

Middlesex University Research Repository

An open access repository of

Middlesex University research

<http://eprints.mdx.ac.uk>

Sun, Yang, Cai, Huifen (Helen) ORCID: <https://orcid.org/0000-0002-5893-8291>, Su, Rui ORCID: <https://orcid.org/0000-0003-0963-6817> and Shen, Qianhui (2019) Advantage of low quality in short life cycle products. *Asia Pacific Journal of Marketing and Logistics*, 32 (5) . pp. 1038-1054. ISSN 1355-5855 [Article] (doi:10.1108/APJML-03-2019-0148)

Final accepted version (with author's formatting)

This version is available at: <https://eprints.mdx.ac.uk/27849/>

Copyright:

Middlesex University Research Repository makes the University's research available electronically.

Copyright and moral rights to this work are retained by the author and/or other copyright owners unless otherwise stated. The work is supplied on the understanding that any use for commercial gain is strictly forbidden. A copy may be downloaded for personal, non-commercial, research or study without prior permission and without charge.

Works, including theses and research projects, may not be reproduced in any format or medium, or extensive quotations taken from them, or their content changed in any way, without first obtaining permission in writing from the copyright holder(s). They may not be sold or exploited commercially in any format or medium without the prior written permission of the copyright holder(s).

Full bibliographic details must be given when referring to, or quoting from full items including the author's name, the title of the work, publication details where relevant (place, publisher, date), pagination, and for theses or dissertations the awarding institution, the degree type awarded, and the date of the award.

If you believe that any material held in the repository infringes copyright law, please contact the Repository Team at Middlesex University via the following email address:

eprints@mdx.ac.uk

The item will be removed from the repository while any claim is being investigated.

See also repository copyright: re-use policy: <http://eprints.mdx.ac.uk/policies.html#copy>

Advantage of Low Quality in Short Life Cycle Products

1. INTRODUCTION

The tradeoff between quality and price is always a matter of great interest in the literature. From consumer's perspective, they would like to have a product with high quality at a low price (Dodds et al., 1991; Alfred, 2013; Shirai, 2015). However, it is costly for companies to make high quality products. Another interesting fact is that other factors than prices play an important role in driving consumer purchase behavior. Homburg et al (2015) have found that product design, corporate culture and brand can induce consumers to pay a high price for a low quality product. Despite this is an interesting phenomenon, there is a lack of research on low quality advantage (Schubert, 2016).

In this paper aims to discuss how the configurations of low quality, design factors and price influence customer purchase intention on short lifecycle products. Our main proposition is that consumers may purchase a new product to replace the old one before it has problems. Fashion and technique industries are the representative industries for fast product updating (Zhou et al., 2015). Fast product updating means the products or technique are updating rapidly which may lead the products design with a short lifecycle. Currently, fast fashion items and electronic products are more popular among the young generation. When it comes to fast fashion, "Here today, gone tomorrow" is a strategic view of fast-fashion retailers, increasing store visits. Customers purchase clothes more frequently and increase companies income (Bhardwaj and Fairhurst, 2010). Thus new designed cloth are published at a very short time which stimulates consumer purchase impulses (Foroohar and Stabe, 2005), which means customers will have many idle fast

fashion products at home. This makes fast fashion products have a short lifecycle. In the case of most electronic products, the lifecycle is 1-2 years or even less and developing technology has accelerated the reduction of the electronic product lifecycle. The above proves that fast fashion products and electronic products have a fast product update speed. Thus, many enterprises are unable or unwilling to incur high costs with frequent updating and replacement, so usually they decide to produce low quality products to cut down some of the cost.

Overall, our study provides further insights into the link between customers' purchase intention and product quality. In addition, we find that product's price and design play an important role in customers' acceptance of low quality products. As such, enterprises can still convince customers to buy low quality products by setting an appropriate price and design. For this reason, this paper has significance for fast fashion enterprises, and electronic industries, as well as for other industries.

2. LITERATURE REVIEW

2.1 Short Life Cycle Product

Gan et al, (2015) notice that rapid innovation and development in technology is that main driver of short life cycle products. For instance, the life cycle of new smart phones and fast fashion products are short and the price changes over time. Companies frequently have new ideas to offer new models with the latest technology and popular style. However, the launch of new products has great influence on the price of the old ones (Zhou et al, 2015). Helo (2004) holds the view that product life cycle is significantly curtailed by rapid

technological improvement, accompanied with fashionable design, which attract more frequent purchases of new products. Likewise, Hsueh (2011) show that that product life cycle in technology based industry is shorter than ever before, due to technology improvement, and consequently, an archaic product could be abandoned even though it is still in good condition. Finally, as for fast fashion products, short life cycle product is a more important factor, because fashion changes over time, so fast fashion products more easily go out of fashion. Sometimes the old product is just out of fashion, which is another reason that customers will not continue to use it.

2.2 Low Quality Product

Product is the most important element that brings value to the customer. What products can bring to customers is not only their function, but also service, design, brand name and packaging, all these intangible values will improve customers' perception of product quality. A product's quality is related to customers' satisfaction level, because it has great influence on the product or service performance, and customers will perceive it directly after using it. Product quality is also essential for marketers to position products. Consumers today are demanding higher product quality so that they can save more time and energy.

In relation to the electronics industry, especially smart phones and computers, product quality is the most vital factor for the choice of each product brands especially in a market environment where the industry competition is focused on price (Alfred, 2013). Nevertheless, it is rather hard to meet different customers' expectations on quality because

of their varied and inconsistent understanding of it. Others believe that high quality products deserve a high price, and low price means low quality. While some customers think that they are more willing to buy high quality products with low price. The influences of economic, technology, social and cultural factors are major reasons for different quality perspectives among customers (Dabade and Wankhade, 2006). In order to give a better perception of product quality to customers, it is necessary to learn about quality perceptions and to understand on quality gap's from the customer's point of view, between 'how things ought to be' and 'how things are' (Alfred, 2013). This is due to the nature of quality perception itself, which involves multiple feelings including social, cultural, economic and technical aspects (Dabade and Wankhade, 2006). This result can thus be used to compare "actual performance" with "perceived requirements" to find differences that can be immediately improved.

