

## 1 INTRODUCTION

In the past few years, disposable income of urban Chinese consumers has been growing faster than in the developed countries, thus bringing better living conditions, diverse favours, and desire for products. Much of these new incomes will be used to improve life, for example, by furnishing home, purchasing and upgrading consumer products such as consumer electronics and personal care goods.

Like consumers in other countries, generally speaking, Chinese consumers also appreciate high quality, good price and some specific benefits that fit the unique Chinese taste, feeling and style. However, in the actual situation, due to the difference of demographics and regions, market environment and economic situation, an individual Chinese consumer's perception of price and quality and attitude towards a brand choice are complicated and various.

Relevant studies showed that quality and price are the two most popular product attributes that urban Chinese consumers take into consideration. Therefore, understanding urban Chinese consumers' attitude and perception of price and quality in the brand selection is crucial in the field of marketing to this huge consumption group.

This thesis is an elementary survey and analysis in this field on the basis of relevant theoretical knowledge and relevant studies. There are also some constructive advices to the consumer electronics manufacturers who are interested in exploring market in urban areas of China. The general aim of this thesis is to display urban Chinese consumers' basic perception of quality and price and the relationship among these two factors.

Other more detailed problems that need to be resolved include: to what extent price can affect the evaluation of alternative brands and how urban Chinese consumers view the function of price as an indicator of quality. Yet another aim is to demonstrate which quality dimension factors are more preferred by consumers at different price levels of brands. Finally, according to the survey result there are some discussions about how urban Chinese consumers deal with the relationship between price and quality. The following figure illustrates the framework of relevant theories.

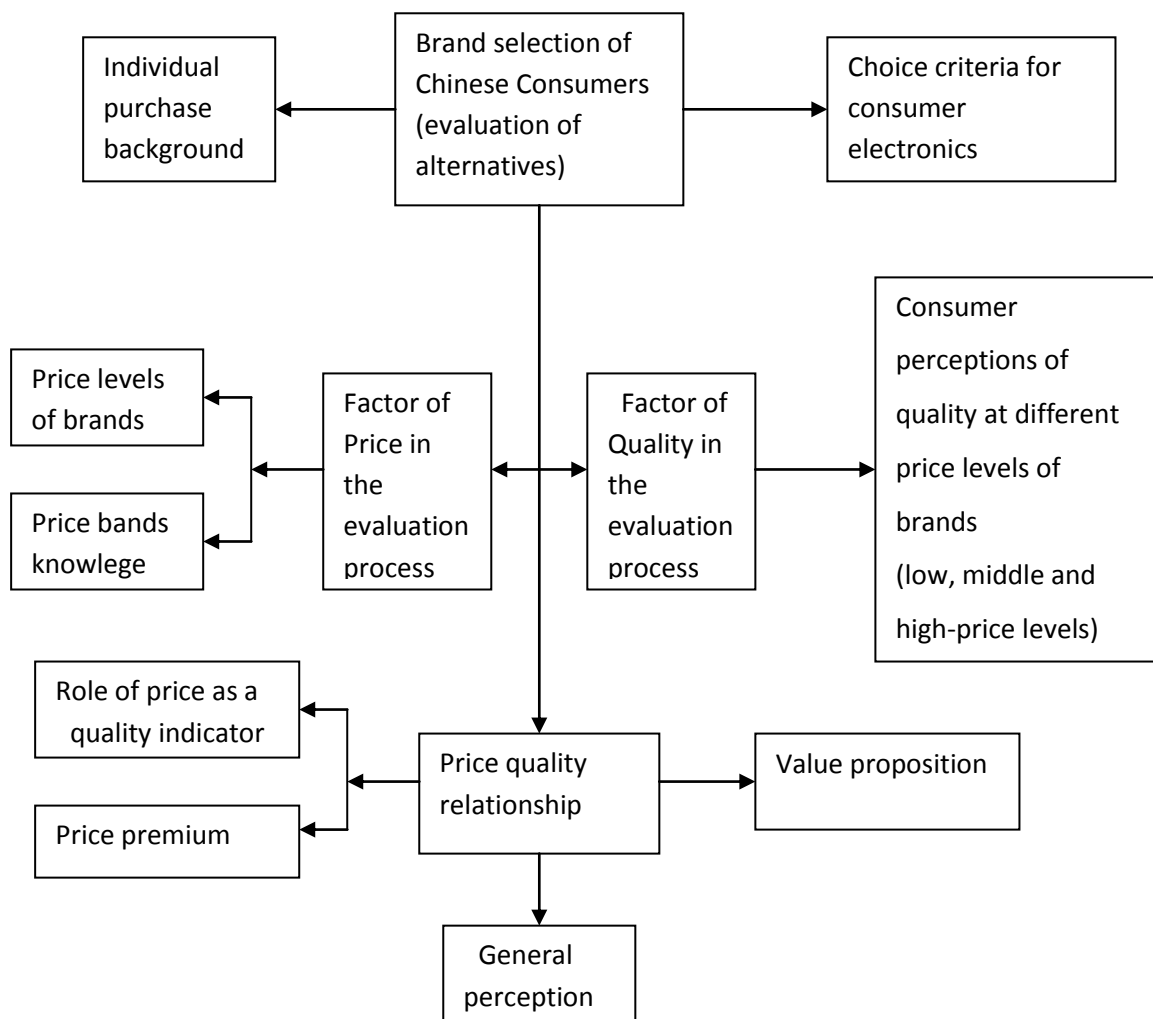


Figure 1. Theoretical Framework

Like the figure shows, in the first theoretical part, the main topic is the brand choice which contains personal purchase background and general choice criteria for consumer electronics. Then there is the specified section of quality and price separately in the evaluation process. The factor of price refers to the theory in the aspect of price levels of brands and price bands knowledge. The factor quality is primarily related to detailed quality dimensions. Then these two elements are put together, referring to quality price relationship. This section includes two parts. The first one concerns the role of price as a quality tool and price premium. The second one concerns brand value position. Then in the end there is a general perception of quality and price.

## 2 THESIS METHODOLOGY

In this thesis consumer electronics was chosen as the subject because for ordinary Chinese families, consumer electronics such as a fridge, television, washing machine, are necessary and indispensable items in life. Here, a television set is set as a typical example. In addition, considering the real research situation and market environment, urban Chinese residents were targeted for sampling. Tianjin is one of the four direct-controlled municipalities in China and the chosen customers there are representative to certain degree. Renrenle supermarket is a well known Chinese supply chain and is among the top 30 supply chain groups in China. Sales of consumer electronics are among its most important fields of business (Renrenle 2009).

The literature used in this work is based on existing theories in the field of brand selection, quality, price, quality price relationship. They were selected out from the books and articles by authors like David Aaker, Kotler and Armstrong, Bergman and Klefsjö, Zeithaml, etc. After necessary reading, selecting, and understanding relevant theories proposed by the above authors, the theoretical part of the thesis was composed. The questionnaire was designed on the basis of chosen theories.

As to data collection, both primary data and secondary data was collected and utilised. For this research, the primary data was gathered by means of a questionnaire filled out by consumers. This work was conducted and administered with the assistance of contact persons in Renrenle supermarket chain. The secondary data was taken from some resource channels, such as public reports from relevant government and research agencies, as references.

Then the SPSS programme was applied to processing the data. Some inductions for different questions and analyses were made on the basis of related SPSS output tables. In the end, the conclusion was made on the basis of existing theories, relevant survey results by other agencies, and empirical analysis of collected data.

The approaches mentioned above can not ensure that this research is comprehensively valid. There were some restrictions in the research plan and conduction process. For instance, perception itself is an intangible and subjective feeling and shows great versatility according to different groups of people. In addition, marketing tools, such as pricing strategy, promotional activity or marketing communication, have impact on the price perceptions of

consumers to a different degree. This thesis only applied some elementary and common theories about consumer price perception.

