

KANSEI EVALUATION ON BAMBOO CURTAIN DESIGN

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ABSTRACT

This study employed Kansei Engineering approach to help the bamboo curtain designers understand consumer's feelings and preferences about the product. The goal was to effectively master and apply all elements to the new designs that conform to the demand of the target market, and hopefully to revive the bamboo curtain industry that has gradually declined and yet still has great potential.

In order to meet the customers' needs and their psychological desire correctly, the preliminary design of various bamboo curtains were tested by using Kansei Engineering approach to choose the elements of the traditional bamboo door curtain design. It will thus be used to redesign a new door curtain with the rearrangement of each element.

In the future, we can systematically categorize these new designs and choose appropriate samples for surveys and analyses of the impression of the bamboo curtain using the kansei adjectives, not only to find customers' needs from the new designs but also to extend the life of this traditional industry.

Keywords: **Kansei Engineering, Bamboo Curtain, Creative Design, Local Industry, Cultural Industry**

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1. INTRODUCTION

The bamboo door curtains (Figure 1) were one of the important living handicrafts in the traditional Liu-tui Community¹ in southern Taiwan. Due to the different building styles between the southern and northern Hakka houses, the bamboo door curtains are only seen in the southern communities in Taiwan.²



Figure 1: Liu-tui Hakka bamboo door curtains

This special architecture design has become a feature of the traditional residence. The useful and extraordinary handicraft not only prevents dust and mosquito, but also separates the inside and outside; it has the function of ventilation, light transmittance and concealment. It is easy to be rolled and dismantled. In the past, when a wedding is arranged, a new bamboo door curtain will be hung before the bride's arrival. Its pretty decoration is full of blessing and happiness (Figure 2).



Figure 2: pretty decoration for the house.

The design has integrated the piping technique with the color painting. The curtains are useful and decorative. Due to the change of lifestyle, it has been replaced by the plastic product. The skills of the tradition are gradually lost. However, because of the environmentally friendly concept, the value of bamboo is again emphasized and the traditional industry finds its new chance. As part of the industrial crafts, its practical value and decorative art style has become the potentiality of local crafts.

In the past, traditional bamboo curtain featured its practical functions as strong and durable. However, its monotonous style and coarse quality did not appeal to younger generation. Therefore, this research is aimed to renovate the bamboo curtain based on the traditional design. So this study employed Kansei Engineering approach to help the bamboo curtain designers understand consumer's feelings and preferences about the product. The goal was to effectively master and apply all elements to the new designs that conform to the demand of the target market, and hopefully to revive the bamboo curtain industry that has gradually declined and yet still has great potential.

In order to meet the customers' needs and their psychological desire correctly, the preliminary design of various bamboo curtains were tested by using Kansei Engineering approach. By focusing on the consumer feedback, it would be probable to develop the

¹ Liu-tui is located in southern Taiwan and was the earliest cultivation area for Hakka people living between Kaohsiung and Pingtung.

² The building style of the northern Hakka communities includes the inner corridor style, and the doors do not face the outside directly, which is similar to traditional Minnan houses. Thus, there is no urgent need regarding privacy or for the prevention of mosquitoes gaining entrance. Usually the indoors and outdoors are separated by a cloth curtain. Therefore, the bamboo curtains are only found in Liu-tui communities, not in Minnan communities and the northern Hakka communities. See Meng-chu Chang, Liu-tui Hakka Traditional Crafts Masters and Building Style, PP. 67. Taipei, Wenchin.

bamboo curtain style that answers to their needs and preferences and to make it a practical and cultural handicraft art.

In this way, the bamboo curtain industry can have a comeback as a new profitable cultural industry. It is not only a local cultural industry but will also serve as a new cultural industry in Taiwan.

2. LIU-TUI TRADITIONAL BAMBOO DOOR CURTAIN AND DAILY LIFE

In Taiwan, usually the bamboo curtains are used as window curtains, and the ones most commonly seen are the plain curtains without any decoration.