In addition to the product quality perception, the low quality advantage is also an attractive point for companies to reset their product strategy according to quality-price based targets. The low quality advantage can be defined as the situation where the low-quality firm realizes a larger market share and earns higher profits than its top-quality competitor (Schubert, 2016). It has been proved that many firms achieve success via serving the mass of consumers with low-quality products (Schubert, 2016).

2.3 Product Design

Product design is an integrated output of a company. It is also a direct perception of customers who judge whether the product meets their preference or not. It is the first interface between users and a product, and consequently the brand (Mishra, 2016). From

the point of consumption contexts, there are still few studies that connect the model effect of product design with consumption experiences (Luchs and Swan, 2011). A well-designed product will create extra meanings and experiences for customers, as users translate some specific attributes of products into their intrinsic perception (Gutman, 1982; Hekkert and Leder, 1998). There a special or meaningful design provides more reasons for customers to buy and keep a product. The means-end theory entails that the subjective interpretations that customers have will help users attain values, and give them a positive experience or an enhanced attachment to the brand (Graeff, 1997). Additionally, studies of consumer based brand equity clarify benefits via product attributes and resultant user experiences, which are antecedents of brand image and brand associations (Keller, 1993). Thus, there is quite strong theoretical support for exploring the connection between product design and customers' perception of it. Hence we want to find out how product design can influence customers' purchase intention towards low quality products.

Product design is also a source of competitive advantage for companies (Gemser and Leenders 2001; Noble and Kumar 2010). After acknowledging that product design can increase customer install base and consequently increase company profit (Candi 2010; Hertenstein et al., 2005), entrepreneurs notice that product design is a significant element for a company's success, particular in today's marketplace, because product design has been an iconic approach of product differentiation (Homburg et al, 2015).

Based on Homburg et al's (2015) theoretical framework of product design, the concept is based on four elements. In this paper, the measurement of product design is linked with customer subjective constitutive perception of the product. It is a multilevel concept constituted by these four dimensions: aesthetics, functionality, symbolism and high fashion

ability (Homburg et al., 2015; Kim et al., 2013). As some of these are visual and some are non-visual, we measure product design from both perspectives. In the following we describe these four design dimensions in more detail.

The first is aesthetics. It refers to appearance and beauty that customers perceive in a product (Bloch 2011; Desmet and Hekkert 2007). Aesthetics is also defined as an attribute of the product itself, created in the eye of the beholder, or a combination of these two options (Reber, et al., 2004). The aesthetics dimension is subjective, judged by for customers themselves. Thus, we choose the product design as a combination of the attributes of the product itself as well as created in the eye of the beholder to correspond to a the multilevel definition of product design: product design is property of a product has that leads to a perception of beauty for the beholder (Leder et al. 2004). Thus, we put forward a proposition that:

Proposition 1: Product aesthetics affects consumer purchase intention on low quality products.

Second, as to the functionality dimension, this dimension indicates the consumer's perceptions of a product's ability to achieve its purpose (Bloch 2011; Boztepe, 2007). We acknowledge that for certain such as a car, the function can only be properly evaluated when it is consumed or used. However, in many cases, consumers can only evaluate the functionality of a product through observation (Hoegg and Alba, 2011; Radford and Bloch, 2011). This perception is particularly important for online stores, where consumers do not have the opportunity to fully experience the product (Spears and Yazdanparast, 2014). Thus, we conjecture that:

Proposition 2: Product functions affects consumer purchase intention on low quality products.

The third dimension is symbolism. The symbolic dimension refers to consumers' perception messages that convey the consumer's self-image to consumers and others based on visual elements (Aaker 1999; Belk 1988; Bloch 2011). The symbolism of the product can evoke different connotations, including associations with a place or time (Creusen and Schoormans, 2005). It can also be used to express personal values and tendencies or to form the customer's own identity (McCracken 1986). Symbolism is an important dimension, because aesthetics and functions do not fully capture product design (Bloch 2011; Rindova and Petkova, 2007). For example, the aesthetic and symbolic dimensions may conflict, as in the case where "people who like the colorful design [aesthetic dimension] may not buy it because the product may look 'too naive' [symbolic dimension]" (Creusen and Schoormans, 2005). In addition, the symbolic dimension is "as important as the utilitarian view" (Verganti, 2008) because products often reflect the consumer's desire to express their self-extension (Belk 1988; Holt 1997; Kleine et al., 1993). So, based on these literatures we know that:

Proposition 3: Product symbolism affects consumer purchase intention on low quality products.

The last one is high fashion ability. Such products cannot be used for more than one or two seasons (Kim et al, 2013). This is an unmet expectation when the fast fashion market matures. Fast fashion brands have attracted many mass-market consumers through various fashion products and spacious stores, but there have also faced many problems and weaknesses. The overly trendy dimension is manifested in the following two aspects: the

product style is too trendy to be used for a long time, or the product style is too sensitive to the changing trend. Consequently, we hold the view that:

Proposition 4: Product high fashion ability affects consumer purchase intention on low quality products.

2.4 Price

An important feature that economic research tends to ignore in the price instrument literature is the price signal as consumer information about product quality (Zeithaml, 1988; Panzone, 2012). In fact, the price of consumer market not only conveys the amount of payment, but is also a recognized quality signal (informational role). For decades, the relationship between price and perceived quality has been widely documented in the market literature (Monroe, 1973; Rao and Monroe, 1989; Kirmani and Rao, 2000; Rao, 2005). According to these literatures, under the implicit assumption that there is a positive correlation between price and supply cost (and hence quality), consumers use prices to rank products when quality is difficult to assess in advance. In addition, the price is such a strong quality cue that it will significantly affect the performance of the goods even in the consumption process (Shiv et al., 2005), while the more expensive goods will provide higher satisfaction. Specifically, consumers tend to use price to hierarchically rank products by quality (Rao, 2005).

According to Wu and Gaytán (2013), the product price refers to the market price of the product and is an indicator of how valuable the product is to the buyer; therefore, this is an important determinant of the buyer's expected utility. For a fixed amount of purchase

uncertainty, the buyer's expected utility varies with the price of the product; for different utility measures, the mode of change may also differ in quality (Wu and Gaytán, 2013).