In addition, the relevant research theories that were taken into consideration, such as price, quality and brand choice, only belong to parts of the consumer behaviour. As the chapter three points out, pricing strategies have an influence on consumer purchasing behaviour. Because of the flexibility and variety of pricing strategy and promotional tools, related theories are not included in the design of the thesis questionnaire.

Differences among urban people, especially those related to their individual financial condition, such as personal income, can't be neglected either. Restricted by sample size, this research can not reflect perceptions of different income classes in society comprehensively. External elements also reflect the limitations of this research to a certain extent. For instance, regional differences in China between coastal and interior regions, north and south, and city-tier difference are very huge and will cause different patterns of consumer behaviours (Insight China 2008, 12). Chinese cities can be sorted into six levels including top three cities, tier one, tier two, and tier three, tier four, and tier five segments by the standard of population and disposable income per capita (Anestis, Hsu, Hui & Liao 2008, 2). Tianjin belongs to the first tier city level.

Market environments in China are changing every year along with the economic situation. This research was conducted during June and July of 2009, when Chinese economy was not fully recovered from the financial crisis, and the economic situation was complex, with both positive and negative phenomena on the market. From a more broad view point, this research is only representative of the period from last quarter of 2008 to July of 2009.

### 3 BRAND CHOICE

Brand choice is one of the buyers' responses that consumers make when they face the marketing and other stimuli and process those stimuli by the impact of their own characteristics (Armstrong & Kotler 2003, 192). The brand choice is a decision usually based on the brand's image and value (price, quality, or the perception of quality) (Marconi 2000, 62).

#### 3.1 Consumer Goods

Consumer goods can be defined as those products and services purchased and consumed in person by the end users. A consumer product can be further sorted into convenience products, shopping products, specialty products and unsought products (Armstrong & Kotler 2003, 282).

Among the different kinds of consumer products mentioned above, shopping products are the ones not often bought by the consumers. In most circumstances, it is necessary for the customers to compare carefully on the appropriateness, quality, product price, the design and shape of the product and so on. In the buying process, consumers need to spend much time, attention and effort in collecting product information and comparing different ones and selecting. Examples of shopping products contain clothing, furniture, major electronic appliances, and so on (Armstrong & Kotler 2003, 282-283).

Consumer electronics includes daily used electronic appliances and items especially for the convenience of amusement, exchange of information and ideas, and office productivity. In addition, because they are always priced higher, like mentioned above, prior-purchase work, for example, plan and research are needed (Anestis et al. 2008, 7). Television is one of typical examples.

#### 3.2 Evaluation of Alternatives

Alternative evaluation generally means the process in which the consumers analyse and perceive the gathered product information in their own ways in order to reach their final

brand choices when facing different alternative brands (Armstrong & Kotler 2003, 208). According to the buyer decision process model, evaluation of alternative is the third one among the five stages in the brand selection (Armstrong & Kotler 2003, 207).

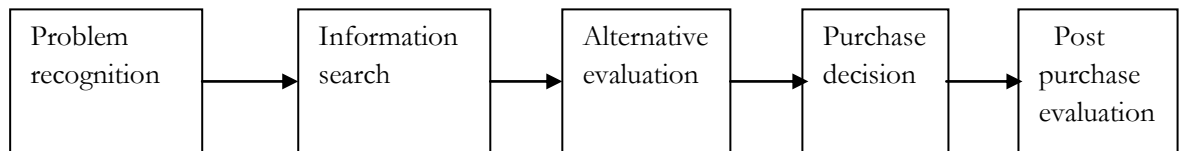


Figure 2. Decision-process Models of Buying Behaviour (Armstrong & Kotler 2003, 207)

Information search is the pre-stage of the evaluation process and through various information gathering channels, customers will found up an awareness set in their minds that provides them an outline of series of brand choices that can meet consumers' basic requirement (Jobber 2001, 64).

According to Jobber, "in the first step of the evaluation process, by reducing the awareness set with filtering information in the mind, consumers will focus on certain alternative brands that most probably and closely satisfy their requirement for the serious consideration and careful evaluation before the purchase, which is called evoked set. There are many choice criteria to screen the brand list for filtering, one of them may be the price, others may include reliability, storage capacity and physical size" (2001, 65). Variation in key choice criteria can be strongly effective predictors of buyer behaviour (Jobber 2001, 200).

One of the methods consumers use to determine the set for serious consideration is called "Cut Off", which means a series of acceptable maximum and minimum values for the product characters. In some cases, consumers may have a clear idea about the acceptable price range including both the minimum and maximum of the product. In addition, some obvious product signals, for example, tagged price, brand names or the retailers, are significant, show the importance in evaluating product attributes closely related to the choice making, and play roles in the consumers' perception of the products (Blythe 2001, 36).

From the branding perspective, when customers are assessing the alternative brands, the key point is that consumers perceive the differences that exist in the attributes or benefits of the products themselves, or those pertinent to more intangible image considerations (Keller 2008, 10).

Even if two brands look alike, customers may not necessarily treat and perceive them equally because of different product attributes, such as imagery, and benefits which are probably used by people when making the judgement. For instance, when two brands have similar functions, the one with better imagery in people's mind might be preferred by the customers (Jobber 2001, 65). Ultimately, consumers' evaluations may not correspond to the perceived quality of the product and maybe formed by less thoughtful decision making, such as simple heuristics and decision rules based on brand reputation or product characteristics such as colour or scent (Keller 2008, 195).

### 3.3 Price and Consumer Perception of Price

In a narrow perspective, the price is the amount of money that the profit organisations charge for their offered products or service. In other words, the consumers need to pay or sacrifice certain sum of the values as an exchange for the benefits of possessing or using the product or service (Armstrong & Kotler 2003, 353).

Price is the only component among the four ones in the marketing mix that directly generates revenue (Jobber 1998, 314). According to Zeithaml, "Price belongs to one of top three extrinsic attributes which are non-product specific, generalized indicator of quality" (1988, 8).

The price of one brand is associated with the benefits it provides, which is called value proposition and it includes functional benefits, emotional benefits and self-expressive benefits. If well and efficiently positioned, value proposition has promotional efficiency on purchasing decision (Aaker 1996, 95). See Figure 3 below.

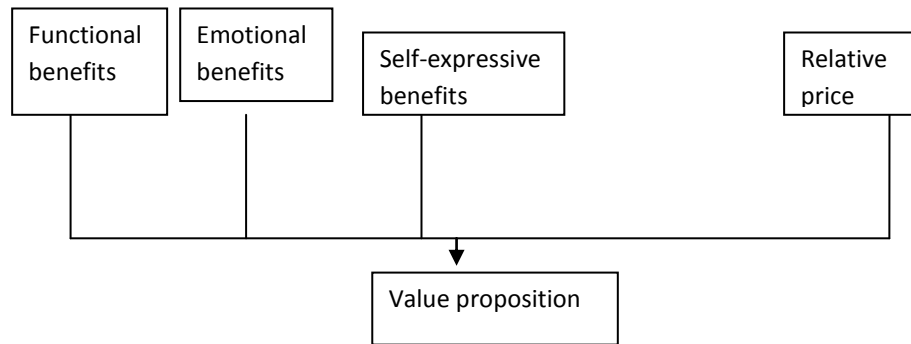


Figure 3. Value Proposition (Aaker 1996, 102)

Functional benefits are those profits and functional convenience brought by product attributes. Emotional benefits means the positive feeling offered to consumers by using experience of some brands. For instance, driving a Volvo car can bring people the feeling of safety, and drinking Coke makes people vigorous and vibrant. Self-expressive benefit, on the other hand, is a pattern of delivering and communicating individual image to the outside by using the brand (Aaker 1996, 95-99).

From the point of view of brand equity, consumers must find and think the price of the brand reasonably fit the benefit they feel they receive (Keller 2008, 209). When the price of one brand is too high in proportion to its provided benefits, it will reduce the value proposition of the product and service. Likewise, an overpriced brand will not be recognised and accepted by the consumers even if some meaningful benefits are provided for the sake of inappropriateness between price and value proposition (Aaker 1996, 102).

