

The preference factors of canvas-accessories in Tainan

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Abstract: In recent years, with the Characteristics of lightweight, durable and eco-friendly, canvas is one of the most widely-used materials in accessories design. On the other hand, due to the historical development, Tainan city owns three distinctive and popular local cultural creative canvas brands

The research aims at applying Miryoku Engineering to figure out what preference factors affecting people to choose the product made of canvas from Tainan, and how to apply design element to create the factors.

First, the research adopted EGM of Miryoku Engineering, interviewing 15 highly involved participants in Tainan canvas industry and categorized 12 preference factors affecting people to choose Tainan canvas products. Second, the research used factor analysis to generalized 4 dimensions: 1) the delicacy of handicraft 2) features of material 3) Cultural Characteristics 4) mix and match. Third, the research corresponded concrete product design elements to each factors, and designed the questionnaire, then analyzing by Quantitative Theory Type I, utilizing the method to realize the relevant between preference factors and specific design details.

Key words: *Preference Factors, Miryoku Engineering, Factor Analysis, Quantitative Theory Type I, EGM*

Introduction

In Taiwan, the industry of canvas-accessories was mainly rooted in Tainan, where reserved most of traditional design feature and sewing techniques of making canvas-accessories. Canvas refers to a kind of fabric which was made of heavy –pounds hemp or cotton, some with waterproofing membrane coated inside.

With characteristics such as eco-friendly, durable, light-weight and high stiffness, canvas originally used in producing military tents in Taiwan. After late 20s, canvas was gradually became widely-used material for tool bag. From 1950s to 1980s, the industry was in a full bloom, producing uniform book bags for high school students in Taiwan and set affective connection between adolescence memory and the canvas bag.

As time goes by, more and more high school students refuse to use monotone and uniform canvas book bag. To appeal more customers, the local brands also dedicated to creating vary styles of canvas bag, which contain several different colors allowing customer to choose.

Though information about canvas-accessories in Tainan may be less in research, various report and discussion still appear in Taiwanese media press and the internet. Yongsen - the oldest canvas-accessories brand even be nicknamed as “ichizawashinzaburo hanpu of Taiwan”.

Until now, the canvas-accessories brands has engaged in more than 90 years, playing an important role in cultural creative industry of Tainan and also popular among people. The research aims at applying Miryoku Engineering to figure out the consumers' impression to canvas bag, hope to understand what preference factors affecting people to choose the product made of canvas from Tainan, and analyze the relevance between preference and specific design details. Furthermore, also hope the consequence of this research could help the local canvas brand apply adequate design element to create attractive canvas-accessories.

2. Literature Review

2.1 Canvas Industry

In Tainan, Canvas industry was originated in the 1910s, at the time, most revenues of Canvas industry came from artisans tool bags, as well as repairing awnings and army tents. As time goes by, the widespread of education rose the increasing demand of the student's schoolbag. Since 1950s, Tainan canvas industry has taken over the production of school bags. Nowadays, in addition to making school bags, canvas industry began to focus on the the fashion style bag design and produce customized merchandise.

The canvas-accessories of Tainan have won household reputation in Taiwan through mass media. To get the preference among people, Tradition canvas bag brands shifted attention to design, texture and color of material, and identical brand image. And in this research take products of three famous canvas-accessories brand in Tainan-Yongsen, Ho-Chen and Guanfu - as sample, exploring local canvas design pleasing factors.

2.2 Miryoku Engineering

With the rising consumer awareness, the development of new products has gradually shifted from production-oriented to market-driven. Nowadays, the considerations under developing consumer products are much more than basic functionality. Aesthetics, comfort and individual needs should also be included and the preference of consumers is getting more and more important.

The Miryoku Engineering was originated in Japan, which was developed to communicate between designer and consumer under the prerequisite of preference.

2.3 Evaluation Grid Method (EGM)

Evaluation Grid Method was originated from the RGM(Repertory Grid Method) in psychological discipline, RGM was proposed by Kelly, who considered that through pair-comparison with two objects during personal interview, the difference and the resemblance were clearly discussed, consecutively sorted the personality of

object (Kelly,1955).And Japanese Sanui adapted it to be one of important research methods in Miryoku Engineering.

