

A Case Study of the traditional crafts' technologies used in sports and leisure products' innovative design-Bicycle product design

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Abstract: Because of the changes of the global market, the whole world's factories are understand the importance of establishing brand. Brand's building is not just "identify" and "serialization" how to make the brand "differentiation" is more important. Using traditional craft industry is a method to develop innovative design products. There are many traditional crafts specialty goods in the market, but they always using impose the traditional craft totem and symbolic imagery on the product, it doesn't really meet the needs of the market. To market my merchandise around the world and create differentiation, how to use traditional craft specialty value-added product value and marketing world, reached localization under the globalization, is worth exploring. In this study, the bicycle company in the Yuanli in Taiwan as the object of study. And proposed product design project about how to combine with " igusa culture " of Yuanli in Taiwan and the develop international cultural product design discuss with the company.

Keywords: *Cultural and creative product design, The igusa culture, Bicycle product design*

1. Introduction

Because of the changes of the global market, the whole world's factories understand the importance of establishing brand. The brand's building is not just "identify" and "serialization" how to make the brand "differentiation" is more important. Using traditional craft industry is a method to develop innovative design products. There are many traditional crafts specialty goods in the market, but they always using impose the traditional craft totem and symbolic imagery on the product, it doesn't really meet the needs of the market. To market my merchandise around the world and create differentiation, how to use traditional craft specialty value-added product value and marketing world, reached localization under the globalization, is worth exploring.

In this study, the bicycle company in the Yuanli in Taiwan as the object of study. And proposed product design

project about how to combine with "Rush culture " of Yuanli in Taiwan and developing international cultural product design discuss with the company.

In this study, we investigating design project by case study, and suggesting about how to use the "the Rush" characteristics to combine with bicycle products.

The main purpose of this study for the following three points:

- 1) Identifying the elements of traditional craft converted to the modern product design.
- 2) Summarizing the above-mentioned elements, and developing the operational mode about traditional craft converted to the modern product design.
- 3) Helping the designer by suggesting how to use traditional process to design cultural and creative value-added product.

2. literatures review

According to the research what had done by the Professor Rungtai Lin. They summed up the process of cultural and creative design can be divided into three steps: to capture cultural style characteristics, to form a design concept mode, and to complete the cultural product design [1]. And point out that designers need to collect characteristics and implications of cultural style, using this symbolic meaning on the product design to create a more strong cultural identity and touched to user.

There is someone else summarizing a table according to Dr. Lin's cultural and creative design mode. It have a detailed content what is including figurative and abstract symbols with and symbolic meaning, and also includes the analysis of the material, color, shape, and design elements. It can be a reference model for posterity who creating the cultural and creative product [2].

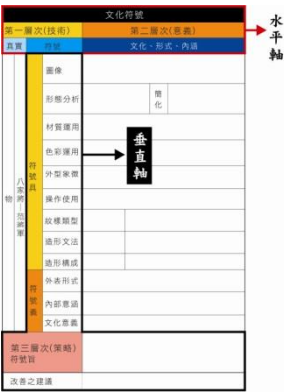


Figure.1 The table is including material, color, shape, and design elements.

3. Methods

The method of this research is case study. The case study is study on one or many case. Hope to find out the laws and rules by data collection and comparative analysis. It’s a kind of logical thinking what looking for a solution [3].

The case of this research is YOUN LIVE INDUSTRY CO., LTD for the object. The YOUN LIVE INDUSTRY

commissioned by Designer design culture and creative product design and developing cultural and creative products by traditional crafts. The research studying company and designer cooperative development the innovative product with a “Action Research” spirit. And analyze and summarize the operative mode of creating a culture and creative product. And finish this research.

4. The Research process

The research recording the meeting of Y.L. industry and designer by case study. The following is the interaction process of owner and designer. To Y.L. industry and designer interaction, for example:

4.1 Owners' demand - Y.L. industry put forward the demand for innovative product development.

Y.L. industry put forward the design demand for designers at first. They hope to use traditional cultural developing creative products of bicycle, and to participate in international competitions. They expect to enhance the company's visibility and to create brand value. And then, designing the products what have functionality and usability. We like to take this help the development of local culture ,and produce the cultural and creative commodities which possess the market value.

4.2. The traditional culture which owners think to be suitable for development.

Because of Y.L. industry is located in Yuanli, and the most famous traditional craft industry is a hand-woven Rush. Therefore, Y.L. industry wants to cooperate with the local culture industry. They combined the bicycle industry with the characteristics of hand-woven Rush. And further to develop the cultural and creative commodities which have characteristics, and develop the brand of the company's corporate culture, in order to build brand value.

4.3. Concept sketches' development

According to the request of the owners, designers put forward several bicycle peripheral products which combined with the material characteristics of Rushes and enhance product usability. Based on the material characteristics such as "skin-friendly", "moisture wicking", and "good air permeability" of Rush, designers applied them to the product design which is often in contact with people.

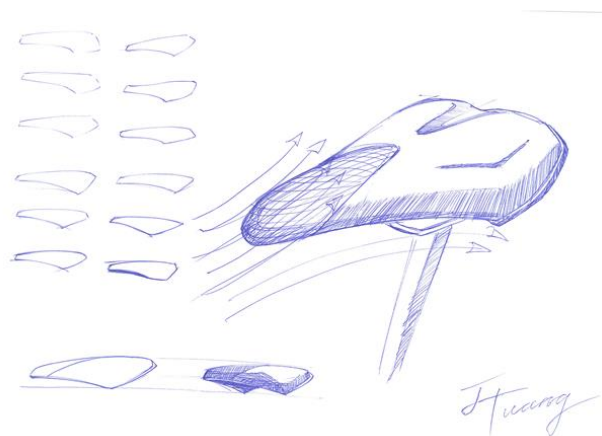


Figure.2 The design using Rush' “breathability” and its “moisture wicking” in bicycles seats what is a new application. Reach a breakthrough product features and effects.

