FACTORS AFFECTING CUSTOMER CHOICE OF PRODUCTS IN TERMS OF COLORS IN CHENGDU, CHINA

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Abstract: The purpose of this research is to develop a better understanding of Chengdu customers’ choice of products in terms of color through an analysis of a series of variables and their relationships with one another. These variables include: Chinese attitude toward color; color of packaging; color of the main product; color of ambience; and color of logo. This study examines the impact of color on customer choice in the context of the retail industry in China. Data are gathered from 600 distributed questionnaires among respondents, who purchase products at one of the five supermarkets selected for the survey in Chengdu. The results show that four factors, attitude toward color; color of packaging; color of the main product; and color of ambience can affect Chengdu customer’s choice of products. The result regarding the color of the logo indicates that there is no relationship between color of logo and customer choice. Thus, the four effective variables in designing a product lead to customer satisfaction and will eventually increase the bottom line of companies.

Key words: Customer Choice, Color, Packaging, Ambience, Logo, Attitude toward Color

1. Introduction
With the move to the self-service retail format, color has increased its key characteristic as the salesman on the self at the point of sales. For both frequently purchased durable product (like soft drinks and biscuits) and infrequency purchased durable products (like automobiles and houses), customers are faced to large variety of choices (Garber, Burke and Jones, 2000). This is all the more true as modern customers are often looking for ways to reduce time spent on food shopping and preparation. It is therefore necessary for marketers to build up a good understanding of their customers and explore what exactly it is that attracts them to a particular product.

Nowadays the technical functionalities of many daily necessities have almost reached their limits. What this means is that these products can no longer be distinguished by means of their functionalities. One way to distinguish them is the color incorporated with the product design. Color can also represent an opportunity for differential advantage in the market place (Kotler & Rath, 1984). As Ruth and Carol (2000) argued, the critical importance of a product design is growing in competitive market conditions; so much so that a product can become a primary tool for communication. Two features, color and emotional aspects of the product design, are becoming increasingly important as they can determine whether a person likes a particular product.

Color is generally defined according to three dimensions: shade, light, and saturation (Divard & Urien, 2001). Color can be used to differentiate companies and products. The red color stimulates appetite because of its effect on our metabolism, making red a popular color choice among fast-food restaurants, for instance, the Kentucky Fried Chicken and the Pizza Company. The yellow color is also used by fast-food moguls to hijack customers’ interests (Kido, 2000). When it comes to yellow fast-food, everybody will immediately think of McDonald’s. By using colors, those companies can build up their own association and help their customers locate their products (Heath, 1997).

This study focuses on color and its impact on customer choice. Specifically, it looks at color as a factor affecting consumer choices in the context of the retail industry in China; big supermarkets in Chengdu, a large city located in Sichuan, China.

The Supermarket industry in China is part of China's retail trade sector and is primarily engaged in retailing a broad range of food and daily goods. Most of the goods carried by supermarkets are purchased from domestic manufacturers. This sector has been one of the world's fastest growing one with huge increases in the number of supermarkets and in

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product consumption. According to NBS of China, the Chinese Chain Store and Franchise Association, the number of Chinese supermarkets skyrocketed from just one outlet in 1990 to approximately 60,000 today, with an estimated RMB 587.17 billion in sales in 2003 up to RMB 1.66 trillion by 2010.

The Chinese supermarket industry continues to develop rapidly. The sector is also beginning to witness aggressive consolidations as larger operators are swallowing up smaller players. Moreover, foreign supermarkets and hypermarket chains, such as Carrefour and Wal-Mart, have already entered the Chinese market. As a result, room for expansion is now somewhat limited as compared to a decade ago.

The concept of color plays a particularly significant role in Chinese culture as various colors are considered auspicious or inauspicious. The Chinese character for color is 颜色 (yánsè). In ancient China, the character actually meant ‘color of the face’ (顔 means the face and 色 color). However, during the Tang Dynasty, color began to refer to all colors (Michael, 2000).

In spite of limitations due to time and financial constraints this research will be beneficial to all the practitioners whose understanding of the role of color in Chinese society and in terms of customer choice of products is especially relevant to their professional activities. This research may also be seen as an initial attempt to understand Chengdu customers’ choices.

