

# Consumers' Evaluation and Perception within the Trend of Cultural Creative Design

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**Abstract.** During the process of the transformation and innovation of traditional cultural and localized characteristics, we can make old things fashionable through creative design. Therefore, the main purpose of this study is to investigate the effectiveness evaluation on cultural creative design of consumers' perception and preference. This study was implemented in two phases. First, we undertook a preliminary survey by means of literature review and opinions from a group of experts, and selected representative product samples and evaluation indices from the three categories: traditional culture, local elements and innovative fashion. The second phase was to give a questionnaire survey to 120 undergraduate and graduate students who voluntarily participated in this study in order to investigate consumers' perception and preference. According to the questionnaire survey and the analysis of the results, "Design Performance" is the most important factor for evaluating cultural creative products.

**Keywords:** consumer evaluation, consumer perception, cultural creative design.

## 1 Introduction

As the demands of life increase, the consumer market advances in an era of experience-focus and aesthetic economics. The distinctness of local culture and the structure of innovation-knowledge become the national core competency. It's seen within the trend of the promotion of cultural and creative industries as an important strategy for economic development in each country. For example, the manufacturers of pewter in the UK through its alliances with crafts-based designers have transformed their learning capabilities in order to add value to their products and create new organizational knowledge [1]. Furthermore, Fiji has increased the income of tourism to support national economic by holding folk cultural art-festivals and Oktoberfest in Munich of Germany aim to integrate their cultural assets in order to enhance the national image and improve competency of their industries. Expecting achieves the balance between economic output value and life quality by showing traditional culture and localized characteristics.

Because the influence of art and culture extends to the industry value chain, the industry must create aesthetic innovations on the basis of consumer culture [2].

Furthermore, the UNESCO [3] thinks that the cultural product possesses an economic and cultural nature and becomes a carrier of culture characteristics, values and meaning through the experience of use and keep cultural heritage. To be successful, innovative products must have clear and significantly different features that are related to market need. Therefore, creative design is considered to be one of the pivotal components in cultural and creative industries, and this will have a significant impact on consumer perception of innovation.

Li and Ho [4] discussed about the cooperation between the Taiwan National Palace Museum and Italian fashion brand Alessi and their inharmonic opinions of cultural creative products reported on various newspaper articles. In order to design “local features” into “innovative products”, we need to study how to link between local uniqueness and customers’ perceptions, and then the results can be transformed into cultural creative design. Therefore, this shows the importance of considering market factors and consumers’ needs during the innovation process of traditional cultural. Hence, the main purpose of this study is to investigate and analyze the effectiveness evaluation on cultural creative design of consumers’ perception and preference, and provides references for follow up cultural creative design and marketing.

## 2 Culture Elements and Cultural Creative Design

The design and development of cultural creative products help to improve life quality and the social culture level. Along with technology progress, designing “feeling” into products to present the emotional communication of user experiences became a design trend in the 21st century. Design should not only focus on function and elegant appearance but also on the heritage and connection of the culture concerning problems in our society in order to redefine people’s life style.

### 2.1 Exploration of Cultural Creative Products

Culture generally refers to styles of human activity and symbolic structures. Moreover, culture has been described as the evolutionary process that involves language, customs, religion, arts, thought and behavior. From the design point of view, Leong and Clark [5] developed a framework for studying cultural objects distinguished by three special levels: the outer ‘tangible’ level, the mid ‘behavioral’ level, and the inner ‘intangible’ level. Thanks to the improvement of technology, it is easier to implement innovation. In order to satisfy consumers’ demands, the design should be accomplished by the enhancement of investigation of the product and human-product interaction. Furthermore, Norman [6] suggested that a successful design should consider the suitability, practicability and aesthetics of the product in which emotion is the most important factor.

Based on previous studies [5], [7] and [8], a framework for studying cultural objects is summarized in Figure 1. As shown in Figure 1, culture can be classified into three layers: (1) Physical or material culture, including food, garments, and transportation related objects, (2) Social or behavioral culture, including human relationships and social organization, and (3) Spiritual or ideal culture, including art and religion.