At first, the interviewer should define the OEI(Original Evaluation Items) and prepare comparative elements as REI (Relative Evaluation Items), then, choosing two elements, asking which he(she) prefers, and asks the reason for his or her choice.

In interview process, the interview could asks abstract or concrete question, guiding the respondents to answer their inner feeling or describe the concrete detail about the OEI/REI. Finally, the abstract mental factors and the specific description of the OEI/REI could be laddered, connected, built up the evaluation Grid Chart (EGC)

3. Research and analysis

In order to explore the consumer preferences factors of canvas products, the first step was construct EGM structure through interview, then, based on the structure to analyze the design details that might affect preference of consumer through factor analysis and Quantification I class.

The research process was divided into the following 4 parts:(1) Interview → (2) Analyzing mental and physical preference factors→ (3) Generalizing Preference Factor Dimension → (4) Analyzing relevance between preference and design elements

3.1 Interview

Utilize EGM to interview 15 highly involved people in Tainan canvas industry, including promoters, producers and consumers, digging deeper concept of the canvas-accessories products.

The interview could be separated to three parts:

- (1) Interview with three generations of product producer, to get preliminary understanding about the difference among local canvas brand, the producing procedure, and the historical change of canvas industry.
- (2) Prepare the pictures of OEI and discuss about the charming factors of canvas-accessories products and the mental factors that may appeal people to consume the product.
- (3) Ask the respondents to distinguish the difference of the material and identify the concrete design detail that may affect their preference from several OEI pictures.

3.2 Analyze mental and physical preference factors

This stage aims at connecting mental feeling with specific description or concrete design detail on the basis of previous interview and Building up the EGC.

As the pic1 shows, "comfortable" is mental feeling that could be laddered in upper side of EGM, and the description such as "user-friendly" was referred to interpret the feeling, therefore, it could be laddered lower.

As for the concrete detail that relate to “user-friendly “, such as " several pockets could neatly place tool ", "square bag", "with zipper", "without buttons" was laddered in the lowest side.

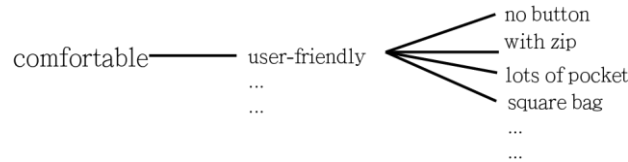


Figure.1 example of EGC Laddering

By cumulating points of lower project, the 5 upper (abstract) feelings- comfortable, natural, convenient, simple and durable, 24 middle item, as well as 39 specific design details (lower vocabulary) could be obtained.