Some consumers are not able to pay more than a certain price regardless of the product. Others may be able to afford it, but believe another way of spending money will make them more satisfied (Alfred, 2013). However, for a product to be simple and inexpensive is not enough; the product must achieve a certain degree of expected performance. Price is only one of several costs consumers face. Other purchase-related costs include time spent, displacement costs, and emotional costs (Alfred, 2013). However, price is the most determinable cost for consumers and therefore plays an important role in decision-making. McConneil (1968) concludes that price is an effective factor in determining how brands (quality) are perceived without any other cues. Examples are big brand products and luxury products, sometimes they are not of such high quality as the customer expected, but customers just believe they will have high quality.

As long as the product performs well and the price is not higher than the customer expects, the customer is generally willing to accept higher prices. For example, in a recent study of consumers choosing to purchase a product, the price was considered as a major influence factor (Stafford and Enis, 1969). This finding is consistent with the retailer's own feeling that means price is an important criterion for consumer choice. Price knowledge is not high within a few seconds of selecting a product. For example, studies by Dickson and Sawyers (1990) show that only 54% to 60% of consumers or consumers see price tags. It seems that once consumers or customers shift their attention to another product, they will forget the price of the product they just purchased. This may explain why the price knowledge that is known immediately after selection is higher than when the same question

is asked at the checkout. In those who do not know the exact price or even the approximate price, if a subjective reference price is used, a higher number of customers can correctly recall whether the given product is more expensive, cheaper or of the same price than the general price of the category. Price awareness has also been found to vary with the customer base. According to Alfred (2013), certain demographic groups such as women, married couples, seniors and domestic workers search and use price information more consciously.

Dickson and Sawyer (1990) point out that the degree of error in consumer given price estimates is so great that in most cases the difference from the actual price is greater than the spread of the same class of products. That is, consumers do not show low-cost recalls, and they give prices lower (or higher) than the price of any product in that category. Thus, we can surmise that:

Proposition 5: Price affects consumer purchase intention on low quality products.

2.5 Demographics Features

Symmetric research emphasizes the relationships among variables. However, asymmetric researches are likely to show the detail and importance of demographic features in consumer behavior research (Woodside, 2017). Numerous researches based on complexity theory have included demographics features which have already shown the importance of consumer features in each configurational (e.g. Woodside, 2017; Woodside, 2015; Wu et al., 2014). This study tests the different antecedents' variables and explores the effects of consumers' features such as gender, age and income in each of configurations. So, we get the following opinion:

Proposition 6: Complex demographic configurations affect purchase intention on low quality products.

2.6 Purchase Intention

During the product evaluation stage, consumers select brands from the portfolio and form a purchase order, intention which in turn will lead to the willingness to purchase the product. Usually the consumer will make a decision based on his purchase intention, but the final decision will be affected by other factors. This study focuses on purchase intentions rather than behaviors because intentions have broader implications and tend to have positive effects on individual behaviors (Ajzen and Driver, 1992; Pierre et al, 2005; Schlosser et al., 2006).

Purchase intention represents the likelihood that the consumer may plan or be willing to purchase a certain product or service in the future (Wu, et al., 2011). Past research shows that the increase in purchase willingness reflects the increase in buying opportunities. If consumers have a positive purchase intention, active brand participation will promote purchase (Martins et al, 2018). With regard to the background of smart phones, people need to consider the willingness to purchase as a consumer's desire to purchase through a smart application (Chen, et al., 2010).

In their most recent study, Zubsek, Katona, and Sarvary (2017) propose some hypotheses that support consumer movement patterns that tend to represent their product preferences, and advocated that marketers should use these assumptions to improve their commercial offers. Correspondingly, Shen (2015) believes that smart shopping not only increasingly forms part of the daily work of many people, but also has a series of

determinants such as attitudes, subjective norms, and perceived behavioral control, that influence the customer's willingness to buy.

3. RESEARCH METHOD

3.1 Data and Measurement

The full-scale primary data collection method was an online survey. The sample comprises of 100 valid questionnaires were collected from an online survey in July 2017, which the research tests fast fashion and smart phones as target industries. The measurements of prices are based on Huang et al., (2004) and Lichtenstein et al. (1993), and we adopted the instruments of Homburg et al. (2015) and Kim et al. (2013) to test design. Purchase intention was measured using well-tested scales (Wang et al., 2012; Lee and Lee, 2009). Constructs were measured using a 5-point Likert scale. One hundred cases were analyzed (Marx, 2006). Data on gender, age and household income were also elicited and used in the analysis shown in Table 1.

Insert table 1 here

3.2 Case-Based Modeling

Woodside (2015) commented on the tendency of research to use symmetry tests to confirm or reject variables, but given that use of a single variable or the condition of , variables often does not accurately predict the outcome, such tests in empirical behavioral science and Business research is limited (Woodside, 2016). Methods based set theory, for example qualitative comparative analysis (QCA) can identify caused relationship and

capture unique sets of attributes, unlike regression analysis (Ragin and Fiss, 2008; Woodside et al., 2011). As supposed to using structural equation modelling to identify positive or negative influences, fuzzy set QCA can indicate conditions contribution to the observation outcomes (Woodside, 2015) and most suitable for small sample (Ragin, 2009). In an attempt to overcome the limitations of regression analysis, a variety of complexity theories are often used in commercial research and behavioral science, including the causal asymmetry principle, Boolean algebra and fuzzy set qualitative comparative analysis fsQCA to determine Y level (Woodside, 2015; Xie et al., 2016). FsQCA, a form of QCA is a configuration method that indicates whether an observation result is associated with a particular causal combination (ie, configuration) or only a single condition (McNamara, 2015; Woodside et al., 2013). Therefore, fsQCA can be used to find different combinations that lead to the same result, or different combinations that lead o diverse results. In this study, the statistical packages SPSS 21.0 and fsQCA 2.5 were used for analysis (Ragin and Davey, 2014). Figure 1 shows the configuration model of this study.

Insert figure 1 here

3.3 Reliability Analysis and Calibration

This study used Cronbach's α reliability test measures shown in Table 2. For the fast fashion industry, Cronbach's alpha varies between .715 to .942 and .711 to .945 for further research on the smartphone industry, from 711 to 94, indicating good reliability (Kim, 1998).