Since cultural objects can be incorporated into cultural creative design, three design features can be identified as follows: (1) the inner level containing special content such as special meaning, storyline, emotion, cultural characteristics, (2) the mid level containing function, operation, usability, safety, Joint relationship, structure, and (3) the outer level dealing with color, material, appearance, pattern, lines, details, texture.

When designing cultural creative products, it is necessary to study and analyze their attributes to establish a reasonable transformation context between cultural characteristics and its product manifestation. The process of developing such a design concept is filled with uncertainties that are difficult for designers to control. "Transformational Thinking in Design" can facilitate understanding and exploration of cultural characteristics, and facilitate thinking about the different layers of cultural creative product application during the design process, resulting in culturally significant creative products (see Figure 1). In each layer of exploration, this figure can help to focus on the key point when we design a cultural creative product.

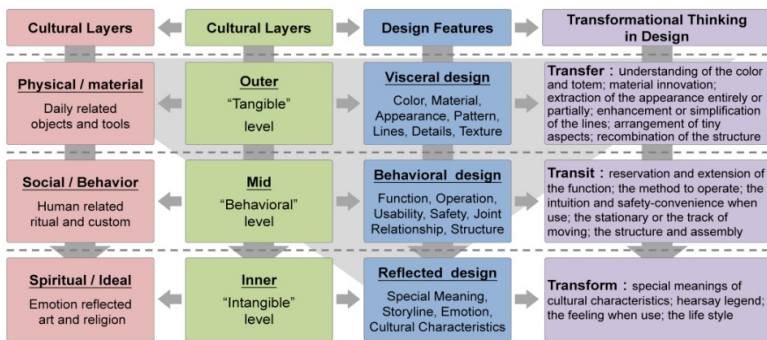


Fig. 1. Three layers and levels of cultural objects and design features

## 2.2 Fundamental Cultural Resources of Taiwan

Recently, Chinese culture has caught the attention of the world not only in the field of design application but also the style of arts. The multi-cultures and friendly people in Taiwan have been deemed as our characteristic, which bring potential application-value in the design field. However, most cultural creative products simply copy a form or are decorated with cultural totems. Products without the spirit of the culture will not help to upgrade the life culture [7] and [9]. Enhancing the quality and adding extra value to the product is necessary for the improvement of product performance. Taiwan has a strong potential to develop significant cultural creative design. Three fundamental resources for the development of cultural creative design are as follows: (1) the Taiwan Aboriginal culture, (2) the Chinese Southern Civilization originating roughly four hundred years ago, and (3) the Chinese Antiques civilization, with displays in the National Palace Museum, originating around four thousand years ago [10].

In addition, the character is the most important tool to record the history and culture. Recently, Taiwan dedicated itself to the promotion of cultural and creative industries. However, the design application for now is to transform mostly the concrete products

of traditional life into creative applications in industries. We can see prosperous characteristics of Chinese cultural materials in which Chinese characters are the most distinctive around the world. The Chinese character presents not only the heritage and development of the culture but also the symbol of the traditional esthetics. If we make good use of this precious Chinese character, the ideas of innovation and practical applications will be more prosperous and distinctive.

### 2.3 Project Results of Cultural and Creative Industries in Taiwan

Based on technology and with designs and innovations that have added value through culture and aesthetics, advanced countries already show their competitive edge. When facing the impact of economic globalization, traditional culture and local industries try to transform themselves, and through a process of innovation, let old things become new and fashionable.



Fig. 2. Website of cultural and creative industries in Taiwan [11], [12] and [13]

Starting in 2002, with the successive promotion of the policies “Challenge 2008: National Development Plan” and “Six Emerging Industries” and the action plan “Creative Taiwan – Cultural and Creative Industries Development Program”, Taiwan implemented policies for the advancement of cultural and creative industries [14]. Furthermore, all ministries implement relevant policies as well: for example the “Taiwan e-Learning and Digital Archives Program” for the digitalization of national collections of cultural relics by the National Science Council and the “OTOP – One Town One Product” counseling program to assist SMEs to use distinctive industries, supervised by the Small and Medium Enterprise Administration (SMEA) of the Ministry of Economic Affairs. In addition, the National Palace Museum turned to horizontal alliances through active brand licensing, thus making the National Palace Museum an industry cluster for domestic and international cultural and creative industries (see Figure 2).