This article will first review the related literature and consider the research framework and methodology applied. It will then report the findings of the investigation and discuss them.

2. Literature Review

In this section, we review various theories and models related to this study in order to construct a conceptual framework. Consumer choice processes can be habitual, and based on such habits as brand loyalty or inertia. It has been highlighted that a large number of choices are, in fact, based on habitual behavior (Schreiber, 1994). However, small variations of color may lead to differing marketing. Color cards or color samples are often used to carry out color research and subjects are expected to tell color preference independent of the object conventionally. Given the role of color in the consumer choice process, the concepts considered next hinge upon the notion of color.

- **Attitude toward Color**

An individual’s attitude toward a behavior is determined by beliefs about the consequences of the behavior and the individual's evaluation of the consequences. As for color, the attitude of an individual toward color will affect the choice by the person of any product bearing that particular color (Birren, 1983). Spranger (1928) identified six attitudes: theoretical, utilitarian, esthetic, social, individualistic, and conventional. These attitudes are types or windows through which we perceive the world and seek fulfillment in our lives. Many enterprises in China have recognized the importance of color which helps customers choose products amid a wide range of similar products, and at the same time stimulates customers' buying behavior. However, this has not yet carried out in large-scale marketing to influence the purchasing decisions of customers’.

- **Color of Packaging**

The primary function of packaging is to protect the product against potential damage while transporting, storing, selling and exploiting it and to ensure convenience during performance of these activities (Gonzalez, Thorhsbury & Twede, 2007). Since supermarkets contain thousands of products, one shelf will often display dozens of similar products. The color provides a first impression to customers. It was proposed by Underwood, Klein and Burke (2001) that the color of packaging will have an impact particularly when it comes to less familiar brands. Good looking packaging color can help to carve a particular value in customers’ minds. It can be considered as an integral part of the product and is the first point of contact with the brand for a consumer product (Rundh, 2005).

- **Color of the Main Product**

Danger (1969) defined the color of the main product as every product having its own color before it gets packaged. There are products whose main color usually cannot be used directly as it is without any decoration but many are not so. Although the number of published empirical studies of the main product color within the field of marketing is
limited, colors have been examined extensively and reported in the field of psychology (Belizzi & Hite, 1992). Those studies have mainly focused on color preferences and the association of colors (Taft, 1997).

- **Color of Ambience**
  Ambience, as defined by Collins (2002), is a feeling or mood associated with a particular place, person, or thing. It is an attempt to design buying environments towards generating certain emotional effects in the consumer that enhance purchase probability (Kotler, 1973). Ambience is the conscious designing of space to form effects in buyers. The color of ambience and the color of atmosphere influence customers in the point of sales the same way.

In their article “An empirical study of product's appearance color factors in China,” Geng, Yao and Ji (2005) investigated how a product's original color, original form, the environmental impact and demographic factors influence the customer choice in the instant of time he/she makes up his/her mind. The environment impact was found to directly influence the customer choice.

- **Color of Logo**
  Collins (2002) defined logo as a special design that identifies a company or an organization and appears on all its products, printed material, etc. Furthermore, it is also a representation of a company’s name, brand value, history and it expresses what company offers to customers. Colors play an important role in logos in that they stimulate feelings and create lasting associations in the memory (Khalid, 2005). Colors offer an instantaneous method for conveying meanings and messages in logos. In short, color is probably the most powerful non-verbal form of communication. It is therefore critical for marketers to use color appropriately and understand the meaning behind the colors which customers choose; all the more in the Chinese context, where, as we mentioned earlier, colors have either strong positive or negative connotations.

3. **Conceptual Framework**
   The conceptual framework is based on the various concepts and theoretical frameworks that have just been considered. As a result, the following five variables are used to describe the factors affecting customer choice of products in terms of: color, attitude toward color, color of packaging, color of the main product, color of ambience, and color of logo. Obviously, given the purpose of this study, these five variables are necessarily linked to color. The variables have been categorized as follows:

**Figure 1 - Adjusted Conceptual Framework of Factors Affecting Customer Choice of Products in Terms of Color in Chengdu, China**

Since this research attempts to investigate the factors related to supermarket shopping, the hypotheses developed aim to specify the relationships between the five factors affecting customer choice of products in terms of colors. A total of 5 hypotheses were used for this study to illustrate the correlations between the independent and dependent variables:

Hypothesis 1: There is no association between attitude towards color and customer choice.
Hypothesis 2: There is no association between color of packaging and customer choice.
Hypothesis 3: There is no association between color of the main product and customer choice.
Hypothesis 4: There is no association between color of ambience and customer choice.
Hypothesis 5: There is no association between color of logo and customer choice.