Insert table 2 here

Before data sets are analyzed by fuzzy sets software they must be calibrated, unlike conventional variables (Ragin, 2008; Sun et al, 2018). Two steps of calibrations were used. Firstly, using SPSS 21 to calculate mean value of the questions in each variable; Secondly, using fsQCA 2.5 calibration function. Calibrations had three breakpoints: 0 for full non-membership, 1 for full membership, and 0.5 for the crossover point of maximum membership ambiguity (Sun et al, 2018; Ragin, 2008): a score of 5 was the threshold for full membership; 1 indicated full non-membership; 3 was the crossover point indicating the maximum point of ambiguity.

This study calibrates the demographic feature such as gender uses crisp-set (0 represents man, 1 represents woman), the threshold for income from very low to very high (0, 0.25, 0.5, 0.75, 1), and the threshold for age group are 0.25, 0.5, 0.75, 1.

4. RESEARCH RESULTS

In contrast to regression models, QCA uses set theory for logical statements about causal conditions (Ragin, 2000). The Consistency Index indicates whether the model is reliable for simple or complex antecedent. The score should be equal to or less than the member score of the case outcome condition. Three solutions emerged from this process: complex, simple and intermediate solutions. As advised by Ragin (2000), this study focuses on intermediate solutions. An antecedent condition model is considered useful if the consistency index exceeds 0.85. While a minimum value of 0.05 is the criterion for the coverage index (Woodside, 2015). Based on the consistency and coverage rates, we choose major models for the studies and also list additional models for each research. The

landscape character "~" represents a negative, and the asterisk "*" represents a logical "and" condition (Woodside, 2015). In the result, some variables are not present in the configurations, indicating that they are not the key factors that lead to a configuration result, although they may be present in other configurations.

4.1 Research 1

Research 1 was an effort to explore different kinds of variable configurations that can lead consumer to have an intention to purchase low quality fast fashion products shown in Table 3. There are three configurations that can lead consumers be willing to purchase low quality fast fashion products: $pr^*ot^*\sim sy^*\sim fu^*\sim ae^*\sim income^*gender^*\sim age;$ $pr^*ot^*sy^*fu^*ae^*income^*gender^*\sim age;$ $pr^*ot^*sy^*fu^*ae^*\sim income^*gender^*age.$ There are three major factors in the configurations, which are female, low price and overly trendy. Low price and overly trendy are the two main factors to be considered by female customers in order to accept low quality fast fashion products. Young women (age of under than 30 years) with low household income only consider low price and overly trendy, thus they may tolerate bad design (~aesthetics, ~functionality, ~symbolism). However, young women with higher household income not only consider low price, but also the design elements of products (symbolism, functionality, and aesthetics, overly trendy), in this condition they can accept low quality fast fashion products. Meanwhile, elder (age more than 30) women with low household income also have a comprehensive consideration of variables in the of purchase low quality fast fashion products, almost the same as that of young women with high household income (price, overly trendy, symbolism, functionality, aesthetics). This result indicates that companies can produce low quality fast fashion products targeted to the segment of young women with low household income. There will

be more profit in these target customers, because they will have fewer requirements of the low quality products.

Considering of high raw coverage and consistency, we choose pr*ot*sy*fu*ae*~income*gender*age as the major model of research 1. The model shows that low price is the key factor to attract the elder women with low income to choose low quality fast fashion products. Most consumers are also attracted by this attribute. However, the elder women with low household income require to low quality fast fashion products includes good design. That means this kind of consumer cannot be satisfied without good product attributes as well as low price. We conclude that it depends on the consumer psychology that elder women pay more attention on practical value of fast fashion product. A low price but useless fast fashion product means waste to them. If a fast fashion product cannot fulfill all the factors of design, elder women with low household income won't choose them with this condition. This group of consumers have high expectation for the products, which is difficult to fulfill their needs. However, the group can be the target sells group which the products with special discount (e.g. the products in last season, or clean the inventory).

Insert table 3 here

4.2 Research 2

Research 2 was an effort to test conditions that influence the low quality products purchase intention of consumers in the smart phone industry. Table 4 shows that there are

six configurations that can lead consumers to be willing to purchase a low quality smartphone: $pr^* \sim ot^* fu^* ae^* \sim income^* gender^* \sim age^*$;
 $pr^* \sim ot^* \sim sy^* \sim fu^* \sim ae^* \sim income^* \sim gender^* \sim age^*$;
 $pr^* ot^* sy^* \sim fu^* \sim ae^* \sim income^* gender^* \sim age^*$; $pr^* \sim ot^* \sim sy^* fu^* \sim ae^* income^* gender^* \sim age^*$;
 $pr^* ot^* sy^* fu^* ae^* income^* gender^* \sim age^*$; $pr^* ot^* sy^* fu^* ae^* \sim income^* gender^* age^*$. Based on

these configurations, it is evidence that low price is the most important factor which present in all the configurations influencing intent to purchase low quality smart phone. That means no matter how the design, income, gender and age change, low price is always the driving factor in customers' purchase low quality smart phones. Regardless of income, mostly young women only consider low price and can tolerate some kinds of bad design (\sim aesthetics, \sim functionality, \sim symbolism or \sim overly trendy) of the low quality smart phone. However, some young women who have high household income will accept a low quality smartphone only when it has low price as well as good design (aesthetics, functionality, symbolism and overly trendy). Older women with low household income think similarly, like this, while young male customer with low household income only consider low price and can tolerate bad design (\sim aesthetics \sim functionality, \sim symbolism and \sim overly trendy). That means companies can produce low quality smartphones for target customers that include young males with low household income and young female. They mainly consider price and can tolerate some kinds of bad design.

From table 4, we can notice the $pr^* ot^* sy^* fu^* ae^* \sim income^* gender^* age^*$ is the most representative model. This model is same as the major model in fast fashion industry. It shows that the elder women with low household income also prefer low quality smart phone with good design, which shows practical psychology is also reflected in smart

phone context. Elder women consider not only smart phone price, but satisfying design. For them, practical value is the main reason for purchasing products. And the suggestion for this group is similar as the suggestion which gave in fast fashion group.