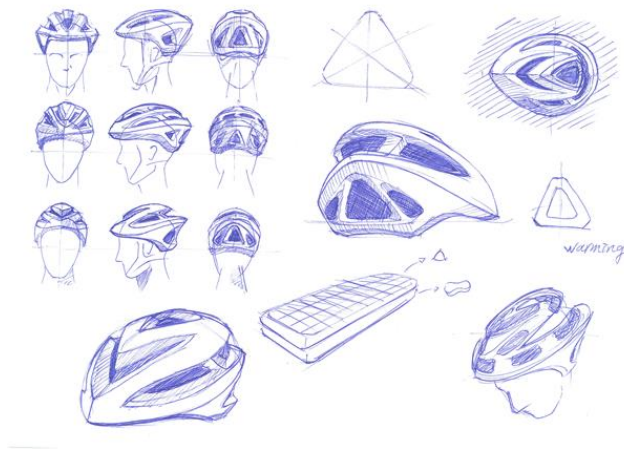


Figure.3 Designers not only used the Rush material instead of the original sponge material, but also took its triangular shape imagery for entire helmet design. And applying the concept of symbolic meaning to give symbolic significance, he gave the triangular shape imagery a meaning what is enhancing into warning for safe.

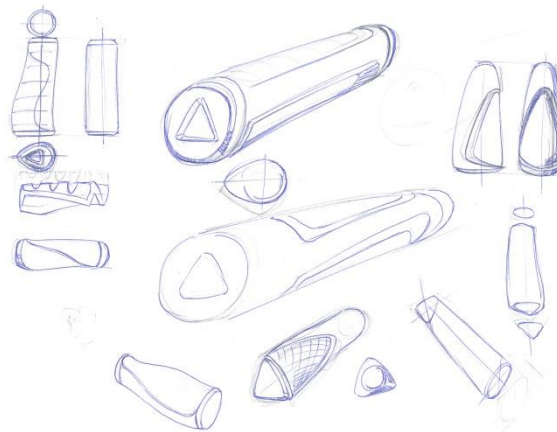


Figure.4 Designer used Rush on the handle design of bicycle, because it is the most direct contact with human skin. Designer consider the characteristics such as "moisture wicking" and "be afraid of sunlight" of Rush, they combined Rush with bicycle handle's backlight surface. Simultaneously, they designed the triangular logo outside the handle, and combine the triangular symbolic significance with the company's image symbol to increase brand recognition.

4.4 3D modeling Render

Y.L industry have discussed and selected the bicycle handle design at last. They have took into consideration the factors of cost and cooperative manufacturers, and selected this design to participate in international contest to develop the Yuanli's Rush culture.



Figure.5 Widening handgrip with ergonomic design, and increased the support for body when riding.



Figure.6 The trapezoidal block of Rush material was designed in accordance with the fingers grip to increase comfort.



Figure.7 Used dark red rubber blocks to match with the black rubber material, not only implies grip also increase the beauty and characteristics.

4.5 Participate in international Contest

Participating in the international design contest in order to show the achievement of design to the owners, to

increase the visibility of the industry, increasing the effect of used culture design to add the value of brand, and look forward to success.



Figure.7 Participating in the iF International Design Competition.

5. Analysis

According to case study of this research, the material which designer needs and its scenarios range of application should be comply with the manufacturers requirements. Designers should identify the needs of users according to user scenarios, and what interface may be applied this material. And then designer can develop the characteristics of the material according to the users' needs.

The interface of the application will be different according to user scenarios, the judgment must be made according to the using scenario. Finally, designer uses modeling semantics according to user's usage scenario what can imply users about product features and establish the brand image.

When we setting and selecting design elements of cultural and creative commodities, we must investigate cultural appearance and meanings at first, then collect and analysis the information about the cultural attributes such as "visible", "invisible", "material", "behavioral level", "rituals and mores", "ideologies", and "spiritual dimensions" (Rungtai Lin · 2005). So, we can select the cultural images which can touch designer and users. And apply them to the cultural and creative commodities design.

The designer must pay attention to application level of designs when uses cultural imagery apply to cultural and creative product design. Because that is not only apply to surface-level modeling, and must focus on the spiritual-level of the consumer experience and touch their heart. Then you can enhance the quality and value of cultural and creative product design.

6. Conclusion

1) The elements that must pay attention when designers using traditional craft converted to the modern product design. There are the characteristics of the traditional craft, the special materials of traditional craft, and the limitations of materials in the traditional craft's part. And when designer uses the design of modern products, must

pay attention to the using scenarios, user needs, and specification limits of product. Combine of these all in order to perfect the design of cultural and creative product design.

2) Summarizing the relationship between all elements and corresponding to Dr. Lin's conclusion of his study, summed up the cultural and creative design can be divided into three step: First capturing the the culture style features what is the traditional crafts characteristics and material limits; Second forming a design concept mode what is using scenarios and user needs setting; And last finished the culture and creative product design.(Lin, 2005) Based on these we can develop the operational mode of traditional crafts converted into modern product design.

3) We are proposing the design workers who is designing the practical application, which is applying the traditional crafts to cultural and creative product value-added design, should focusing on the application level of designs. That is not only design on the surface-level application, but also focus on the spiritual-level of the consumer experience and touched. Then we can enhance the quality and value of cultural and creative product design.

4) The research is the result of action case studies and expert interviews, there is still need to make quantitative analysis and a more in-depth discussion in the follow-up research.

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