## 3 Research Method

Cultural creative products are made for the global market, using materials and elements from traditional culture or with regional characteristics. With the development of technology, design and creativity, traditional culture can be maintained and local industries revived, and with the charm of traditional culture and local characteristics, economic output and life quality can be balanced. The literature discussed in the

previous section serves as the foundation of this research. It summarizes the plans for cultural and creative industries that were promoted by Taiwan in recent years and serves as case studies. It can be divided into three categories: (1) Traditional Culture: Using the traditional “cultural image” to reach product differentiation; (2) Local Elements: using “local features” to transform the industry by changing design; (3) Innovative Fashion: focusing on the global market and using “innovative design” to create characteristic products.

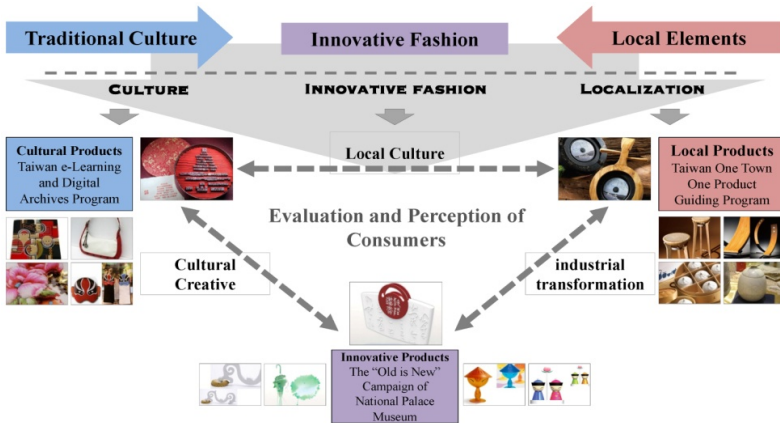


Fig. 3. The research framework

This research first undertakes a preliminary survey on the basis of the literature review and the suggestions of a group of 5 interdisciplinary experts from the fields of culture, creativity and industry. We selected representative product samples and evaluation indices according to the criteria of traditional culture, local elements and innovative fashion. Second, we carried out a questionnaire survey and analyzed the outcome of the research with SPSS Statistics 17.0. We used descriptive statistics and factor analysis to analyze the consumers' perception and preference of the participants. The framework of this study is shown in Figure 3.
















### 3.1 Participants

A total of 128 people participated in this study, with 120 valid participants (8 had to be excluded because their answers were not complete), consisting of 39 male and 81 female participants. Participants were undergraduate and graduate students from the National Taiwan University of Arts, the Chinese Culture University and the National Taipei College of Business with an educational background in Communication and Management related (68 participants) and Arts and Humanities related (52 participants).

### 3.2 Selection of Experiment Samples

We selected the product samples with the help of product images and design descriptions from related books, magazines and websites. Samples include the top three works of “Taiwan e-Learning and Digital Archives Commercial Application Competitions” (15 samples), works of “Taiwan One Town One Product Design Competitions” (24 samples) and selected products from the “Old is New Campaign of National Palace Museum” as well as top products from design competitions organized by the National Palace Museum (20 samples). In addition, we appointed a group of experts (5 experts from the fields of culture, creativity and industry). We defined the categories “Traditional Culture”, “Local Elements” and “Innovative Fashion” and selected 5 products for each category, with 15 in total (see Table 1).

**Table 1.** Three different categories of product samples

Cultural Products – From Taiwan e-Learning and Digital Archives Commercial Application Competitions				
P01	P02	P03	P04	P05
				
“Pinban Boat” handbag	“Beauty of the Mountains” cruet	“Domineering” towel rail	“Grandmother's Fashion” brooch	“The Words of Love” wedding gift
Local Products – From Taiwan One Town One Product Design Competitions				
P06	P07	P08	P09	P10
				
“Tea-Flavored Egg” tea caddy	“Bamboo” table lamp	“Rush” chair	“Steamed Dumpling” cruet	“Recalling the Past” CD player
Innovative Products – From the “Old is New” Campaign of the National Palace Museum				
P11	P12	P13	P14	P15
				