Insert table 4 here

4.3 Research 3

Research 3 is aimed to test the reasons why consumers want to purchase low quality products in a fast fashion context regardless of price shown in Table 5. There are four configurations that show the reasons: $\sim\text{age}^*\sim\text{income}^*\text{gender}^*\text{ot}^*\sim\text{sy}^*\sim\text{fu}^*\sim\text{ae}$; $\sim\text{age}^*\sim\text{income}^*\text{gender}^*\sim\text{ot}^*\text{sy}^*\text{fu}^*\sim\text{ae}$; $\text{age}^*\sim\text{income}^*\text{gender}^*\text{ot}^*\text{sy}^*\text{fu}^*\text{ae}$; $\sim\text{age}^*\text{income}^*\text{gender}^*\text{ot}^*\text{sy}^*\text{fu}^*\text{ae}$. We can see that design is the main reason for customers choose low quality products. Moreover, only two kinds of customers will accept low quality products young and older women. Young women with low household income would accept low fast fashion products with good design, or at least one element of design (overly trendy or symbolism, functionality). As to the older women with low household income and young female with high household income, good design is almost the decisive factor for them to buy low quality fast fashion products (overly trendy, symbolism, functionality and aesthetics). Thus, we can notice that product design is another key influencing factor in addition to price, which pushes customers to purchase low quality fast fashion products.

We can easily see that $\text{age}^*\sim\text{income}^*\text{gender}^*\text{ot}^*\text{sy}^*\text{fu}^*\text{ae}$ represents the major model for research 3. Regardless price, elder women still consider good design of fast fashion

products. Thus we know design is one of the most important factors for elder women consumers to choose fast fashion products. We conclude the reason that elder women have high expectation for fast fashion products whether they have low price or not.

Insert table 5 here

4.4 Research 4

Research 4 was an effort to test why consumers want to purchase low quality products in a smart phone context, regardless of price shown in Table 6. There are six configurations that show the reasons: ~income*~age*~ot*~sy*~fu*~ae; ~income*gender*~age*~ot*~fu*~ae; ~income*gender*~age*~ot*~sy*~fu*~ae; income*gender*~age*~ot*~sy*~fu*~ae; income*gender*~age*~ot*~sy*~fu*~ae; ~income*gender*~age*~ot*~sy*~fu*~ae. The result shows that, the young generation with low household income will buy low quality smart phones even if they do not have any element of good design (~overly trendy, ~symbolism, ~functionality or ~aesthetics). However, sometimes, young females with low household income will purchase a low quality smart phone that has some or even all elements of good design (overly trendy, symbolism, functionality and aesthetics). Moreover, young females with high household income also take functionality as an important element of product design to be considered and they sometimes also will consider all elements of good design (overly trendy, symbolism, functionality and aesthetics). Take these results together with research 3, we can see good design is definitely important to female customers. This may indicate to companies that female customers are more willing to spend money on smart phones with

good design. Some big brand companies could target female customers and focus on the design of smart phone. They may get more profit in this way.

We notice that income*age*ot*sy*fu*ae is most representative model for research 4. Young people with low household income won't consider smart phone design regardless price. For them, low price is almost the only factor to purchase low quality products. We may conclude that young people with low household income mostly have a kind of saving psychology, they consider price as one of the most important factors when purchasing. Because of the limitation of disposable personal income, this group consumer reduce the expect of the products. This group can be the target group to clean the inventory of even last generation of smart phone.

Insert table 6 here

5. DISCUSSION AND CONCLUSIONS

5.1 Main Findings and Discussion

In this study we aim examine under which conditions customers will accept low quality products. We find that price is one of the most important influencing factors. Why does price can affect customers' on purchase intention so much? It may be because that price is the consumer's most determinable cost and therefore plays an important role in decision-making (Alfred, 2013). Low price is a strong competitive factor in the market. As to low quality products, low price can be achieved relatively more easily than with high quality products, resulting from relatively poorer raw material or configurations. Hence the connection between quality and price may give an idea to enterprises that customers will

accept low quality products with low price. Moreover, according to our research, different generations are equally affected by the low price condition, regardless of customer gender and household income.

According to Schubert (2016), the low incomes will be affected more by the low quality advantage than high incomes. In the case of fast fashion products and electronic products, the quantity of sales is the key factor for high profit. In order to attract the most customers, low incomes should not be ignored. They represent a large population base and thus sizable purchase power. Besides, low quality products can still have relatively high quality perception or design, which can meet some of customers' needs. Moreover, according to Zhou et al (2015), the speed of change in demand for fast fashion and electronic products can be very fast, so this will lead to internal competition between generations. Thus causes extra cost to the companies. Consequently, the faster sale of products will help companies reduce the inventory burden.

Product design is also an essential factor to be considered by companies. The research shows that design affects female customers mostly. Both young and older females will consider both low price and good design in low quality products. Thus, the key points for companies to earn much profit are low price and good design. Low price is easy to achieve, through some processes of costs reduction. Consequently, to realize ingenious design with low cost is a significant question for these companies to solve. In this way, it is possible for these companies to make huge profits.

We also conclude the similarity and difference of the influencing factors shown in fast fashion and smart phone industry. The similarity is that they have same configuration in both fast fashion and smart phone industries with high expectation for products. The low

price plays a quite important role in both two contexts, which proves that price is one of the most influencing factors in this study. To most consumers, low quality should mean low price. Besides, women are easier to accept low quality products compared with men, and most women consumers accept only good design as well as low price product. Then, age is a great influencing factor. Young people tend to accept low quality products easier than elders in both two contexts.

When it comes to differences, different contexts reflect different choices. First is gender, in fast fashion context, only women would accept low quality product. That is to say, low quality fast fashion products are less attractive to men. But when speaking of smart phone industry, low price is also one of the most essential factors to be considered. Then, household income shows a great influence to fast fashion industry, while in smart phone context, it make less effect.

The similarly high consistency and raw coverage in table 3 and table 4 shows that elder Chinese women tend to accept both fast fashion products and smart phone in good design and low price. However, that is not to say, fast fashion and smart phone industry face the dilemma of saving cost as well as improving all attributes of product design. For example, most young people require low price and few attributes of design, which means designers, can save cost in this area.