One particular strong aspect of brand value is a function of causing customers' perception of a set of dimensions. Consumer perception of price belongs to one of them. The perceived price is not definitely the same as the actual price, especially for some consumer goods, because most people do not have a clear insight of how much different items cost. On the contrary, in most actual purchasing situations, when making a choice among different alternatives, consumers' decision making is on the basis of the perception of values and prices. It is the perceived price that determines the cut-off point, which means, if the customer's perceived price is below what they expect from a set of value, they will make a purchase, otherwise, there will be no deal (Nilson 1998, 84).

Price is also a particularly important performance association. The pricing strategy can classify the price of the brand into different tiers as low, medium, or high. For every price



tier, there is also a range of acceptable prices, which are called price bands. Consumers often organize their product category knowledge and rank brands according to the price tiers in a category (Keller 2008, 200).

On the other hand, although noticing the given price tagged on the product, instead of passively accepting it, consumers sometimes actively gather and interpret price information according to their information through the channels of previous buying experience, formal or informal communication with some person and point of sale, or online information. For example, in the real situation, the price that the customer remembers belongs to the internal structure of reference. The regular tagged retail price can be sorted into the external structure of reference. Consumers always compare these two ones. When consumers summon one or more of these frames of references up, they are more likely to perceive price differently from the stated price (Keller 2008, 202).

Internal reference price emerges in many forms, e. g, the fair price, which means what a product should cost, typical price, last price paid, upper bound price meaning the most consumer would pay, the lower bound price, which means the least consumer would pay, competitive price, expected future price and usual discounted price (Keller 2008, 202). Zeithaml (1982) points out that, “Level of consumer attention, awareness, and knowledge of prices seem to be much lower than the necessary for consumers to have a precise internal reference price for many product categories”. As to the consumers’ price knowledge, complexity, the sufficiency degree of price information, and required processing time are influential elements (Zeithaml 1988, 11).

Various pricing strategies also influence the customers’ price perception. For instance, consumers often view the tagged price from left to right, and apparently one product priced at \$ 3.99 can motivate purchasing desire of consumers much more than the competitive one with \$ 4.00 although these two stated prices have a slight difference. Sometimes, some promotional activity by deep discounting or high-low pricing can probably affect customers’ price perception negatively. In a word, complicated pricing context in the competitive market environment have deep relationships with consumer price perception (Keller 2008, 203).

### 3.4 Quality, Product Quality and Perceived Quality

Quality is one product related attribute important enough to consider separately (Aaker 1996, 81). The narrowest explanation for quality is the state without defects, but in marketing perspective quality can be viewed as the product's feature with certain ability to satisfy customers' needs and expectations. After all, the decisive side is the consumers who finally make the assessment of the quality (Armstrong & Kotler 2003, 11).

There are two concepts relevant to quality: customer value and customer satisfaction. Customer value can be defined as the difference between what customers obtained by using the product or service and what they paid for the product or service. Customer satisfaction means the degree to which product perceived ability to move and operate in the aspect of delivering its value can combine well with the buyer's expectation. Because quality has a direct influence on product performance, it is largely related to customer value and customer satisfaction (Armstrong & Kotler 2003, 8-10).

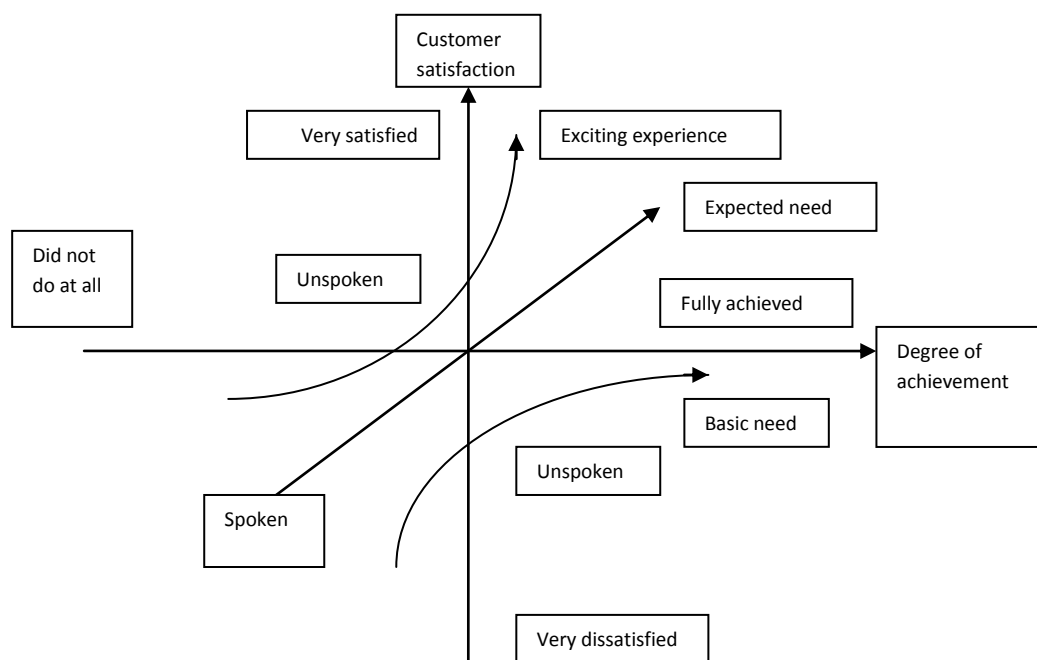


Figure 4. Kano Model of Customer Satisfaction (Bergman & Klefsjö 1994, 282)

For the product or service providers, satisfying customers' needs and expectations is not sufficient. The final goal is to offer customers something that can exceed their expectations and delight them. As Figure 4 shows, according to the Kano model of customer satisfaction,

the quality dimensions are segmented into three groups: basic needs, expected needs and exciting experience.

As to more detailed quality cues, attributes indicating the quality could be intrinsic and extrinsic. Intrinsic cues mainly refer to those physical compositions of a product and extrinsic cues are product-related, but intangible and outside the product, typical example is the attribute of price, brand name and so on. Because of the variety of product categories, extrinsic cues are more easily and generally served as indicators of quality (Zeithaml 1988, 8).

Product quality means the ability of a product to implement its functions (Armstrong & Kotler 2003, 287). According to Aaker, “Product quality can be measured by more detailed dimensions including performance, features, conformance, reliability, durability, serviceability, fit and finish” (1991, 91) .

The first one is **performance**, meaning the levels at which the main characteristic of the product can work, for instance, the conduction of product function may be at low, medium, high or very high level. The second one is **feature**, which means less important elements of a product that come after the primary characteristics and combine with the main attribute of product. Conformance quality illustrates the level at which the product reaches the regulation and specification requirement and is free of faults. Reliability means how consistently and dependably the product can implement its function in good performance and state. **Durability** refers to how long a time product can be used economically and efficiently. **Serviceability** means the convenience extent to find a service provider to main and repair the product. **Style and design**, also called fit and finish, means whether the appearance or look of the product can give the customer the feeling of quality product (Keller 2008, 195).

Besides, product quality depends not only on functional product performance, but also on broader performance consideration, like speed, accuracy and care of product delivery and installation, the promptness, courtesy, and helpfulness of customer service and training; and the quality of repair service (Keller 2008, 195).

The above dimensions are only the general ones. In the real situation, the leverage of quality does not keep constantly sluggish. In a competitive market with newly emerging and better innovative product, product quality more looks like a relative term and will not be constructively and positively affected by the newly launched ones on the markets. Besides,

the connection between the needs of the customers and the function and the price of the products means a lot in the valuation of the product quality (Bergman & Klefsjö 1994, 23).