Figure 3: The curtain protects the privacy and enables people to see outside.

Only in Liu-tui, the bamboo curtain is used as the door curtain because of its unique requirements in daily life. Moreover, different areas develop different themes in their decorations. In the past, bamboo door curtains were found in almost every household, and were related to its special construction style.

In the traditional Hakka houses in Liu-tui, the shrine hall is an independent ritual space and is not connected to adjacent rooms. All the rooms are also independent space and are connected by the outer corridor. Because all the doors are facing the crop square directly, without any screen, not only will the bugs and dust will get into the house easily, but also the problem of lack of privacy arises if the doors are left open. Yet, it would be too suffocating and hot if the doors are closed. Therefore, the Hakka people in Liu-tui used to hang the bamboo curtain on the doors to prevent the bugs and dust from entering, as well as to separate the indoors and outdoors. The curtain not only protects the privacy but also enables people to know what is happening outside (Figure 3). It also provides a ventilating point for a closed space in the early buildings and thus reduces the heat felt in the summer. The curtain can be scrolled up when it is not used (Figure 4 · 5). It saves a lot of space



Figure 4: The curtain can be scrolled up when it is not used and it is easily removed.



Figure 5: A bronze coin is hung on the curtain to stabilize it.

and dust will get into the house easily, but also the



Figure 6: Reports about the bamboo curtains would be disappeared one day.

and is easily removed. It was a very useful handicraft for the past daily life. ³

The delicate skill and color painting on the bamboo door curtain is a featured handicraft of the Hakka in Liu-tui. Yet, this traditional handicraft is gradually losing its popularity because of the changes of lifestyle and the popularity of plastic products. Moreover, the traditional village buildings are being replaced by modern houses. The demand of this time-consuming handicraft and the bamboo curtain industry are thus declining. There are only a few aged craftsmen who are still making the bamboo curtains in Neipu and Meinong. The younger generations lack interest in entering this business. In the near future, the skill of making bamboo curtains will be lost (Figure 6). ⁴. This traditional Hakka skill shall disappear from history.

3. KANSEI ENGINEERING APPROACH

In a word, Bamboo door curtain is a handicraft designed by the Hakka people in Liu-tui based on their special living space. It is both practical and beautiful; and is the featured cultural product of Liu-tui. Although the modern screen door may replace some functions of the bamboo curtain, it cannot replace the functions of providing discreetness, scrolling, and decoration.

The bamboo curtain is gradually declining in use. Actually, bamboo curtains are more decorative and practical, and only take a little space. Yet, the making of the traditional bamboo curtains emphasizes their practical function and old fashioned style. Traditional bamboo curtains may be solid and strong, but they are not delicate enough to attract the buyers from the younger generations. In order to create a rebirth for the traditional bamboo door curtain, the bamboo curtain should be redesigned according to present needs and tastes. In order to meet the customers' needs and their psychological desire correctly, the preliminary design of various bamboo curtains were tested by using Kansei Engineering approach. By focusing on the consumer feedback, it would be probable to develop the bamboo curtain style that answers to their needs and preferences and to make it a practical and cultural handicraft art.

3.1 Research structure

This research employs Kansei Engineering approach to choose the elements of design of the traditional bamboo door curtain. It will thus be used to redesign a new door curtain with the rearrangement of each element.

There are five steps in this research. Step 1 is the field research for collecting and categorizing the samples of the traditional bamboo door curtain from different areas. Step 2 is to choose the representative samples, and step 3 is to determine the design elements from the