“Dragon Claw” bottle opener	“Mr. & Mrs. Chin” Salt and pepper set	“Jadeite Cabbage” parasol	“The Writing Manual” briefcase	“Mandarin” Squeezer with goblet

### 3.3 Selection of Evaluation Indices

First, we compiled competition assessment criteria, integrated relevant research for the traditional culture evaluation index category [15], [16], the local elements evaluation index category [17], [18] and the innovative fashion evaluation index category [19], [20], and selected 16 items for each evaluation index. Second, the appointed expert group selected 6 representative items for each evaluation index (from the three categories traditional culture, local elements and innovative fashion), with 18 items in total.

### 3.4 Procedure

According to the previous survey, we selected 15 product samples and 18 evaluation indices and prepared the questionnaire and the explanation. Before the participants filled out the questionnaires we first explained the procedure to them. The first part of the questionnaire is "Personal Data", followed by the "Design Evaluation" survey and the "Personal Preference" survey. The "Design Evaluation" survey shows 15 color images of product samples, with a short description of the design characteristics under each picture. This part consists of 19 questions, including the 18 evaluation indices as well as "Desire to Buy" the product. Participants rated the evaluation indices of the product according to their own experience and perception, or, in other words, indicated their degree of identification. We used a 7-point Likert scale and the subjects indicated their responses by circling the numbers; 1 indicates a low identification with the index, 7 a high identification with the index. In the last part, the "Personal Preference" survey, participants ranked the items "Personal Preference Product" and "Evaluation Index Importance" from 1 to 9; a smaller value indicates a higher personal preference.

## 4 Results and Analysis

We used this experiment to understand how the participants assessed the design of cultural creative products. 120 of the 128 collected questionnaires were valid, and we used SPSS Statistics 17.0 to evaluate the statistical data and investigate the potential factors of evaluating product samples and the design evaluation indices.

### 4.1 Factor Analysis of the Design Evaluation Indices

We used factor analysis to investigate the internal relationship between the items of the questionnaire and distill them into a few factors. The participants rated the design of the cultural creative products with the 18 evaluation indices; these ratings were reduced in number and given a new name for the factor analysis. In this way we tried to find the common factors that influenced the participants' ratings of the products.

The goal of this research was to find the factors of the cultural creative evaluation indices and to analyze the results. Before we implemented the factor analysis we first used KMO (Kaiser-Meyer-Olkin) and Bartlett's test to analyze the results from the questionnaires [21]. The KMO measure is 0.934, which is larger than the determined value 0.6 and the Bartlett's test of sphericity is statistically significant; hence, the results of the questionnaires are suitable for using factor analysis [21]. In this research we used the principal component analysis to extract two common factors. The value of the variance indicates the explanatory power of each factor. The explanatory power of factor 1 is 68.99% and the explanatory power of factor 2 is 9.08%. The cumulative explanatory variance is 78.07% (Table 2). The 18 items of the questionnaire can be distilled into two factors that influence the perception and judgment of cultural creative products. According to the statistical results, and after the arrangement of all factors and their included variables as well as the renaming of the factors, we distinguished the factors: "Design Performance" and "Cultural Elements".

**Table 2.** The result of principal component analysis

Dimensions	Evaluation Index	Factor loadings	
		Factor 1	Factor 2
Design Performance	A09 Product Function	.850	.295
	A14 Texture	.836	.455
	A18 Overall Presentation	.830	.378
	A16 Fashion	.817	.227
	A10 Design Quality	.796	.488
	A13 Innovative Design	.787	.450
	A17 Environmental Sustainability	.781	.124
	A12 Unique Idea	.753	.480
	A15 Emotion	.735	.368
	A08 Innovative Materials	.719	.468
	A05 Aesthetic Image Form	.700	.531
Cultural Elements	A01 Special Meaning	.259	.845
	A04 Background Story	.326	.845
	A02 Cultural Characteristic	.288	.839
	A03 Evokes Feelings	.268	.817
	A11 Historic Origin	.434	.767
	A07 Local Features	.425	.767
	A06 Appearance Style	.624	.651
	<b>Eigenvalue</b>	12.42	1.63
	<b>Variance (%)</b>	68.99	9.08
	<b>Cumulative (%)</b>	68.99	78.07
	<b>KMO</b>	0.934	