It is not sufficient to just reach high quality. The actual quality must be transferred to the perceived quality recognized by the customer. Generating high quality requires an understanding of what quality means to customer segments, as well as a supportive culture and a quality improvement process to deliver the quality products and services to consumers (Aaker 1991, 97).

Perceived quality can be explained as customer's perception of overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives (Aaker 1991, 85). It can also be understood as a judgement made by consumers in the evoked set and belongs to a high level of abstraction, rather than a set of product attributes (Zeithaml 1988, 4).

Perceived quality is always placed on the core point of reason to buy, thus influencing which brands are included and excluded from consideration. In addition, it also reflects a measure of "goodness" that penetrates all the elements of a brand. Even the brand identity is characterised with functional benefits, those benefits are still closely related to perceived quality. Customers' perception of the brand will improve along with the heightening of perceived quality (Aaker 1996, 19).

Although perceived quality is an intangible, overall feeling about a brand, it is usually based on underlying dimensions which include the brands' attached characteristics such as reliability and performance (Aaker 1991, 86). When the product performance is beyond customers' estimate, customers' perceived quality will be high, otherwise, the perceived quality will be disappointing (Blythe 2001, 255). Continuous innovation and improvement for the product largely enhanced the customers' expectation and requirement for the product, thus further making it more difficult to reach the satisfactory level of perceived quality (Keller 2008, 195).

In addition, some single quality concepts in the product life cycle such as design quality, production quality, delivery quality and relational quality, and together with the role of the customers themselves and company image commonly influence perceived quality (Bergman & Klefsjö 1994, 20). See 4Q model below:

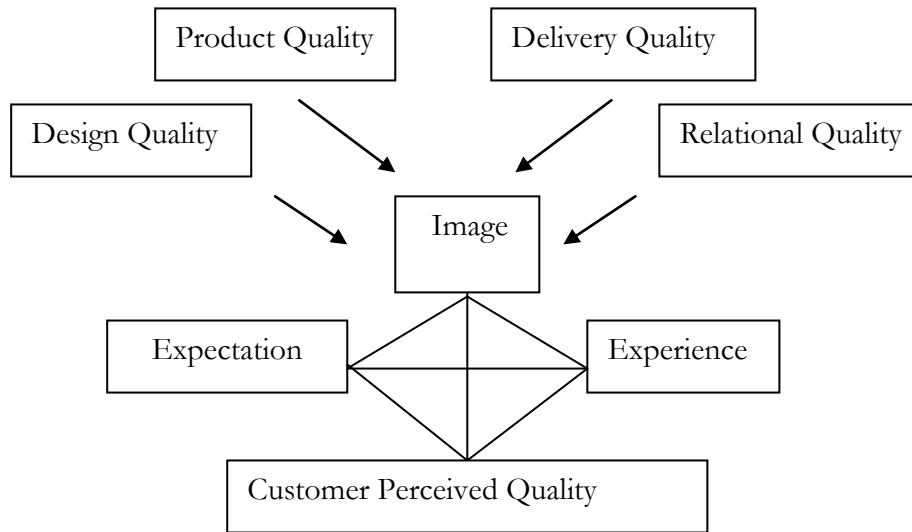


Figure 5. 4Q Model (Bergman & Klefsjö 1994, 284)

Consumers always use lower level attribute cues to assess quality. These lower level attributes include reputation, abstract dimension and perceived monetary price. Among these elements, the abstract dimension is a type of expression of intrinsic attributes which are product specific and difficult for a consumer to evaluate. The abstract dimension is an alternative approach more commonly and widely accepted to judge the quality, for example, performance, reliability, and so on (Zeithaml 1988, 7).

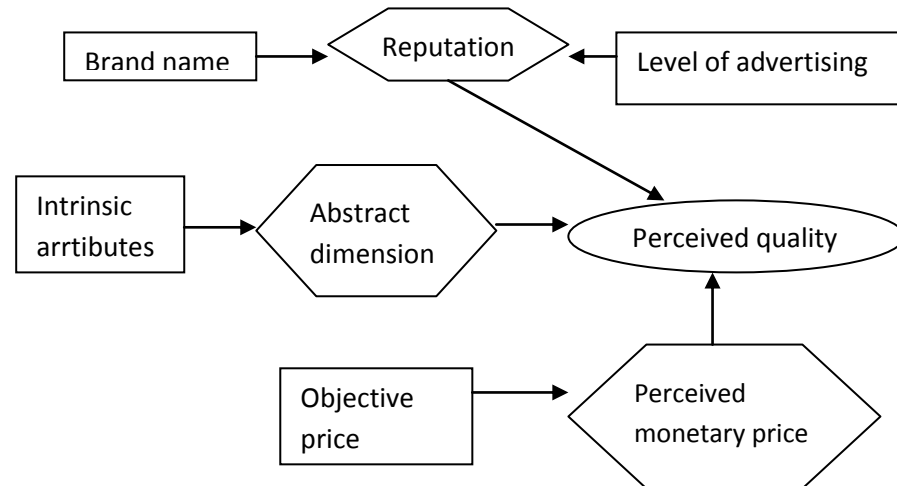


Figure 6. Perceived Quality Components (Zeithaml 1988, 7)

As Figure 6 shows, among these quality components, extrinsic attributes include objective price, level of advertising, and brand name. These three components are product-related but

do not belong to the physical product itself. Perceived quality belongs to higher level abstractions (Zeithaml 1988, 6-7).

### 3.5 Quality Price Relationship

Except the complex effect of price-benefit relationship on the customer purchasing, price also play a dimension role for quality. As one part of brand identity, it can outline the competitive set of brands, which can be labelled as upscale, middle market and downscale brands. In some circumstance, a higher price can signify higher quality, thus within a competitive set of brands, the price can largely signal the quality level (Aaker 1996, 102).

The extent of price function as quality cue is affected by three elements: information factors, individual factors, and product category factors. When the product information, except price, such as brand name, manufacture reputation and credit, or the advertising tool, is more easily accessible, informative or powerful, consumers probably rely less on price to judge quality (Zeithaml 1998, 12).

For the customers themselves, if they have not sufficient price knowledge, or they are at low price awareness level, they can't effectively utilise price as a dimension tool of quality (Zeithaml 1998, 12). For the product categories in which it is difficult for the consumers to conduct a detailed analysis themselves for the sake of lacking sufficient related professional knowledge, price can show its utility as a quality cue much more (Aaker 1991, 100).

For the buyers themselves, perceived quality will directly influence their purchasing decision and brand loyalty. It can also support a premium price (Aaker 1991, 19). From the branding perspective, customers' perceived quality can affect the brand image and value on the market and further affect the price (Aaker 1991, 89). For every competitive arena, perceived quality offers either the price of admission or the linchpin of competition (Aaker 1996, 81).

Price just reflects one product's value marked in monetary terms. It is only a quantitative tool for assessing the worth of a product and is usually used for comparison with the price of other competing products on the market (Barnes, Richard, Bob, Hildegard & Mike 1997, 282).

However, consumers' purchasing decisions are not made on the basis of the marked value of product on the market, but on their own perceived value. Consumers conclude the quality

of product on the ground of its price, by utilising the perceived quality and price to reach the further assessment of perceived value (Keller 2008, 201-202).

Perceived value can be described as consumers' overall assessment of the utility of the product on perceptions of what is received and what is given. More thoroughly speaking, value is made up of beneficial and sacrificial components. What value brings to consumers includes the intrinsic and extrinsic attribute of the product, perceived quality by customers themselves, and other pertinent high level of abstraction, for instance, convenience. Meanwhile, consumers need to pay monetary price and non monetary price such as time, energy, effort and so on. At different stages of the purchasing behaviour, value also means different things to consumers. For example, at the point of purchase, the perception of value as reasonable or even lower price is apparently more meaningful and attractive for consumers. In the evaluation process, calculation about how many practical benefits can be brought to me by what the consumers need to pay is more related to value (Zeithaml 1988, 14-15).