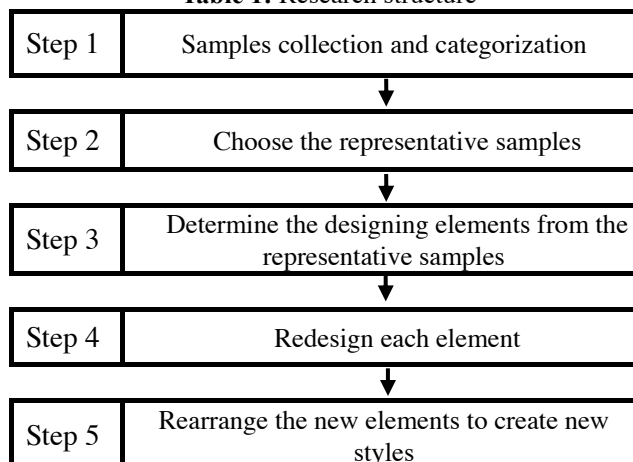
³ See Meng-Chu Chang, "A Study of 'bamboo door curtain,' the traditional Hakka Industry in Taiwan." *Researches of the Hakka Culture and Industry*, Guangxi Normal University. PP. 88-107

⁴ See *United Daily News*, August 6th, Section B2, 2004.

representative

samples. Step 4 is to redesign each element, and step 5 is to rearrange the new elements to create new styles for the bamboo door curtain (Table 1). In the future, we want to systematically categorize these new designs and choose appropriate samples for surveys and analyses of the impression of the bamboo curtain using the kansei adjectives, only to find customers' needs from the new designs but also to extend the life of this traditional industry. The following sections explain each step in detail.

Table 1: Research structure



3.2 Research steps

3.2.1. Step1: Samples collection and categorization

Because the bamboo door curtain is a unique living craft in the Hakka areas of southern Taiwan, this research first needed to conduct a field research in the 96 Hakka villages in the Liu-tui area to collect samples of the traditional bamboo door curtain. The field research shows that although bamboo door curtains have a fixed style, local features are still found in different areas, reflected in the colors of the piping, the stitching styles of the white cotton stripe and the themes of the paintings.

There are two systems of manufacturing the bamboo door curtain in Liu-tui⁵, Neipu area and Meinong Area. Neipu is the major area of producing the Liu-tui bamboo door curtain, and the products are sold to all the other areas in Liu-tui (except Meinong). In the early stage, the black linen was used for the piping due to its dirt-resistance, but recently the red line is used for to symbolize happiness. Although the curtains found in the Kaoshu area are also produced in Neipu, the color of the piping is white because of the local preference. Meinong develops its own system, and its products are also sold in the Qishan area. In the early stage, the color blue was used for the piping because of the local indigo dyeing culture⁶, but recently for the purpose of decoration, patterned cotton cloth is used⁷. The two major themes of the paintings on the curtain have changed little: phoenix and peony, and potted plants. Except for Meinong,

⁵ See Meng-chu Chang, "A Study of 'bamboo door curtain,' the traditional Hakka Industry in Taiwan." *Researches of the Hakka Culture and Industry*, Guangxi Normal University. PP. 88-107













⁶ The blue piping of Meinong has its unique cultural reason. Because the weather in Meinong is apt to grow *Indigofera*, *Indigofera* was widely grown for dyeing material during the early Japanese Occupation Era for the Hakka communities in Liu-tui for clothes making. It thus became a symbol of Hakka culture. See *Taiwan Daily*, July 24th 2001.

⁷ In this essay, "Neipu area" refers to the other areas in Liu-tui except Meinong and Kaoshu.

where the theme of potted plants is used, the other areas use the phoenix and peony for the theme of painting. Because the different color used in different area is more obvious, this research categorizes the samples from the field research based on the color of the piping.

In the field research, we collected 101 samples and divided them into five categories based on the colors (Table 2): red, black, white, blue, and patterned. The red and black piping are from the Neipu area, white from Kaoshu, and blue and patterned from Meinong. There is another category of the non-piping, which is actually produced by machine. The focus of this study is the innovation of the traditional bamboo door curtain. Therefore, the samples of the curtains made by machine are not included among the chosen elements even if they were collected. Yet, the method and the painting can serve as future references for innovation.