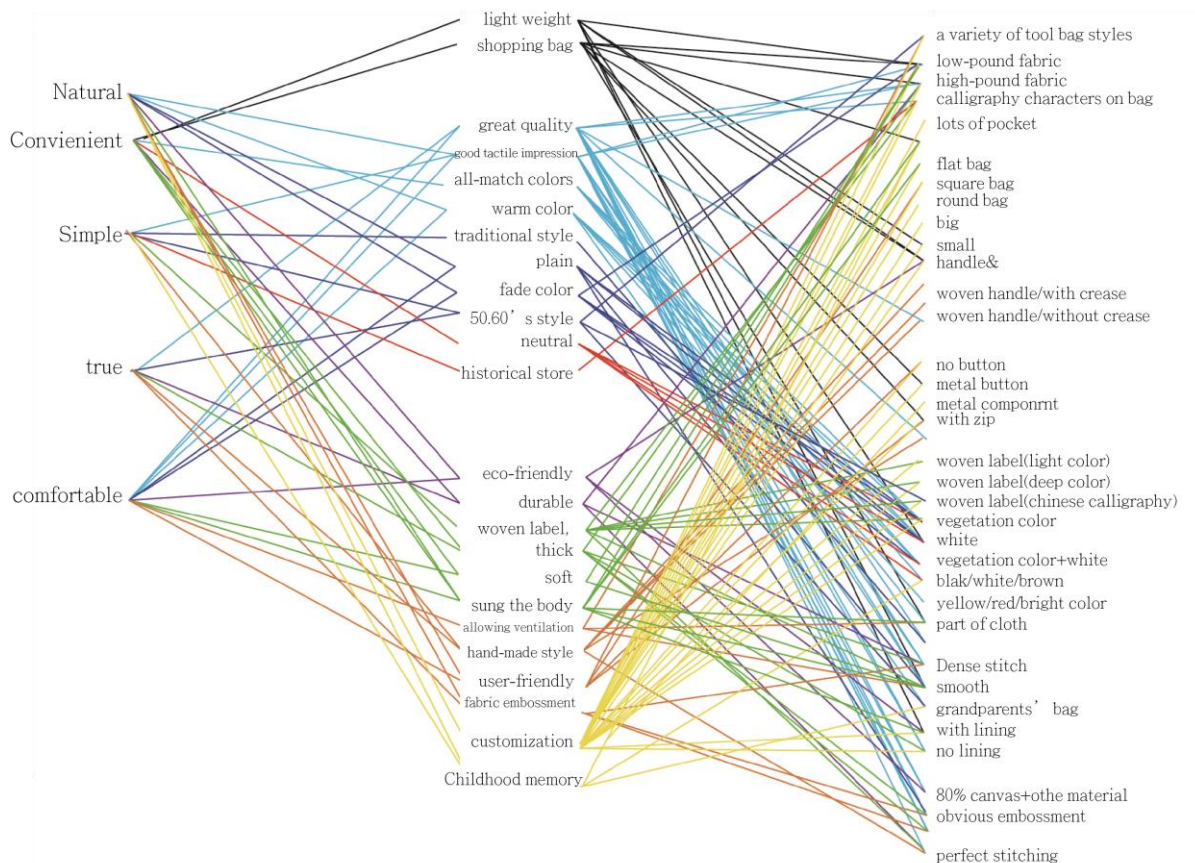


Figure.2 EGC of canvas-accessories

3.3 Generalizing Preference Factor Dimension

3.3.1 KJ Method

The purpose of the step is to sort out the mental feeling and description by KJ method, simplifying huge EGC. By grouping and naming similar description, and delete some of oddities, we could get 12 middle items that motive user purchase canvas-accessories products.

Through KJ method to cluster and classify upper and middle items from the EGC, reducing from the original 29 to 12, including “woven label”, ”customization”, ”hand-made style”, “traditional techniques”, ”durable”, ”mix material”, ”soft”, ”good tactile impression”, ”monochrome”, “historical store”, “all-match colors”, “light weight”

3.3.2 Factor Analysis

On the basis of 12 items, questionnaire of Factor Analysis was designed to ask 30 subjects to score the importance of each item according personal preference. Through the questionnaire, Factor Analysis generalize 4 factors dimensions. By interpreting the meaning of each dimension could comprehend what attract consumers to choose canvas-accessories.

Table 1. Factor Dimensions

Factor Dimension	No	Factors	point
Dimension 1	9	Woven label	0.757
	12	Customization	0.724
	11	Hand-made style	0.712
	7	Traditional craft	0.642
	8	Durable	0.633
Dimension 2	1	Light weight	0.779
	10	Soft	0.701
	3	Good textile impression	0.614
Dimension 3	5	plain	0.843
	6	Historical store	0.655
	4	All-match color	0.589
Dimension 4	2	Mix material	0.088

3.3.2 Interpretation of factor dimension

According the consequence, the 4 dimensions are interpreted as below:

(1) Dimension1- the delicacy of handicraft

The first dimension is composed of five factors. < woven label >, <customized>, <hand-made style>, <support traditional technique> <durable>

All of these factors were related to small amount of production, and traditional exquisite handicraft, therefore, the first dimension was titled as “the delicacy of handicraft”

(2) Dimension 2- Features of material

The dimension consisted of three factors, including <light weight><soft><good tactile impression>

Due to the factors all related to the properties of material itself, the dimension was defined as “features of material”

(3) Dimension 3- Cultural Characteristics

The third dimension contains < single color > < historical store > < all-match colors>. Because most of the color came from the first generation, the unique color of canvas-accessories became part of local culture and product feature. Moreover, <historical store> could be regarded as local cultural property.