Price and brand value could also be described as a mixture with value on one side and the price on the other side. If consumers' perceptions of the brand value are not below those of the price perceptions, the purchase will be established (Nilson 1998, 86). From the brand creating perspective, price without quality does not equal value. Price with quality equals value and value is why people choose one brand over another (Marconi 2000, 34).

## 4 CONSUMER PERCEPTIONS OF QUALITY AND PRICE

This chapter introduces information about data collection, data processing and general empirical method that was used for the analysis. In addition, it gave the detailed analysis result of consumer perceptions of quality and price.

### 4.1 Data Collection and Processing

The research plan requests the collection of information for processing, including primary data, secondary data, or both. Primary data is information at hand gathered for specific objectives. Secondary data refers to ready-made information that has been collected and existed in some place for some purpose and it sometimes plays a good role in providing information reference for the researchers and helping researchers handle the problems (Kotler & Armstrong 2008, 102-103).

The main research instruments for collecting primary data include a questionnaire and mechanical devices (Kotler & Armstrong 2008, 109). In this research, for processing the data collected and other materials at elementary stage, data classification was the primary approach. When conducting the further analysis through different tables and figures, the Excel programme and the SPSS programme was indispensable.

Sample is a representative part of population derived for the market research in order to make further assessment for the larger population (Kotler & Armstrong 2008, 109). As to the quantitative research, the chosen respondents were the urban Chinese consumers visiting the home appliance supermarket. The sampled respondents were derived at random in pursuit of a relatively equal chance for each individual to be included in the sample, despite some unavoidable bias in the real situation (Blythe 2001, 86).

Qualitative research is a method concerning what people feel about the product, advertisement or company. This method is much more probing than the case with quantitative research and therefore the sample size is much smaller. Quantitative methodology mainly deals with areas that can be presented by numbers (Blythe 2001, 83). According to Keller, "Qualitative research is mainly used to draw verbal responses from consumers, and quantitative research is a method of providing various scale questions for



respondents to choose and fulfil in pursuit of numerical conclusion and prediction” (2008, 374).

In this research, the theoretical background just paved the way for the practical research. Restricted by the real conditions, depth interviews, no matter individually or in group, were not practical. Furthermore, information and deduction from individual interview may not apply to the larger group because of the differences among consumers. Therefore, quantitative customer research was considered to be comparatively proper and was selected, further offering the basis for final analysis and conclusion.

Considering possible problems in the actual situation, the partner in the supermarket handed out 120 questionnaires and several questionnaires had apparent filling errors. In the end 100 valid papers were selected out. In this process, in order to seek better cooperation with respondents to fill out the table, the partner gave every respondent a small gift as a pay-back.

Questionnaire is one approach to collect specific information for the defined problems. The analysis and explanation of the gathered data can provide a more clear viewpoint and demonstration for the problem (Chisnall 1997, 128). It is used as one of the most common tools in gathering primary data for the market researchers (Kotler & Armstrong 2008, 109). In the open-end questions, respondents can freely express their opinion in their own words. While the close-end questions contain those with multiple choice and scaling questions (Armstrong & Kotler 2003, 173).

As to the questionnaire design, both close-end and open-end questions were applied. The theoretical design of the questionnaire was on the basis of incumbent theory about quality, price and related items in the branding equity. Reading through the relevant content about these concepts was the first step to get a general theoretical framework of the subject. Literature details were extended in the theory part. These paved the way for basic understanding of this subject.

Among the formal 14 questions, ten questions belonged to single-choice closed questions, three questions belonged to rating questions. In addition, question four, question nine and question 14 were partly open-end for the purpose of soliciting for consumers’ free answers concerning their own perceptions of relevant product information.

According to Chisnall, “ Rating score for the attributes of a product in the questionnaire can be widely used when studying customers perception of products and brands, and the highest

score usually means very important, and this tool is especially useful for assessing small domestic appliance ”(1995, 198). In this questionnaire, the rating standards ranged from three points, five points, to seven points scale.

Reliability and validity are critically significant criteria for the practice of the research. Reliability provides a measurement about whether the result derived from the research practice is consistent and stable, and in essence it can hint credibility, preciseness and predictability. Validity always proposes a problem concerning to what extent a research can effectively and usefully measure what the research plans to measure. It is always more difficult to measure validity than reliability. In a word, reliability is the prerequisite of validity, but reliability does not definitely equal validity (Chisnall 1997, 34).

#### 4.2 Empirical Method

For further data analysis, the SPSS programme was utilised for data processing. Among the different processing methods, the methods of Spearman’s Rho and Contingency Coefficient were chosen to test the correlations between different questions for the reason that the collected data was not at distance or intervals, and was only in nominal scale. In addition, there were three ranking questions. At the beginning all the answers were transferred into number in ranking order before the processing. Chi-square was originally used to test the statistical significance. Because all of the output tables showed that the cells with expected count less than 5 were more than 20%. This violated one of the assumptions of Chi-square and the result might not be meaningful. Therefore, the Monte Carlo was further selected in the Chi-square section. In the detailed analysis of single question or cross tabulations between different questions, the general procedure was to show the elementary statistic result first, and followed by some informative explanation of some necessary cross tabulations. Then the following parts were the analyses of correlation test and significance test. As to the test approaches, Spearman rho only displays the result basing on this research sample with 100 respondents, both contingency test and Monte Carlo are based on a much larger, crude, and random sample with the size of 10000. Therefore, it was reasonable that in some cases, there were even different analysis results for the same questions or cross tabulations. In addition, for the Chi-Square test, by tradition, the p-value for reference was set as 0.05. Generally speaking, Monte Carlo is more exact and reliable because it always

shows the 99% confidence interval which provides a more detailed range for the possible p-value and offers a guideline.

The questionnaire included two parts: basic information section with three questions involving respondents' individual information including age, gender and income (Appendix 1, 1). For the formal 14 questions, questions one to four concerned relevant background surveys of evaluation of alternative brands (Appendix 1, 1-2). Questions five to question seven were three basic ones concerning consumer perceptions of price (Appendix 1, 2). Question eight to 12 included more classified surveys on consumer perceptions of quality on different price levels of brands (Appendix 1, 2-3). Question 13 was aimed to draw a general assessment of relationship between quality and price in the mind of consumers (Appendix 1, 3). Question 14 was an entirely open-end question to allow the consumers to express their ideas of quality and price freely, but no respondent replied this question (Appendix 1, 4).

Among these formal questions, some of them can't singly represent the consumer perceptions of quality, price, and the relation between these two elements. In pursuit of further deep assessment, some questions were combined together and a series of relevant cross tabulations made the demonstration and comparison more clear.

#### 4.3 Evaluation of Alternative Brands

Limited by individual capability, the sample was fairly small, with the size of 100. Among the 100 respondents, including 41 male and 59 female respondents, three people aged less than 20 years old, 32 people aged between 20 and 35 years old, 33 people age between 35 and 50 years old, 29 people aged between 50 and 65 years old and three people aged more than 65 years old.

Information search is the prerequisite of evaluating alternatives and question one and question two are most elementary ones designed to know consumers' background knowledge level of brand choice. Question one was aimed at surveying the respondents' frequency of in-store visiting of television set department. Like Figure 7 showed, among 100 respondents, 50% of them sometimes visited the television set departments. 31% of them seldom visited the television set departments. 14% of them often visited the television set departments. 5% of them always visited the television set departments.