Table 2 : Sample collection and categorization of the traditional Hakka bamboo door curtains

Sample collection and categorisation						
Piping	Red piping			Black Piping		
Painting	Phoenix and peony, three phoenixes and peony			Phoenix and peony, three phoenixes and peony		
Area	Neipu			Neipu		
Sample collection and categorisation						
Piping	White piping	Blue piping		Patterned piping	Non-piping	
Painting	Phoenix and peony	Potted plants		Potted plants	Different subjects	
Area	Kaoshu	Meinong and Qishan		Meinong	Meinong	

3.2.2. Step 2: Choosing the representative samples

The 101 samples of the traditional bamboo door curtain collected from the field research are divided into five categories based on the color of the decoration. After comparing the curtains in each category we found strong resemblances between the curtains of the individual category except for the age and some tiny differences. Therefore, we chose one representative sample from each category, five in total, as the major reference for the designing elements (Table 3). These samples will be the references for designing a new bamboo door curtain.

Table 3 : Representative samples for the traditional bamboo curtains

Representative samples					
Piping	Red	Black	White	Blue	Patterned
Painting	Phoenix and peony	Three phoenixes and peony	Phoenix and peony	Potted plants	Potted plants
Area	Neipu	Neipu	Kaoshu	Meinong	Meinong

3.2.3. Step 3: Choosing the designing elements for the bamboo door curtain

This study chose the designing elements from the samples mentioned in the previous section. The criteria are the bamboo material and color, color of decoration, style of the white cotton stripe, and theme of the painting. These criteria will be referred to as elements A, B, C, and D in the following sections. The following sections will explain each criterion specifically.

a. Material and color: the original color of the bamboo (element A)

The first designing element is the material and color of the curtain. Traditionally, the manufacture of a bamboo door curtain is entirely manual in chopping, shaping, and binding. After being chopped, a bamboo is divided into the skin part and the bone part. These two parts provide different durability for the curtains. Either using the skin part or the bone part, a bamboo door curtain always shows the original color of the bamboo, which represents its natural and simple quality (Table 4). Because a curtain is mainly produced from bamboo stripes, the color of the stripe will determine the appearance of the curtain. The future design of the bamboo curtain can not only preserve the original color of the bamboo but also use different colors for modifying the appearance.

Table 4: Manufacture and the color of the traditional bamboo door curtain (element A)








b. Material and color of the piping: red, black, white, blue, and patterned (element B)

The second element chosen from the samples is the piping of the bamboo door curtain. The innovation includes the material and the color used for the piping. In the past, the purpose of the piping was mainly functional. It not only protects and fixes the bamboo stripes, keeping them from falling apart or breaking, and preventing distortion of the painting on the curtain but also prevents the gaps from increasing and mosquitoes from entering. The piping helps the users to lift the curtain; it also protects the users from being hurt or scratched by the stripes when passing through it.

In the past, the piping was purely functional, and the quality and appearance were not emphasized. The material used for the piping is usually cheap linen, and the color is limited to black, white and blue. Sometimes nylon is used for the piping, too. Recently, as the appearance of the piping was gradually been emphasized, the more expensive patterned or red cotton cloth is also used. Yet, the change of the color is still very limited. The future innovation is to use the patterned piping to decorate the bamboo door curtain.





Table 5 : Materials and colours of the traditional piping (element B)

Sample					
Piping	red	black	white	blue	patterned
Material	linen	linen	linen	linen	Cotton
Area	Neipu	Neipu	Kaoshu	Meinong	Meinong

c. Style of the white cotton stripe: two interlacements and three interlacements (element C)

The third element chosen in this research is the style of the white cotton stripe. The traditional bamboo door curtain would interlace two cotton stripes with the bamboo at the sides of the curtain to reinforce it. The analysis of the samples shows that Meinong area uses three stripes interlacing at the sides, and the other areas would use only two (Table 6). The analysis also shows that in the past only the white cotton stripes were used for practical reasons. In addition to reinforcing the curtain, the white stripes also create a visual emphasis, yet without much variety. For future innovation, different colors of stripes should be used to match the colors of the piping.