5.2 Contributions and Managerial Implications

Academically, this study is one of the first studies to clearly measure the advantages of low-quality short-life products and apply fsQCA to explore customer purchase intention towards low quality products. This article expands on the prior knowledge of low-quality

products, especially about China. Rather than using structural equation modelling to identify positive or negative influences, fsQCA can reveal configurations that lead to the results of interest. This study adds to the literature, which demonstrates the advantages of low-quality products and provides some basis for studying low-quality products due to short life cycles. They can make a trade-offs between price and design when choose to produce short life cycle products, like more electric products.

This study offers a number of managerial implications. With the rapid changes in people's aesthetic sense and developing high-tech, it is more necessary for companies to think about how to win more customers and earn more profits. Low quality products have advantages as they will lower companies' costs and earn more profits in many dimensions, and also can speed to occupy the market share. To most consumers, they are allocated by practical psychology and pay more attention on price. Selling low quality products at a low price may get a good performance. Thus, companies may achieve success in this business model. However, the enterprises need consider establishing subordinate brands to avoid reducing the brand image of the main brand. Regardless of price, product design is also a driving factor for customers to choose products, even with low quality. Low quality products can accelerate the replacement cycle of new products, which is more suitable for fast update products. From the customers' perspective, they may be more willing to accept low quality products with lower price or good design. This means quality is not the decisive factor of customers' choice of products. If companies set a low price or make a novel design, customers may accept the low quality product to a great extent. In this situation, enterprises and customers can achieve win-win situation. As we can see, fast fashion products and electronic products are facing the public. The sales amount of low quality products in the

market also can reflect customer perception of product attributes. Thus, after selling low quality products, after sales investigation of customer' satisfaction can provide good material for companies to improve the product quality or other attributes. It also means low quality products can be good experimental articles for enterprises researching high quality products. From the company's perspective, low quality products can make more profits and benefit from this investigation easily.

5.3 Direction for Future Studies

There are some limitations in this research. First, due to concern about business ethics, we did not test hidden low quality (where companies sell low quality products to customers without informing them), which can make companies earn more profit from using good design and high price to attract customers. Second, this paper tests limited diversity in the low quality advantage area; other potentially relevant variables were not tested. Future researcher can give more attention to country-of-origin, product involvement, etc. Furthermore, this paper has focused solely on Chinese customers. Future study might extend the customer range to a wider scope. This may reveal some cultural differences in purchase behaviour among different countries.

Fourth, the discussed industries can be expanded to a larger area. There may be the same situation in different industries, and it would be worthwhile to study. Thus, the result can be corrected to fit a wider range of industries. Because the study only focuses on fast fashion and smart phones industries, future work needs to replicate this study with individual data for different industries and with alternative methods to reinforce the confidence in the research. Finally, this research studied mainly the customer perspective,

it would be desirable to extend the study to the enterprise perspective and find out the difficulties that limit them in using low quality products to meet market needs.

REFERENCES

- Alfred, O. (2013), “ Influences of Price And Quality On Consumer Purchase Of Smart Phone In The Kumasi Metropolis In Ghana A Comparative Study”, *European Journal of Business and Management*, Vol.5, No.1
- Ajzen, I., and Driver, B. L. (1992), “Application of the Theory of Planned Behavior to leisure choice”, *Journal of Leisure Research*, Vol. 24 No. 3, pp. 207-224.
- .24(3), Belk, R. W. (1988), “Possessions and the extended self”, *Journal of Consumer Research*, Vol. 15 No. 2, pp. 139-168.
- Bhardwaj, V., and Fairhurst, A. (2010), “Fast fashion: Response to changes in the fashion industry,” *The International Review of Retail Distribution and Consumer Research*, Vol. 20, pp. 165-173.
- Bloch, P. H. (2011), “Product design and marketing: reflections after fifteen years”, *Journal of Product Innovation Management*, Vol. 28 No. 3, pp. 378-380.
- Boztepe, S. (2007), “User value: competing theories and models”, *International Journal of Design*, Vol. 1 No. 2, pp. 55-63.
- Candi, M. (2010), “Benefits of aesthetic design as an element of new service development”, *Journal of Product Innovation Management*, Vol. 27 No. 7, pp. 1047-1064.
- Chen, Y., Hsu, I., and Lin, C. (2010). “Website attributes that increase consumer purchase intention: A conjoint analysis”, *Journal of Business Research*, Vol. 63 No. 9-10, pp. 1007-1014.
- Dabade, B. M., and Wankhade, L. (2006), “ Tqm with quality perception: a system dynamics approach”, *TQM Magazine*, Vol. 18 No. 4, pp. 341-357.
- Desmet, P., and Hekkert, P. (2007), “Framework of product experience”, *National Science Council Taipei*, Vol. 1 No. 1, pp. 56-66.
- Dickson, P. R., Sawyer, A. G. (1990). “The price knowledge and search of supermarket shoppers”, *Journal of Marketing*, Vol.54 No. 3, pp. 56-66.

- Dodds, W. B., Monroe, K. B., and Grewal, D. (1991). "Effects of price, brand, and store information on buyers' product evaluations", *Journal of Marketing Research*, Vol. 28 No. 3, pp. 307-319.
- Foroohar, R., & Stabe, M. (1989). "Fabulous fashion; low-cost companies like Zara and Topshop are emerging as defining and dominant players, not just followers", *Journal of Cataract & Refractive Surgery*, Vol.15 No. 2, pp. 205-6.
- Gan, S. S., Pujawan, I. N., Suparno, and Widodo, B. (2015). "Pricing decision model for new and remanufactured short-life cycle products with time-dependent demand". *Operations Research Perspectives*, Vol.2 No. C, pp. 1-12.
- Gemser, G., and Leenders, M. A. A. M. (2001). "How integrating industrial design in the product development process impacts on company performance", *Journal of Product Innovation Management*, Vol.18 No. 1, pp. 28-38.
- Graeff, T. R. (1997). "Comprehending product attributes and benefits: the role of product knowledge and means-end chain inferences". *Psychology and Marketing*, Vol.14 No.14, pp. 163-183.
- Gutman, J. (1982). "A means-end chain model based on consumer categorization processes", *Journal of Marketing*, Vol.46 No. 2, pp. 60-72.
- Hekkert, P., & Leder, H. (2008). "Product aesthetics". In H. N. J. Schifferstein & P. Hekkert (Eds.), *Product Experience*, Elsevier Science Publishers, New York, NY, pp. 259-285 .
- Helo, P. (2004). "Managing agility and productivity in the electronics industry", *Industrial Management and Data Systems*, Vol.104 No. 7, pp. 567-577.
- Hertenstein, J. H., Platt, M. B., and Veryzer, R. W. (2005). "The impact of industrial design effectiveness on corporate financial performance", *Journal of Product Innovation Management*, Vol.22 No. 1, pp. 3-21.
- Kleine, R. E., Kleine, S. S., and Kernan, J. B. (1993). "Mundane consumption and the self: a social-identity perspective", *Journal of Consumer Psychology*, Vol.2 No. 3, pp. 209-235.
- Hoegg, J. A., and Alba, J. W. (2011). "Seeing is believing (too much): the influence of product form on perceptions of functional performance", *Journal of Product Innovation Management*, Vol.28 No. 3, pp.346-359.