Considering these reasons, this research defined dimension3 as “Cultural Characteristics”

(4) Dimension 4- Material mix and match

There is only one factor < material mix and match > belong to dimension4, as the result, the dimension was named after the factor.

(5) Discussion

Factor Analysis indicates that < the delicacy of handicraft > is the most important factor dimension which could explain why people show preference on canvas-accessories. The second one is <Features of material>, third is <Cultural Characteristics> and the forth is < material mix and match>.

3.4 Analyzing relevance between preference and design elements

3.4.1 Questionnaire for Quantitative Theory Type I

After generalizing the factor dimensions by Factor Analysis, this stage would use Quantitative Theory Type I to analyze the relevance between factor dimensions and each specific design details in canvas-accessories.

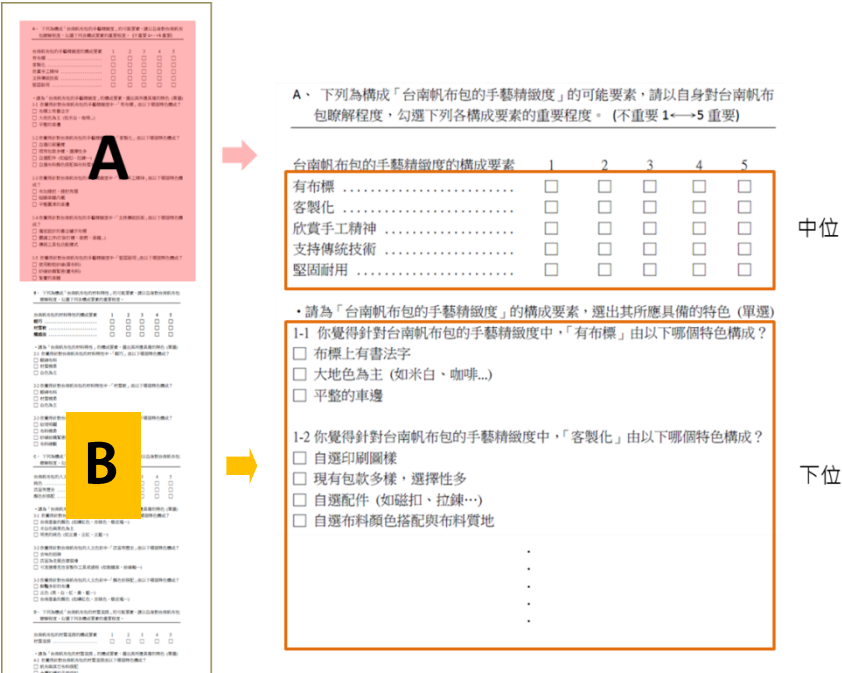


Figure.3 Questionnaire sample

The Quantitative Theory Type I questionnaire contained two parts. Part A included factors of each factor dimension, and asked 94 participants to evaluate the importance to factor dimensions in each factor and score 1-5 points.

In part B, according to the lower items in EGM that could correspond to each factor, request the participants to evaluate the importance to each factor in each lower item.

Analyzing the data by Quantification I, the statistic data would identify the most relevant design detail to each factor, and the most importance factor to each factor dimension.)

3.4.2 Statistics and Analysis

The following table shows that <customization> gets the highest score, which means the core value of designing unique style for each special customer could let participant has deeper feeling to the delicacy of product..

According to the table the highest score item in <customization> factor is < choosing color match and textile>, the result means that < choosing color match and textile by customer.> factor could be regarded as the most important part in <customization>

	factors	Item	point	Point		
the delicacy of handicraft	Woven label	perfect stitch and embroidery vegetation color Calligraphy logo	0.33 0.03 -0.64	0.15	0.37	0.14
	Customization	choosing color match and textile choosing unique style using personal pattern choosing component(zip, button...)	0.76 -0.38 -0.61 -1.1	0.29		
	Hand-made craft	woven handle with crease perfect stitch perfect lining	0.31 -0.06 -0.18	0.09		
	Old techniques and style	Classical style inherit several producing procedure Calligraphy woven label	0.48 -0.06 -0.17	0.08		
	Durable	High-pound fabric Dense stitch Intensive yarn	0.14 0.05 -0.19	0.05		