Table 6 : Style of the white cotton stripe (element C)

			
White cotton stripe	Liu-tui area(except Meinong):two interlacements	Meinong: three interlacements	

d. Themes of color painting: Phoenix, peony, and potted plants (element D)

The fourth element chosen in this research is the color painting on the curtain. The traditional bamboo door curtain usually has a color painting on it for the purpose of decoration. Different themes thus developed in different areas, but with only a little difference. The samples show that except for the Meinong area where the potted plants are used as the theme, the other areas use the phoenix and peony as the themes. The theme is also the major pattern of the painting. This shows that the themes of painting for the traditional bamboo door curtain are regular and rarely changed. Moreover, while they were usually painted by a craftsman s/he was not necessarily good at painting. Therefore, the quality of the paintings is not stable. The analysis of the samples shows that the future innovation should increase the number of themes and the quality of the painting to make the bamboo door curtain a piece of fine art.

Table 7: Color paintings on the curtains (element D)

					
Phoenix and peony (Neipu and Kaoshu)		Three phoenixes and peony (Neipu)		Potted plants (Meinong)	





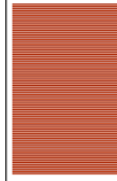

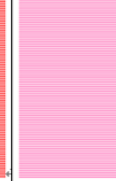
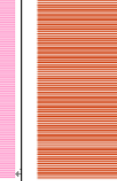











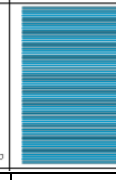



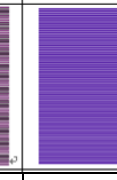
3.2.4 Step 4: Innovating the designing elements

The decline of the traditional bamboo door curtain has resulted not only in the appearance of replacement products but also in the low quality of the curtain itself which is unable to attract new customers. Therefore, the design of the future products should not only keep its original functions but also emphasize its appearance to match the needs of modern people. In order to create a new style for this traditional craft, we shall innovate and increase the quality of the each element mentioned in the previous sections.

a. Innovation of color: dyeing the bamboo (innovation element A)

The traditional bamboo door curtain has undergone a little change in color and lacks the visual attraction young people desire. Although a gradient of colors can be created through “carbonization” of the bamboo (see a1 & a2), the change is still limited to the brown color. Moreover, the style of the curtain is limited to either the classic Chinese style or the Japanese style, and it is difficult to match with the decorations of modern residence. Therefore, we want to create different colors for the element A and code these colors from a1 to a24 (see Table 8). These 24 colors will create different styles with different elements so that customers can choose their favorite ones to decorate their home.

Table 8 : Element A—Innovation of colour

							
a 1	a 2	a 3	a 4	a 5	a 6	a 7	a 8
							
a 9	a 10	a 11	a 12	a 13	a 14	a 15	a 16
							
a 17	a 18	a 19	a 20	a 21	a 22	a 23	a 24

b. Innovation of the material and color of the piping: different patterned clothes (innovation element B)

The traditional bamboo curtain lacks changes to the color of the piping. Therefore, the future design for the piping should move from the single-colored linen to the rich patterned linen to represent the traditional image of Taiwan. In the early times in Taiwan, most cotton clothes were manufactured by Far Eastern Textile Company, and they were often called the “Far Eastern patterned clothes.”⁸ The big red flower pattern is often found on pillow covers and has become part of the memory of most Taiwanese people. Yet, the traditional patterned clothes have gradually been replaced by other materials in the process of modernization. Yet, the Taiwanese patterned clothes can become popular again due to nostalgia about the good old times among the Taiwanese people. Patterned clothes become a symbol representing the traditional impression of Taiwan. The redesign of the modern patterned clothes creates different styles and combines the traditional and modern. You can see different new styles of the traditional patterned clothes widely applied in different creations.

For the element B, we replace the linen piping with the patterned cotton linens. We chose 24 patterns and numbered them from b1 to b24 (see Table 9).⁹ With these 24 patterns matching the other elements, we can create more styles for the bamboo curtain.