The measurements for appraising and confirming the relationships among the posited factors leading to color appearance and customer choice at supermarkets will be discussed next as part of the research methodology.
4. Research Methodology

The survey technique was used to collect data from respondents. Zikmund (2004) defined a survey as a research technique in which information is gathered from a sample of people who answer the questionnaires; or a method of data collection based on communication with a representative sample of the target. Moreover, a survey provides a quick, inexpensive, efficient, and accurate means of assessing information about the population. So in order to collect data, the researcher distributed questionnaires to customers at various supermarkets in Chengdu.

The researcher also used secondary data from articles and journals related to this research. According to the 2009 Chinese Consumer Survey Report (CCSR), with the development of a supermarket culture, Chinese people have become quite accustomed to shopping in supermarkets. It is estimated that at least 80% of Chinese people often shop at supermarkets. Today, supermarket shoppers represent the largest group among the Chinese shopping force. Sekaran (1992) defined a “population” as the entire group of individuals willing to share a set of traits and interests. Consequently, the target population in this study, i.e., the specific complete group relevant to the research, consists of Chengdu-based people shopping in various supermarkets in the area.

99FANG, the largest real estate information service provider in Chengdu, provided the ranking of supermarkets in Chengdu in 2011. Five large supermarkets were selected based on location, size, customer flow, and product categories: Carrefour China, Trust Mart, Ito Yokado, Ren Ren Le, and Hong Qi. People shopping in either one of these five supermarkets were chosen as sample.

A sample is a subset, or some parts, of a larger population. The people sampled in this study were people shopping in either one of the five selected Chengdu supermarkets during the October-November 2011 survey period. Each customer represented a sampling unit of this study. A sampling unit is defined as a single element or group of elements subject to selection in the sample (Zikmund, 2004). The non-probability sampling technique procedure was selected for the sample unit. Non-probability sampling is defined as a sampling technique in which units of the sample are selected on the basis of personal judgment or convenience; the probability of any particular member of the population being chosen is unknown (Zikmund, 2004).

To determine the sample size of this survey, references were made to previous studies. According to Zikmund (2004), studies that are similar could provide a comparison and help the researcher determine the sample size for the study. Debby, Nelson, and Ndubisi (2006) surveyed 262 respondents to examine the relationship among attitudes towards color, color attractiveness, normative color, color preference and gender with product choice. Bytyqi, Klemetsdal, Odegard, Mehmeti and Vegara (2005), who investigated consumer choice in regard to dairy products in Kosovo, conducted 1074 interviews in supermarkets (677) and mini-markets (397). Another 23 interviews were conducted at a green produce market. Joseph and Robert (1992), who studied environmental color, consumer feelings, and purchase likelihood in the USA, analyzed 170 questionnaires collected through a local Parent-Teacher Organization (PTO).

In their study of “motivation factors of gender, income and age on selecting a bottle of wine,” Nelson, Donovan, and Almanza (2006) used a total of 1,000 self-administered questionnaires handed out to customers of 5 wineries. Geng, Yao and Ji (2005) based their study, entitled “An empirical study of product’s appearance color factors in China,” on 1067 questionnaires collected from actual customers of department stores in Shanghai. Finally, to determine the impact of ad background color on brand personality and brand preferences, Gonzalez (2000) surveyed 73 undergraduate students from California State University.

Based on these previous studies, the questionnaire was distributed to a total of 600 respondents; all people shopping at either one of the five supermarkets selected for the survey in Chengdu.

The questionnaire includes four parts and twenty-five items in total. Three parts use a five-point Likert-scale, ranging from “strongly agree” to “strongly disagree”. “With the Likert-scale, respondents indicate their
attitudes by checking how strongly they agree or disagree with carefully constructed statements that range from very negative to very positive toward the attitudinal object” (Zikmund, 2004).

