem type: creative design vs. routine design, and 2) constraint condition: non-constrained vs. constrained problems), mental iteration will be distinct [25]. Therefore, we divided the design situation into non-constrained vs. constrained condition. Using these two contrasting design situations, we may determine the performance of the three design innovation forms. In the constrained condition, we demanded that subjects focus on one specific product—a T-shirt. Not only is a T-shirt a common cultural commodity, but the price is also inexpensive. Moreover, the spirit of T-shirt apparel is typically a topic for discussion. A T-shirt can convey
messages or graphics that show a personal attitude, especially when printing artwork on it that represents one’s aesthetic taste.

<table>
<thead>
<tr>
<th>All new form</th>
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<tbody>
<tr>
<td><img src="image" alt="Image of a T-shirt with a design and text" /></td>
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</table>

<table>
<thead>
<tr>
<th>Prize &amp; concept</th>
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<tr>
<td>• Excellent Work Prize &quot;Who am I?&quot;</td>
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The author redesigned the portrait of the great king Kubilai Khan of the Yuan Dynasty with the logo of the Taiwan National Palace Museum on his face. On the front of the T-shirt is the slogan: “Who am I?” On the back it responds: “Just go to National Palace Museum!” This entry addressed a topic of debate.

![Figure 7. All new form in the Taiwan National Palace Museum (NPM) prize winning works](image)

3.1. Subjects

The subjects in our experiment included 37 junior students of the 2005 first semester at Ling Tung University of Taiwan (40 were screened, and 37 were eligible). They were visual communicate design majors—14 were male and 23 were female.

3.2. Procedure

1) Non-constrained condition: We began with the non-constrained condition then went to the constrained condition. In the non-constrained condition, we took subjects to visit the exhibition of Ting-Shih Chen to develop an understanding of the artworks. Then we proceeded the non-constrained design in the first half of the semester.

2) Constrained condition: After non-constrained condition, we moved on to the constrained condition in the last half of the semester. Continuing the understanding of the artist, we demanded subjects to focus on the design of one specific product—a T-shirt. When the two design situations were complete, we classified the design work according to the three design innovation forms. Eventually, we could know the variation in amount of three design innovation forms of the non-constrained and constrained conditions.

4. Results & Discussions

4.1. Non-Constrained Condition

In terms of the three design innovation forms, there were 17 (45.9%) copying works, 11 (29.7%) deconstructive works, and 9 (24.3%) works that were all new in the non-constrained condition. The analysis is shown in Fig. 8.

<table>
<thead>
<tr>
<th>Copying form</th>
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<tbody>
<tr>
<td>original artwork— “Peeping”</td>
</tr>
<tr>
<td><img src="image" alt="Image of a necklace" /></td>
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</table>

This work retained the original appearance of artwork, just changing it into a string of beads of a necklace. Users can change the position of beads according to their own aesthetics.

<table>
<thead>
<tr>
<th>Deconstructive form</th>
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<tbody>
<tr>
<td>original artwork— “Peeping”</td>
</tr>
<tr>
<td><img src="image" alt="Image of a toilet" /></td>
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This design deconstructed the elements of the artwork into different surfaces and innovated the function and usability of the cultural commodity.
The designer used the materials (industrial waste iron and driftwood) in the artwork and changed the original appearance by a wide margin. This design converted it into a new function—instead of an industrial waste iron with a coffee mug, a water glass, a tea stainless steel cup bearing photos of artworks and turning the arc into a handle, a brace and a pad.

**Figure 8. Non-constrained works**

### 4.2. Constrained Condition (T-shirt)

The T-shirts from the constrained condition came out with 12 (32.4%) copying works, 16 (43.2%) deconstructive works, and nine (24.3%) all new works. The analysis is shown in Fig. 9.
All new form

original artwork—“Ting-Shih Chen”

The designer adored the creative spirit of the artist and boldly used the artist’s portrait as the spiritual icon.

Figure 9. Constrained works

4.3. Discussion

The variation in the amount of the three design innovation forms for the two different conditions is shown in Fig. 10. The non-constrained condition produced more works in the copying form, while the constrained condition produced more in the deconstructive form. Both design challenges produced more copying and deconstructive work, however. These findings indirectly support Jin & Chusilp’s study of mental iterations in different design situations [26], i.e., the designer’s mental iteration will vary due to the constraint condition.

Figure 10. Variations in the amounts of the three design innovation forms for two different design situations

Although the all new form did not play a significant role in the results, this design form puts more emphasis on enhancing the creativity of designers. Copying form works are more popular and sell more, because they retain the original appearance of the artwork and are more familiar. Eventually, comparing to the existed souvenirs of Ting-Shih Chen’s artworks, we advanced the traditional artistic souvenir to a fashion cultural commodity through brought up the ideas of three different design innovation forms. Furthermore, we addressed the new approach to previous research with relating each concept and expanding the threads of thought (e.g., copying form approaches the outer level, deconstructive form approaches the mid level and all new form approaches the inner level).

5. Conclusions

Cultural & Creative Industries are developed in rich lately, which push ahead with the cross-cooperation between art and design. However, many cultural commodities were designed by putting copy art patterns on them directly, that may not totally represent the cultural creativities. Therefore, a principle of creating a well of inspiration is of great importance in cultural commodity design. Since innovation is a source of inspiration, studying innovation helps us understand inspiration more deeply. Based on previous studies, our research identified three design innovation forms (copying form, deconstructive form, and all new form) through the intensity of design led transformation, and conducted a study of artistic cultural commodity creation. In terms of the experiment results, we believe that designers are more inspired by the copying form in creating non-constrained artistic commodities, and rely on deconstruction more in constrained conditions. Thus, in the future, designers not only can choose the best innovation form to design cultural commodities according to the situation, but also can determine the proper
innovation form through the intensity of design led transformation.

6. References

16. Lee KP, loc. cit.
17. Leong D, Clark H., loc. Cit.
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