⁸ In the early stage, Far Eastern Textile imported the cotton clothes from China, imitated the pattern from Japan, and created its own new patterns. The new patterns were highly popular among the households at that time. Yet, with the import of foreign clothes into the market in Taiwan, the additional choices gradually took over the market from the Taiwanese patterned clothes. Recently, the Taiwanese patterned clothes have become popular again. See Ching-kui Wu, *Collection of the Patterned Clothes Design in Taiwan: the Traditional Patterns 150*. PP. 14.

⁹ Some of the patterns are from Ching-kui Wu, *Collection of the Patterned Clothes Design in Taiwan: the Traditional Patterns 150*. b5, b14, b16, and b19 are the awarded designs in 2008 Patterned Clothes Design Award held by the Council for Hakka Affairs. b7 and b13 are the photos from the patterned clothes exhibition.

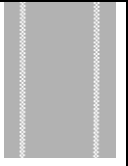
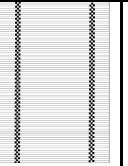

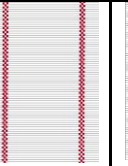

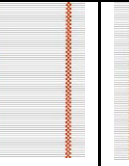

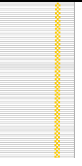
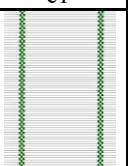
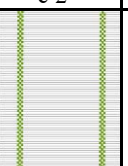


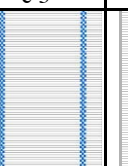

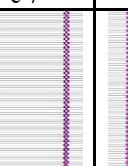
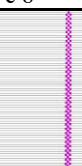
Table 9: Element B: Innovation of piping material and color

							
b1	b 2	b 3	b 4	b 5	b 6	b 7	b 8
							
b 9	b 10	b 11	b 12	b 13	b 14	b 15	b 16
							
b 17	b 18	b 19	b 20	b 21	b 22	b 23	b 24

c. Innovation of the style and the color of the cotton stripes (innovation element C)

The third designing element is the white cotton stripes. With either the two interlacements or the three interlacements, the white cotton stripes are always used to reinforce the curtain and to create a visual attention. Yet, the style lacks change and novelty. The future design should emphasize the function of decoration, and we propose to change the color white for different colors. We chose 16 colors and numbered them from c1 to c16 (see Table 10). This element should match with the color of the curtain, piping, and painting to create a harmonious beauty.

Table 10: Element C: Innovation of the style and color of the cotton stripe

							
c1	c 2	c 3	c 4	c 5	c 6	c 7	c 8
							
c 9	c 10	c 11	c 12	c 13	c 14	c 15	c 16

d. Innovation of way of painting and themes: using paulownia flower as an example (innovation element D)

As we have mentioned in the previous sections, there is little change in the themes of painting for the bamboo door curtains. The quality is also unstable because the paintings are painted by craftsmen. More new themes should be added for the paintings on the curtains, such as the paulownia flower, which has become a symbol of Hakka in Taiwan (Figure 7), and every year the Council of Hakka Affairs encourages people to design different products using the paulownia flower as the theme (Figure 8). Therefore, we propose to use the paulownia flower as the theme for painting in this research. We shall further develop different themes in the future.



Figure 7:
Paulownia flower

We also propose to use the machine to replace the traditional hand drawing. Although the product will lack the individual feature, machines provide better quality and different patterns with high production speed, while solving the problems of insufficient talent for painting and the resultant poor quality.

We propose to use the machine painting as well as to replace the themes of potted plants, phoenix and peony with different patterns of the paulownia flowers. The variation includes: the size of the petals, colors, and arrangement.



Figure 8: Different products based on the theme of the paulownia flower

We list different patterns from d1 to d 12 (Table 11). By combining different elements from element A to D, we can create many different styles for the bamboo door curtain.