All the data collected was summarized and analyzed in a readable and easily interpretable form using the Statistical Package for Social Science (SPSS). The data was coded into symbolic forms with SPSS software after being selected from the respondents. In this analysis, the researcher used Pearson Product Moment Coefficient Correlation.

5. Results and Discussion

Based on the outcomes of the descriptive analysis, the demographic characteristics of the collected sample are as follows. Firstly, females constitute the majority of shoppers at the supermarkets surveyed in Chengdu, accounting for 66% of the total respondents. Male shoppers represent only half of the female respondents, accounting for 34% of the people sampled.

Secondly, a majority of the respondents fall into the 18 to 45 years old category. Those between 26 and 35 years old account for 34% of the valid samples. And respondents between 36 and 45 years old represent only 16% of the total 600 valid sample.

Thirdly, with regard to the level of education of the respondents, the latter fall into four specific groups. Respondents with education below a bachelor degree constitute the largest group, accounting for 48% of the total 600 valid sample. Those with a master degree account for 6%. Respondents with a doctoral degree and above also account for 6%.

Fourthly, a majority of the people shopping at the supermarkets and surveyed are married, accounting for 58% of the total respondents. Single shoppers account for the rest, 42% of the total sample.

Fifthly, respondents under the ‘other occupations’ category form the largest group, accounting for 52% of the total. Those working as government officers and entrepreneurs fall into the lowest groups, each accounting for 14% of the total respondents.

Sixthly, in terms of monthly income level, most respondents fall within the RMB 1,001 to RMB 4,001 and above range (US$ 159 to US$ 635), accounting for 98% of those surveyed. The group with the lowest frequency is the group with the lowest income level at only less than RMB 1,000 per month (US$ 159). It represents a low 2% of the total sample.

As to the monthly shopping frequency of the respondents, the group with the highest frequency (1 to 5 times per month) accounts for 72% of the total respondents. Those with a shopping frequency of more than 10 times rank the lowest. They account for only 6% of total respondents.

Hypothesis testing shows that four out of a total of five null hypotheses are rejected at a .01 significant level. One null hypothesis fails to reject.

Each hypothesis was analyzed using the Pearson’s Product Moment Correlation Coefficient to determine whether there were statistically significant relationships between the color appearance factors and customer choice.

As the result of Hypothesis 1 testing indicates, the correlation coefficient equals 86.1%, which is the highest value in the hypothesis testing. This finding is in keeping with a similar study conducted by Debby, Nelson and Ndubisi (2006), which concluded that attitudes toward color and product choice have a positive relationship. Attitude toward color has also been associated with the color in the store as determined by a study by Joseph, Ayn and Hasty (2001).

The value of Hypothesis 2 is equal to 50.3%, which shows that there is a moderate and positive relationship between the color of packaging and customer choice. This finding is consistent with Khalid’s (2005) study which shows that color of packaging and customer choice have a moderately positive relationship. It suggests that attractive packaging colors can draw customers. Customer likes colored packaging. It also implies that by using attractive colors in packaging, marketers can grab customer attention.

The result of Hypothesis 3 testing shows that the correlation coefficient equals 66.3%, indicating that there is a moderate and positive relationship between the color of the main product and customer choice. This finding is consistent with Geng, Yao and Ji’s (2005) study which has determined that the color of the main product (the product’s original color) and customer choice have a moderately positive relationship.

As to Hypothesis 4, the result points to a...
correlation coefficient equaled to 65%, which shows that there is a moderate and positive relationship between color of ambience and customer choice. This is in keeping with Ayn, Crowley, and Hasty (2001) who found that color is associated with physical attraction. Their study suggests that color can have a customer-drawing power as well as image-creating potential in retail store design.

This study failed to identify the influence of the color of logo on customer choice. As the result of Hypothesis 5 testing indicates, the correlation coefficient is equal to 7.8%, which shows that there is no relationship between the color of logo and customer choice.