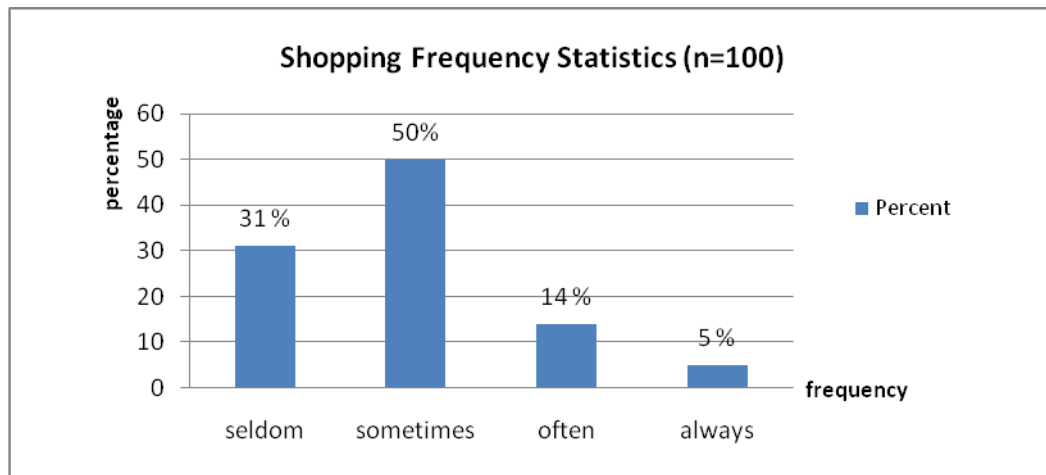


Figure 7. Shopping Frequency Statistics (n=100)

Question two was designed to know people's idea of whether to know what brand to buy before purchasing. Figure 8 showed that among 100 respondents, 60% of them knew which brand to buy before the final purchasing. 30% of them held unclear attitudes towards which brand to buy. Only 10% of them did not have idea of which brand to buy at all.

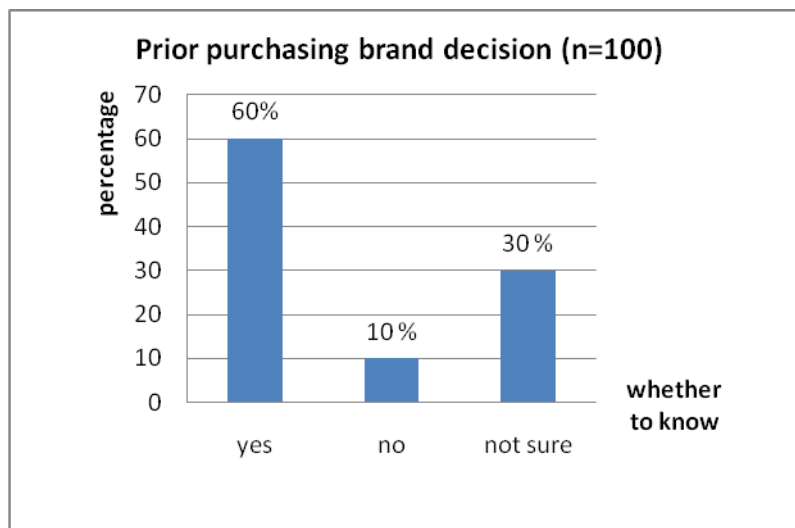


Figure 8. Statistics of Prior Purchasing Brand Decision (n=100)

Next, a cross-tabulation between question one and question two was made to search for unknown relationship between the frequency of in-store visiting and prior purchasing brand decision. Relevant information could be found from Table 1 to Table 4 (Appendix 2, 1-2).

According to the statistical result, as Spearman rho showed, at 0.01 significance level, the correlation coefficient between these two variables was 0.440. According to relevant standard, 0.440 is between 0.25 and 0.50, implying their low degree association. It also meant that these two variables were positively related to each other. In other words, when in-store visiting frequency of consumers increased, they would be more conscious of which brand to buy before the final purchase. The significance of this correlation was 0.00, showing there may not be a R value with this size if there is no relationship between these two variables. The contingency coefficient between these two variable was 0.416, belonging to low level of correlation.

Then the next step was to see whether their relationship was statistically significant. Thus, the Chi-square test was used.

In the Chi-square test, the alternative hypothesis is that there is an association between in-store visiting frequency and prior purchase decision of brand. Therefore, the null hypothesis is that no correlation exists between these two variables, or they are independent of each other. As the table showed, at 0.05 significance level, the final section of the output gave the value of the chi-squared test in the first row. The value of the chi-squared statistic was 20,916. The chi-squared statistic had 6 freedom degrees. The last column gave the two-tailed p-value associated with the chi-squared value. In this case, p-value equalled 0.002. There was also an important statement at the bottom of the Chi-Square output and it pointed out that 50% of the cell had expected frequencies less than 5, much higher than the assumed amount of 20% and chi-square result might not be meaningful. Thus, the use of Monte Carlo was necessary. In the output section of Monte Carlo, because the p-value (0.002) was less than 0.05, there was sufficient evidence to conclude that respondents' frequency of in-store visiting had impact on prior purchasing brand decision and this did not occur by chance.

As the Chapter 3 describes, usually for the first step, consumers always choose a set of alternatives that most probably and closely satisfy their requirement for the consideration (Blythe 2001, 36). In such a situation, alternative brands provide a selection resource and show their importance. Question three was an elementary survey on importance extent of brand alternatives. Figure 9 showed that 2% of them negated the importance of existence of alternatives. 6% of respondents held unclear attitudes toward existence of alternatives. 92% respondents affirmed its importance but only about 59% of them thought alternative brands important, not very important.

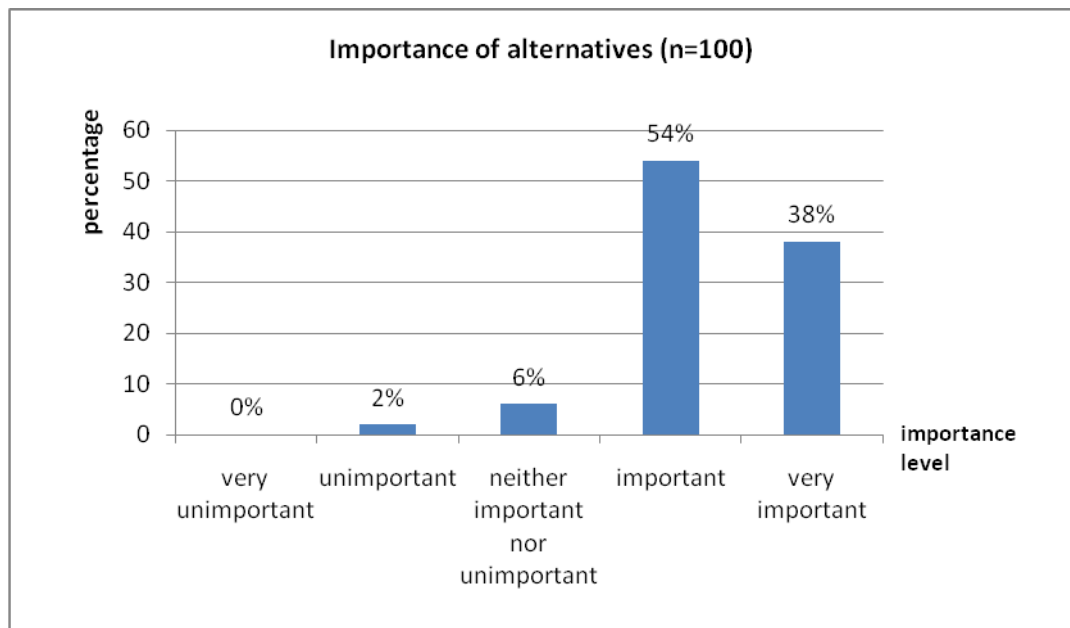


Figure 9. Statistics of Importance of Alternatives (n=100)

The statistical result of question two showed a considerable proportion of respondents knew what brand to buy before purchasing. There was suddenly a question that whether it definitely meant alternative brands were less important for consumers. Therefore, a combination between question two and question three was made. Relevant information can be found from Table 5 to Table 8 (Appendix 2, 2-3).