- Holt, D. B. (1997). "Poststructuralist lifestyle analysis: conceptualizing the social patterning of consumption in postmodernity", *Journal of Consumer Research*, Vol.23 No. 4, pp. 326-350.
- Homburg, C., Schwemmler, M., and Kuehnl, C. (2015). "New product design: concept, measurement, and consequences", *Journal of Marketing A Quarterly Publication of the American Marketing Association*, Vol.79 No. 3, pp. 41-56.
- Hsueh, C. F. (2011). "An inventory control model with consideration of remanufacturing and product life cycle", *International Journal of Production Economics*, Vol.133 No. 2, pp. 645-652.
- Huang, J., Lee, B. C. Y., and Shu, H. H. (2004). "Consumer attitude toward gray market goods", *International Marketing Review*, Vol.21 No. 6, pp. 598-614.
- Keller, K. L. (1993). "Conceptualizing, measuring, and managing customer-based brand equity", *Journal of Marketing*, Vol.57 No. 1, pp. 1-22.
- Kim, H., Choo, H. J., Yoon, N. (2013). "The motivational drivers of fast fashion avoidance", *Journal of Fashion Marketing and Management*, Vol.17 No. 2, pp.243-260.
- Kim, K. H. (1998). "An analysis of optimum number of response categories for Korean consumers", *Journal of Global Scholars of Marketing Science*, Vol. 1 No. 1, pp. 61-86.
- Kirmani, A. and Rao, A. R. (2000). "No pain, no gain: a critical review of the literature on signaling unobservable product quality", *Journal of Marketing*, Vol. 64 No.2, pp. 66-79.
- Lee, J. K., and Lee, W. N. (2009). "Country-of-origin effects on consumer product evaluation and purchase intention: the role of objective versus subjective knowledge", *Journal of International Consumer Marketing*, Vol. 21 No. 2, pp. 137-151.
- Lebreton, B., and Tuma, A. (2006). "A quantitative approach to assessing the profitability of car and truck tire remanufacturing", *International Journal of Production Economics*, Vol.104 No. 2, pp. 639-652.

- Leder, H., Belke, B., Oeberst, A., and Augustin, D. (2004). "A model of aesthetic appreciation and aesthetic judgments", *British Journal of Psychology*, Vol.95 No. 4, pp. 489-508.
- Lichtenstein, D.R., Ridgway, N.M. and Netemeyer, R.G. (1993). "Price perceptions and consumer shopping behavior: a field study", *Journal of Marketing Research*, 30(2), 234-45.
- Luchs, M., and Swan, K. S. (2011). "The emergence of product design as a field of marketing inquiry", *Journal of Product Innovation Management*, Vol.28 No. 3, pp. 327-345.
- Mariëlle E. H. Creusen, and Schoormans Jan P. L.. (2005). "The different roles of product appearance in consumer choice", *Journal of Product Innovation Management*, Vol. 22 No. 1, pp. 63-81.
- Martins, J., Costa, C., Oliveira, T., Gonçalves, R., and Branco, F. (2019). "How smartphone advertising influences consumers' purchase intention", *Journal of Business Research*, Vol. 94, pp. 378-387.
- Marx, A. (2006). "Towards more Robust Model Specification in QCA Results from a Methodological Experiment (COMPASS WP Series 2006-43)", available at <http://www.compass.org/wpseries/Marx2006.pdf>, zuletzt geprüft am, (accessed 15 Dec. 2015).
- McConnell, J. D. (1968). "The price-quality relationship in an experimental setting", *Journal of Marketing Research*, Vol. 5 No. 3, pp. 300-303.
- Mccracken, G. (1986). "Culture and consumption: a theoretical account of the structure and movement of the cultural meaning of consumer goods", *Journal of Consumer Research*, Vol. 13 No. 1, pp. 71-84.
- McNamara, C. (2015). "Trade liberalization, social policies and health: an empirical case study2", *Globalization and Health*, Vol. 11 No.1, pp. 1-19.
- Mishra, A. (2016). "Attribute-based design perceptions and consumer-brand relationship: role of user expertise", *Journal of Business Research*, Vol. 69 No. 12, pp. 5983-5992.
- Monroe, K. B. (1973). "Buyers' subjective perceptions of price", *Journal of Marketing Research*, Vol. 10 No.1, pp. 70-80.