**Conclusion and Recommendations**

The results show that all null hypotheses are rejected, except for the color of the logo. Although the color of the logo was not fully identified by the participants to the research, the contribution of other variables in explaining how some factors can affect customer choice of products in terms of colors in Chengdu remains significant. It plays a crucial role in the effective communication of the right message and mood. Particularly, the significant influence of Chengdu customers’ attitude toward color on customer choice was viewed as the most critical finding of this research. The statement “Successful color matching can lead me to buy the product” has the highest mean 4.80, followed by “I believe the product value will change when the color of the product changes” with a mean of 4.00. The lowest mean, 3.90, comes from the statement “Color is the key aspect for me to distinguish similar products.” This shows that the attitude toward color positively influences Chengdu customers’ choice.

The colors of packaging and customer choice have a moderate and positive relationship, suggesting that attractive packaging colors can draw customers. Clearly, customers like colored packaging. By using attractive colors in packaging, marketers can grab customers’ attention.

Another important finding in terms of customer choice is the color of the main product. Using suitable colors to present the main product can grab the attention of customers. For example, most fast-food restaurants use red and yellow colors as those colors stimulate people to eat quickly and leave, and that's exactly what this kind of restaurants want. All colors have some kind of influence on our behavior and marketers must know what kind of behavior the color-encoded message will provoke.

The third important finding of this research is the significant impact of color of ambience on Chengdu customers’ choice. As the results of the hypothesis testing show, color of ambience had a big impact on Chengdu customer choices.

The study failed to determine the influence of color of logo on customer choices, indicating that there is no relationship between color of logo and customer choice. What can be concluded from this finding is that if a Chengdu customer intends to buy a particular product, the color of the logo for that product is unlikely to be one of the factors that will affect his/her choice. So marketers may want to improve their brand logo recognition strategies so that the logo color may play a role in customer choices.

The findings suggest that manufacturers, marketers and anyone else concerned should do the following to positively impact their customers’ choice: they should design and make more marketable products so as to capture more customers and thereby increase their profits. Satisfied customers would be willing to repeat shopping at these supermarkets and introduce them to their friends and families by giving them positive information about them. Meeting these needs supposes in turn that manufacturers and marketers obtain information about the customer themselves. Such data will affect customer choice as well as the manufacturers and marketers’ ways of designing colors. For example, it is advisable to have different colors to represent different taste of candies. So, manufacturers, marketers and anyone else concerned should offer abundant color choices to customers and provide competitive product prices. The ability to compare products will allow customers to gain material benefits. From a manufacturer standpoint, understanding this factor should be relevant to design and produce more marketable products and grab prospective customers, which would generate more profits.

Third, since the color of the main product cannot be used directly as such without any decoration, producers should confer them new kinds of colors. These colors should also be the means of attracting customers (Geng, Yao...
This is especially important as nowadays the technical functionality of many products have almost reached its limits. Most of them can no longer be simply distinguished by means of their functionalities. Moreover, supermarkets contain thousands of products. One shelf will often display dozens of similar products. Color provides a first impression to customers. Under non-brand and non-habit purchase circumstances, appropriate, practical and aesthetic colors will attract customers and increase the likelihood that they shop at the supermarket.

Fourth, it is also important for all those concerned to expand more efforts on the shopping ambience design and make shopping more enjoyable. The ambience in which a product is purchased can be significant in terms of influencing part of or the entire product. For example, it is advisable to use pink color in the shop when marketers want to take advantage of a client's caring and romantic side. Colors may strongly influence product image and shopper's behaviors.

Lastly, the color of logo concept should be explored to a greater extent, given that, as this study shows, there is no relationship between color of logo and customer choice. Manufacturers, marketers and anybody else concerned should strive to develop ways of convincing customers to purchase a product through logo color recognition.

- Recommendations for Further Studies

This research should be stretched to broader environmental settings in the future. To improve the regional limitations (the research was only conducted in urban areas of Chengdu), the research model developed should be applied in multiple cities in China, and in urban, suburban, and rural areas. According to the National Bureau of Statistics of the People's Republic of China, China is a large agricultural country with a rural population of more than 745 million people, accounting for 57% of the whole Chinese population. So it is important to find out about rural customers.

In addition, more research on color should be conducted to further determine its strength as a factor in customer choice.

Finally, to increase the theoretical and practical contribution of the model developed in this research, an examination of visible and specific products and brands is needed.

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