As to the Spearman rho, correlation coefficient equaled 0.140, despite positive, but less than 0.25, therefore, there was no association between these two variables. As to the Chi-Square Tests, the Monte Carlo Significance showed that at the free degree of 6, p-value equaled 0.003, less than 0.05, so there was a statistically important association between whether to know what brand to buy before purchasing and existence of alternative brand choice. In addition, the Contingency Coefficient is applied to testing the relationship and its value was 0.44, implying their low degree correlation.

As the analysis showed, Monte Carlo and Spearman measurements gave two different results. One possible explanation was that these two different test methods applied different conditions for the data. Because Monte Carlo test provides a confidence interval, its result is more accurate and reliable. But this does not mean the result by Spearman test is not right.

According to Chisnall, “Some typical choice criteria for small domestic appliance in the evaluation of alternatives process include styling & appearance, easy to use, value for money, after-sales service and availability” (1995, 198). Therefore, question four was designed by

this concept and the rating scales were from point one to point five representative of increasing importance respectively. It is easier to make detailed sorting by this rating scale. In the final result, no one answered the attached open question regarding respondents' ideas of brand choice criteria. According to the Descriptive Statistics, both availability and value for money got the same highest rating with 3.30, followed by easy to use, styling/appearance, after-sales service in sequence. Relevant information could be found in Table 9 (Appendix 2, 3-4).

#### 4.4 Price Perception

Question five was the first one of price-related questions and concerned importance of price in the selection process. As Figure 10 showed, the majority of the respondents, by 59%, considered price to be important and only 16% of the respondents considered price to be very important, indicating the existence of other elements with similar significance in the selection process. 6% of them negated the importance of price in their evaluation process and 19% of them held an unclear attitude.

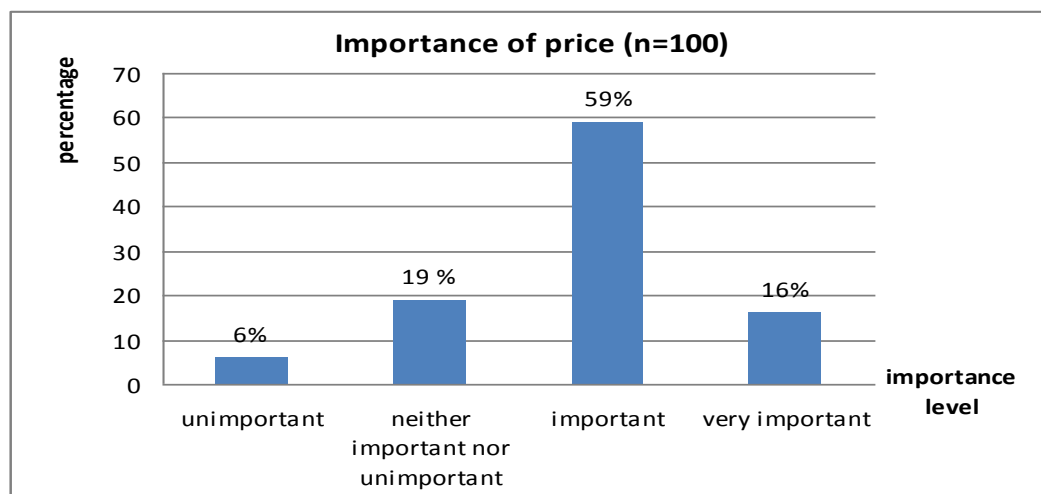


Figure 10. Statistics of Importance of Price (n=100)

In question four, choice criteria referred to value for money, which is relevant to price, thus a combination was made between question five and question four. Relevant information can be found from Table 93 to Table 103 (Appendix 2, 34-38). According to the analysis result, by the dimension of contingency coefficient, the factor of style had the closest relationship with importance of price in the selection process, followed by availability, and value for

money. According to the p-value in Monte Carlo, the result was the same, which signified the association between style and importance of price had the highest statistical significance. Spearman rho showed, price significance had the positive low level correlation with the factor of value for money, and had negative low level relationship with factor of style. That meant when respondents judged price to be more important in the selection, they would emphasize the value for money among a series of criteria for TV set more. Meanwhile, they would less likely consider style to be an important choice criterion.

Question eight was a basic question concerning consumers' preferred price levels of brands according to their own financial capability, and it was the premise for the question nine, ten and 11. According to the statistics, 35 percent of respondents chose low-priced brand, 55 percent of respondents chose middle-priced brand and 10 percent of them preferred high-priced level brand.

Question ten was designed on the ground of question eight, referring to customers' recognition extent concerning more detailed price ranges on each brand level, which, according to relevant theory, is called price bands. As Figure 11 showed, by combining the "clearly" and "very clearly" as one category, the counts of these three categories were 36, 35, and 29 respectively. Thus, basically the total respondents fundamentally can be divided into three groups on average as "unclearly", "neither nor" and "clearly& very clearly". This indicated that despite paying much attention to price, respondents did not have relevant necessary price knowledge to select the brand.

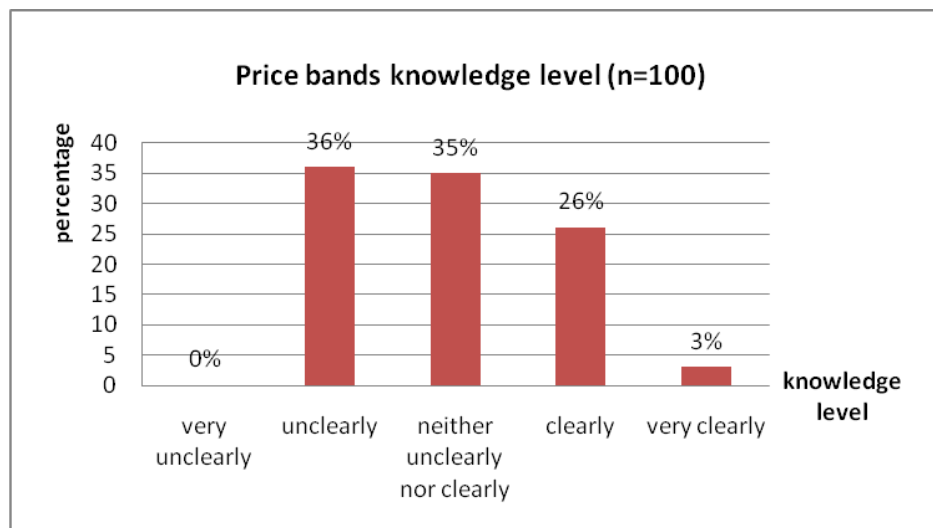


Figure 11. Statistics of Price Bands Knowledge Level (n=100)



As to the cross tabulation between question eight and question ten, at each brand level, customer perceptions of price range was primarily obscure and vague. Relevant information can be found in Table 30 (Appendix 2, 11).

Then there were the detailed analyses of correlation which can be found from Table 31 to Table 33 (Appendix 2, 11-12). According to Spearman Rho, the correlation coefficient value was 0.18, less than 0.25. Therefore, there was no association between price level of brands and price bands knowledge levels of respondents. Contingency Coefficient test also showed that its value was 0.202, less than 0.25. Thus, there was no relationship between these two variables. In Monte Carlo test, the p-value equalled 0.652, much higher than 0.05, thus, there was no statistical significance.

These above measurements showed the non-existence of relationship between price levels of brands that respondents chose and their price bands knowledge levels.

Because question five, eight and ten were all price-related, internal tentative cross tabulations were made to seek the possible correlations among these three variables. The first combination was among question five and question eight concerning association between importance of price and preferred price levels of brands by respondents. Relevant information could be found from Table 108 to Table 111 (Appendix 2, 41-42). According to the statistics, for people who chose low and middle price levels of brands, the majority of them agreed the importance of price in the selection process. Among the respondents choosing high priced brands, only 30% did the same. In Spearman rho, the correlation coefficient was -0.348 at 0.01 significance level, meaning this was a low degree negative correlation. In other words, when importance of price was increasing in the consideration of respondents, they would not prefer brands with higher price level. The contingency coefficient between these two variables equalled 0.429 and it was still at a low degree relationship. Monte Carlo test showed its p-value was 0.001, less than 0.05, showing their relationship was probably meaningful in statistical viewpoint, signifying probably real impact of price's importance in the evaluation on the price levels of brands favoured by respondents.