- Noble, C. H., and Kumar, M. (2010). "Exploring the appeal of product design: A grounded, value-based model of key design elements and relationships", *Journal of Product Innovation Management*, 27(5), 640–657. Vol. 27 No. 5, pp. 640-657.
- Panzone, L. A. (2012). "Alcohol tax, price–quality proxy and discounting: a reason why alcohol taxes may rebound", *Journal of Agricultural Economics*, Vol. 63 No. 3, pp. 715–736.
- Pierre, C., Morwitz, V.G. and Reinartz, W.J. (2005). "Do intentions really predict behavior? Self-generated validity effects in survey research", *Journal of Marketing*, Vol. 69 No. 2, pp. 1-14.
- Radford, S. K., and Bloch, P. H. (2011). "Linking innovation to design: consumer responses to visual product newness", *Journal of Product Innovation Management*, Vol. 28 No. 1, pp. 208-220.
- Ragin, C. C. (2000). *Fuzzy set social science*. University of Chicago Press, Chicago.
- Ragin, C. C. (2009). *Qualitative comparative analysis using fuzzy sets (fsQCA)*. In B. Rihoux, and C. C. Ragin (Eds.), *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques (applied social research methods)*, Thousand Oaks and London: Sage. pp. 87–121.
- Ragin, C. C., and Davey, S. (2014): *Fuzzy-Set/Qualitative Comparative Analysis 2.5*. Irvine, California: Department of Sociology, University of California.
- Ragin, C. C., Fiss, P. C. (2008). *Net effects analysis versus configurational analysis: an empirical demonstration*. In C. C. Ragin (ed), *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press, pp190-212.
- Rao, A. (2005). "The quality of price as a quality cue", *Journal of Marketing Research*, Vol. 42(4), pp. 401–405.
- Rao, A. R. and Monroe, K. B. (1989). "The effect of price, brand name, and store name on buyers' perceptions of product quality: an integrative review", *Journal of Marketing Research*, Vol. 26(3), pp. 351–357.
- Reber, R., Schwarz, N., and Winkielman, P. (2004). "Processing fluency and aesthetic pleasure: Is beauty in the perceiver's processing experience?", *Personality and social psychology review*, Vol.8 No. 4, pp. 364-382.

- Rindova, V. P., and Petkova, A. P. (2007). "When is a new thing a good thing? Technological change, product form design, and perceptions of value for product innovations", *Organization Science*, Vol. 18 No. 2, pp. 217-232
- Schlosser, A.E., White, T.B. and Lloyd, S.M. (2006). "Converting website visitors into buyers: how website investment increases consumer trusting beliefs and online purchase intentions", *Journal of Marketing*, Vol. 70, pp. 133-48.
- Schubert, S. (2017). "The Low - Quality Advantage in Vertical Product Differentiation", *Managerial and Decision Economics*, Vol. 38 No. 7, pp. 923-928.
- Shen, G. C.-C. (2015). "Users' adoption of smart applications: Product type and message framing's moderating effect", *Journal of Business Research*, Vol.68 No.11, pp. 2317-2321.
- Shirai, M. (2015). "Impact of "high quality, low price" appeal on consumer evaluations", *Journal of Promotion Management*, Vol. 21 No. 6, pp. 776-797.
- Shiv, B., Carmon, Z. and Ariely, D. (2005). "Ruminating about placebo effects of marketing actions", *Journal of Marketing Research*, Vol. 42, pp. 410-414.
- Spears, N., and Yazdanparast, A. (2014). "Revealing obstacles to the consumer imagination", *Journal of Consumer Psychology*, Vol. 24 No. 3, pp. 363-372.
- Stafford, J. E., and Enis, B. M. (1969). "The price-quality relationship: An extension", *Journal of Marketing Research*, Vol. 7 No. 4, pp. 456-458.
- Sun, Y., T. C. Garrett, I. Phau, and B. Zheng. (2018). "Case-Based Models of Customer-Perceived Sustainable Marketing and its Effect on Perceived Customer Equity." *Journal of Business Research*. doi:10.1016/j.jbusres.2018.09.007.
- Verganti, R. (2008). "Design, meanings, and radical innovation: a metamodel and a research agenda", *Journal of Product Innovation Management*, Vol. 25 No. 5, pp. 436-456.
- Wang, C. L., Li, D., Barnes, B. R., and Ahn, J. (2012). "Country image, product image and consumer purchase intention: Evidence from an emerging economy", *International Business Review*, Vol. 21 No. 6, pp. 1041-1051.
- Woodside, A. G. (2015). "Visualizing matching generalizing: Case identification hypotheses and case-level data analysis", *Australasian Marketing Journal*, Vol. 23, pp. 246-258.

- Woodside, A. G. (2016). "The good practices manifesto" Overcoming bad practices pervasive in current research in business, *Journal of Business Research*, Vol. 69, pp. 365-381.
- Woodside, A. G. (Ed.). (2017). "The complexity turn: Cultural, management, and marketing applications". Springer.
- Woodside, A. G., Hsu, S. Y., and Marshall, R. (2011). "General theory of cultures' consequences on international tourism behavior", *Journal of Business Research*, Vol. 64 No. 8, pp. 785-799.
- Woodside, A. G., Schpektor, A., and Xia, X. (2013). "Triple Sense-Making of Findings from Marketing Experiments Using the Dominant Variable Based-Logic, Case-Based Logic, and Isomorphic Modeling", *International Journal of Business and Economics*, Vol. 12 No. 2, pp. 131-153.
- Wu, J., and Gaytán, E. A. A. (2013). "The role of online seller reviews and product price on buyers' willingness-to-pay: a risk perspective", *European Journal of Information Systems*, Vol. 22 No. 4, pp. 416-433.
- Wu, P. L., Yeh, S. S., Huan, T. C., and Woodside, A. G. (2014). "Applying complexity theory to deepen service dominant logic: Configural analysis of customer experience-and-outcome assessments of professional services for personal transformations", *Journal of Business Research*, Vol. 67 No. 8, pp. 1647-1670.
- Wu, P., Yeh, G., and Hsiao, C. (2011). "The effect of store image and service quality on brand image and purchase intention for private label brands", *Australasian Marketing Journal*, Vol. 19 No. 1, pp. 30-39.
- Xie, X., Fang, L., Zeng, S. (2016). "Collaborative innovation network and knowledge transfer performance: A fsQCA approach" *Journal of Business Research*, Vol. 69, pp. 5210-5215.
- Zeithaml, V. A. (1988). "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence", *Journal of marketing*, 52(3), 2-22.
- Zhou, E., Zhang, J., Gou, Q., and Liang, L. (2015). "A two period pricing model for new fashion style launching strategy", *International Journal of Production Economics*, Vol. 160, pp. 144-156.

Zubcsek, P., Katona, Z., and Sarvary, M. (2017). "Predicting smart advertising response using consumer colocation networks", *Journal of Marketing*, Vol. 84 No.4, pp. 109-126.