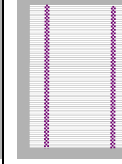
Table 11: Element D: Innovation of the theme of painting

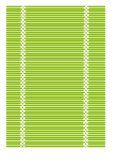

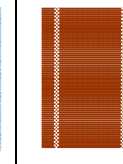
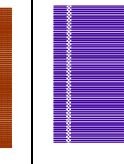
d1	d 2	d 3	d 4	d 5	d 6
d7	d 8	d 9	d 10	d 11	d 12

3.2.5. Step 5: Redesign the style of the bamboo door curtain

After choosing and redesigning the elements of the bamboo door curtain, we will rearrange different elements together to create different styles. If one element is a control variable, the other one will be an independent variable. For example, if the a4 white curtain from the

element A is the control variable, the element C is the independent variable (Figure 9); or if the c1 white cotton stripe from the element C is the control variable, the element A is the independent variable (Figure 10). These combinations will create new designs.

			
$a4+c9$	$a4+c14$	$a4+c4$	$a4+c15$
Figure 9: Element A is the control variable & element C is the independent variable			

			
$c1+a13$	$c1+a17$	$c1+a5$	$c1+a24$
Figure 10: Element C is the control variable & element A is the independent variable			

This theory can be applied to the four elements to design a complete bamboo door curtain. One element will be the control variable, and the other three will be the independent variables. For example, if the piping b25 from the element B is the control variable and the elements A, C, D are the independent variables, we can create different combinations (Figure 11). We can also design different curtains by making element b17 the control variable and the other three the independent variables (Figure 12). In the future, we propose to make a specific element the control variable and the other elements the independent variables to create more different designs. We shall present these designs to the experts in fashion to choose the best designs and divide them in groups. They will finally choose a representative design from each group as the samples for the future survey on customers' impressions.






				
$b15$	$a2+b15+c1+d8$	$a1+b15+c1+d8$	$a13+b15+c1+d8$	$a4+b15+c11+d8$

Figure 11: b15 is the control variable, and the other three elements are the independent variables.






				
$b17$	$a2+b17+c1+d5$	$a1+b17+c1+d8$	$a17+b17+c1+d11$	$a4+b17+c14+d8$

Figure 12: b17 is the control variable, and the other three elements are the independent variables.

4. CONCLUSION

In the past, the bamboo door curtain was an important living craft in the life of the Hakka people in Taiwan. It is also a feature of a traditional Hakka residence with both the practical and decorative functions. This traditional craft gradually declined because of the changes in modern life and the popularity of plastic products. Yet, in recent years, the advantages of the bamboo product have been rediscovered because of the rise of the idea of environmentally friendly products. The growth of the cultural creative industry has also brought new life to the traditional bamboo crafts. In the process of globalization, the boundaries and the distinctions between cultures have been blurred, and a distinct local culture is an important key to preserving the identity of the self. A bamboo door curtain is not only practical but also decorative. Its history represents the close relationship between the Chinese people and the bamboo. The bamboo door curtain is definitely worth developing as a creative industry in Taiwan.

The traditional bamboo door curtain emphasizes its practical function. It is strong but simple and lacks the power to attract young customers. In this study, we proposed innovations related to the design of the curtain, based on the traditions, to make it a practical decoration reflecting the local culture. In order to determine the needs of the customers for the new design, we used Kansei Engineering approach and field research to collect and categorize the samples from the Hakka villages in southern Taiwan. We then chose the representative samples from each category and found the designing elements of the traditional curtain. Finally, we brought innovation to each element, to design different new styles.

In the future, we will divide different bamboo door curtains into groups and choose the representative designs. After finding the Kansei adjectives for the curtains, we will conduct a survey on the impression of the curtains on the part of the customers. The aim is to help the designers understand the preferences of the customers and thus design the products for the customers with these designing elements. We hope that our new designs meet the needs of the market and that they will bring a new life to the declining bamboo door curtain industry. We want not only to extend the life of this industry but also to create a new cultural value for the cultural business in Taiwan.

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