## 4.2 Analysis of Participant's Personal Preference

Besides the analysis of the design evaluation indices of the products, we also investigated the participants' degree of personal preference. In part two of the questionnaire, we asked the participants to select 9 product samples they like best and 9 evaluation indices they think are important and rank both of them from 1 to 9. First place counts as 9 points, second 8 points and so on up to the ninth place which counts as 1 point. The product samples and evaluation indices not selected count as 0 points. Table 3 shows the participant's degree of preference for the 15 product samples and their perceived importance of the 18 evaluation indices.

In Table 3 we can see the ranking of the nine products the participants liked best. The ranking from one to nine is P07 "Bamboo - table lamp", P06 "Tea-Flavored Egg - tea caddy", P09 "Steamed Dumpling - cruet", P10 "Recalling the Past - CD player", P11 "Dragon Claw - bottle opener", P03 "Domineering - towel rail", P02 "Beauty of the Mountains - cruet", P05 "The Words of Love - wedding gift" and P15 "Mandarin - squeezer with goblet". This ranking also shows similarity to the "Desire to Buy" ranking.

Furthermore, in Table 3 we can also see the majority of evaluation indices on "Design Performance" factors by the factor analysis: The participants ranked A09 (Product Function), A13 (Innovative Design), A05 (Aesthetic Image Form), A10 (Design Quality), A12 (Unique Idea), A14 (Texture), A18 (Overall Presentation), A06 (Appearance Style) and A16 Fashion as the nine most important evaluation indices (see Table 2, 3) of cultural creative products. Therefore, "Design Performance" is an important factor for cultural creative products.



**Table 3.** Rank of Participant’s Personal Preference

High Rank		Rank of the “Item 19: Desire to Buy”														Low Rank		
Item	P07	P03	P10	P09	P06	P11	P02	P05	P13	P15	P12	P01	P08	P14	P04			
Mean	4.93	4.26	4.25	4.17	4.06	3.88	3.85	3.76	3.45	3.42	3.17	3.08	3.02	2.95	2.51			
High Rank		Rank of the Personal Preference Product (Personal Preference)														Low Rank		
Item	P07	P06	P09	P10	P11	P03	P02	P05	P15	P01	P12	P14	P08	P04				
Mean	5.88	4.57	4.32	4.17	3.73	3.72	3.30	3.07	2.78	2.25	2.17	1.53	1.47	1.40	0.66			
High Rank		Rank of the Evaluation Index Importance (Personal Preference)														Low Rank		
Item	Index A09	Index A13	Index A05	Index A10	Index A12	Index A14	Index A18	Index A06	Index A16	Index A17	Index A01	Index A15	Index A02	Index A03	Index A08	Index A07	Index A04	Index A11
Mean	4.94	4.48	4.42	4.03	3.99	3.98	3.08	2.75	2.55	1.80	1.72	1.51	1.48	1.33	1.19	0.92	0.61	0.23

## 5 Conclusions and Suggestions

In Taiwan, the localized cultural elements, products and tours have gradually become an opportunity for animating the regional economy. Various types of souvenirs and the use of cultural creative design spring up all around. Currently, design development of cultural creative products is increasingly varied, but to satisfy consumer buying needs, most cultural creative products are reduced to an imitation of form, transfer of patterns or are limited to traditional crafts.

The results of the factor analysis that we used to evaluate the questionnaires suggest that we can extract two common factors that influence the participant’s perception and judgment: “Design Performance” and “Cultural Elements”. Furthermore, the “Design Performance” is the most important factor for evaluating cultural creative products.

Therefore, design application in cultural creative products is important for product development and innovations that can impart cultural heritage and present culturally distinctive aesthetics that are practical in daily life so that consumers can have new awareness of the characteristics of traditional culture. Moreover, the idea to transform local culture into creative design will enhance the innovation and originality of industries or even create the cultural and creative industries of Taiwanese style.

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