1. The highest-score item in <woven label> factor is <Perfectly straight>(0.33), that is, <perfectly stitch> has most to do with <woven label>.
2. The highest score item in <hand-made style> factor is <woven handle with crease>, the result means that < woven handle with crease > could be regarded as the most important design element in < hand-made >
3. The highest score item in < Old techniques and style> factor is < tool bag for 30's artisan >, the result means that < tool bag for 50's artisan > gets most relevant to < Old techniques and style >

4. The highest score item in < durable > factor is < Thick fabric >, the result means that < Thick fabric > gets most relevant to < durable >

Table 2.

3.4.2

The following table shows that < Good textile impression > (0.36) gets the highest score, which means good textile impression is most important material factor in participants' preference.

According to the points of each item, < smooth material > (0.76) is highly relevant to Good textile impression

Table 3.

	factors	Item	point			
Factor Dimension 2 Features of material	Light weight	White Low pound fabric Smooth material	1.32 -0.06 -0.36	0.21	0.42	0.18
	soft	Smooth material Low pound fabric white	0.07 -0.21 -0.73	0.08		
	Good textile impression	smooth material embossment high pound intensive fabric	0.76 -0.11 -0.71 -1.42	0.36		

1. The highest-score item in < light-weight > factor is < white > (1.32) that is, make participants tend to connect < white > with < light weight >.
2. The highest score item in < soft > factor is < Smooth material >, the result means that < Smooth material > could be regarded as the most important design element to create < soft >

3.4.3

The following table shows that < historical store > (0.24) gets the highest score, and among the specific design details, < old signboard > (0.93) gets highest score. It means that historical store with old signboard gets higher relevant to < Cultural Characteristics > preference factor dimension.

Table 4.

	factors	Item	point	Point		
Factor Dimension 3 Cultural Characteristics	single color	Traditional Tainan color Milky white and brown Bright Taiwan festival color	-0.03 0.34 -0.82	0.13	0.33	0.11
	historical store	Old signboard Rebuilding old house as store Traditional working process and tool could be seen	0.93 -0.71 0.00003	0.24		
	all-match colors	Using colorful woven tape Bright Taiwan festival color Traditional Tainan color	0.13 -0.58 0.37	0.21		

1. The highest-score item in <all match colors> factor is <Traditional Tainan color> (0.37), that is, < Traditional Tainan color> is most likely to be regarded as all- match colors with cultural characteristics
2. The highest score item in < single color > factor is < Milky white and brown >, the result means that < Milky white and brown> are single colors with cultural characteristics

3.4.4

The following table shows that <combine canvas with other fabric > (0.08) has most to do with <material mix and match>.

Table 5.

	factors	Item	point	Point		
Material mix and match	Material mix and match	Combing canvas and other fabric Metal(or magnetic) components zip	0.08 0.03 -0.75	0.20	0.20	3.96

4. Conclusions

The impression that canvas brought to people were simple, true, durable, comfortable, and natural, furthermore, according to the result, the reasons why people prefer canvas could be generalized as the 4 dimensions: 1) the delicacy of handicraft 2) features of material 3) Cultural Characteristics 4) mix and match. Among these dimensions <delicacy of handicraft > has most to do with the attractiveness of canvas-accessories, and specific design elements such as <customized color matching and texture of textile>, <high-pound fabric>, < classical style>, <perfect stitch and embroidery> were able to apply in following canvas-accessories design to cater to customer's preference.

To consider the material features, utilizing smooth material could bring soft and good textile impression, using white on canvas-accessories could create a light-weight impression. Besides, mixing some metal components with canvas also could arise people's affection

In order to emphasize cultural characteristics on the product, the product could adopt brown, milky white or traditional Tainan color, and display them in rebuilt traditional store with old signboard.

Finally, hope the consequence of the research could be benefit to the increasing awareness of promoting local cultural creative industry, helping the local canvas brand apply adequate design element to create attractive canvas-accessories.

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