The second combination was between question five and question ten, which can be found from Table 127 to Table 130 (Appendix 2, 48-49). Spearman rho showed there was no association between importance price and price bands knowledge levels of respondents. Contingency coefficient showed there existed low degree correlation between these two

variables at the value of 0.425, the p-value in Monte Carlo was 0.016, less than 0.05, implying possible importance in statistics view.

#### 4.5 Quality Perception

Question nine provided more detailed quality dimensions for respondents to rank by significance levels. The first step was to use descriptive statistics to get the final rank. The result was sequentially product performance, durability, reliability, conformance, features, serviceability, and style and design. Relevant information could be found in Table 11 (Appendix 2, 4).

In pursuit of a more detailed information analysis, the cross tabulation between question eight and question nine was made, which could be found from Table 12 to Table 14 (Appendix 2, 4-5). As the statistics showed, on the levels of low-priced and middle-priced brands, product performance was the most favoured quality dimension by the standard of significance, followed by durability, and reliability. Respondents at these two groups ranked the product's style and design as the last position. For respondents favouring high price level of brands, they considered product features to be highly important as a quality dimension.

Then there were the detailed analyses about correlations, which could be found from Table 15 to Table 29 (Appendix 2, 5-10). As the Spearman's rho showed, at 0.01 significance level, only the factor of feature was related to preferred price levels of brands, and the relevant correlation coefficient was 0.254. This signified these two factors had positive relationship with each other at a low magnitude of correlation. That meant, along with the rising of price levels of brands, feature could be considered by the respondents to be more important as one of the quality dimensions.

The Contingency test showed that by the value of contingency coefficient, the dimensions of style and design, serviceability, and durability were the three ones most related to the price levels of brands. However, these three factors' correlation coefficients were between 0.25 and 0.50, at a low degree. According to the Monte Carlo test, it also showed that the p-value of these three factors were less than 5%, thus, their relationships with price levels of brands were statistically significant. By this standard, style and design ranked first, followed by serviceability and durability.

Moreover, for the attached open-end section of question nine, 99 respondents did not write the idea, and one respondent listed another important quality, which was anti-disturbance ability of TV set. This quality was something pertinent to technology.

#### 4.6 Price Quality Relationship

Question six and question seven were the first set of ones concerning consumers' understanding of price's function as a quality cue. Final statistical result of question six showed 90% of respondents agreed the dimension role of price for the quality, 6% chose "no", and 4% of them chose the "not sure". Among the 90 respondents, 61.1% of them thought that price could largely and very largely implement its function as a quality cue, thus forming the majority. However, 35.6% of them still agreed price as a quality cue to medium extent. They belonged to the group of people who might have the unclear attitudes towards function of price, no matter positively or negatively. Relevant information could be found in Table 10 (Appendix 2, 4).

Question 11 involved value proposition of brands at these three price levels, which consisted of functional benefits, emotional benefits, and self-expressive benefits. This was still a rating question by the standard of importance extent. By the means of descriptive statistics, the final rank was that functional benefits got the highest score, followed by emotional benefits, self-expressive benefits. Relevant information can be found in Table 34 (Appendix 2, 12).

According to the purpose of the question 11, a cross tabulation was made between question eight and question 11, which could be found from Table 35 to Table 37 (Appendix 2, 12-13). These statistics tables showed that there was no fundamental ranking difference across the three price levels of brands. At both low and middle price levels of brands, functional benefits were the ones that respondents thought most highly of, followed by emotional appeals, and self-expressive benefits ranked last. According to recent researches, for Chinese consumer, the quality of one brand meant much more as functional attribute, not better feeling (Lane, St-Maurice & Süssmuth-Dyckerhoff 2006, 39). Brand attraction for Chinese consumers meant much more a practicality, for example, technical difference in the consumer electronics, not emotional appeal. On the other hand, this phenomenon also provided an opportunity for the marketers to win the customer by utilising the emotional

and self-expressive attributes, especially among young generation and high income consumer group (Hsu, Hui, Liao & Wu 2007, 7).

Then there was the statistics for the correlation test, which can be found from Table 38 to Table 44 (Appendix 2, 13-15). For Spearman's rho the correlation coefficient between these two variables was -0.208, belonging to the low degree correlation, and its p-value equalled 0.037, the asterisk show this coefficient was valid at 0.05 significance level. Meanwhile, because -0.208 was less than zero, it was apparent that functional benefits was negatively affected by the price levels of brands, which meant, the higher price level that respondents chose, the less they considered the functional benefit important in the evaluation of product benefit position.

For the Contingency test, the contingency coefficient of emotional benefits was 0.300 and it was most correlated with price levels of brands, followed by functional benefits and self expressive benefits. In Monte Carlo test, there appeared some different phenomena, showing only p-value of emotional benefits was 0.041, less than 0.05 and its correlation had statistical significance. The p-values of other two factors were much higher than 0.05, showing their correlations with price levels of brands probably occurred by chance.

Question 12 was designed mainly for understanding consumer perception of price premium, which signifies whether customers are willing to pay extra money for the various features and characteristics of a product (Aaker 1991, 23). Price premium is also a pattern of advantage expressed and offered by consumers' perceived quality and can vice versa consolidate perceived quality (Aaker 1991, 87). As the Figure 12 showed, respondents who chose the answer "not sure" constituted the main part by the percentage of 41%, followed by 37% of respondents preferring "willing" and only 22% of total respondents preferred "unwilling", reflecting the price sensitivity of respondents and comparatively low brand loyalty.

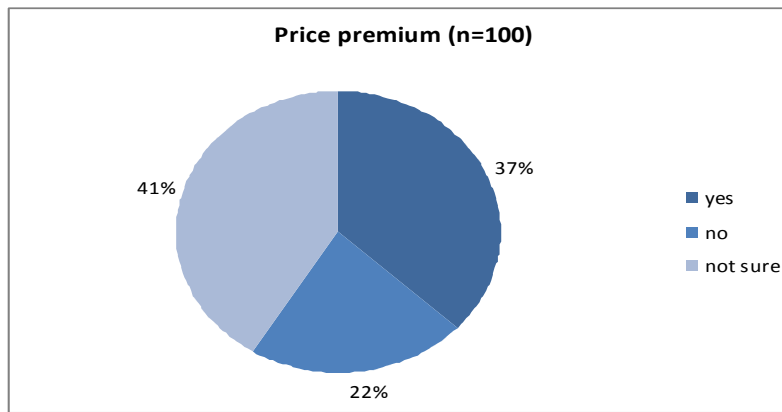


Figure 12. Statistics of Price Premium (n=100)

Although question 12 was not designed on the basis of question eight, a cross tabulation was still made to test unknown relationship between these two variables, which could be found in Table 45 (Appendix 2, 15-16). According to the result, for the groups favouring low and middle price levels, the percentage of respondents willing to pay the price premium were only 11.4% and 45.5% respectively. Among these 90 respondents, people with unclear and negative attitudes toward price premium accounted for about 68% and only 32% of them were willing to pay the price premium. For the group favouring high price level, the proportion of people with positive attitude toward price premium was as high as 80%.

Then there were the correlation tests which could be found from Table 46 to Table 48 (Appendix 2, 16-17). Spearman Rho showed correlation coefficient between these two variables was 0.489, between 0.25 and 0.50, showing price levels of brands and respondents' attitudes toward price premium were positively related to each other at low degree correlation, and p-value was 0.000 at 0.01 significance level. In other words, with the heightening of price level, respondents' attitudes toward price premium are more positive and willing to pay it. Contingency Coefficient test showed contingency value between these two variables was 0.446, similar to the Spearman rho value, and belonged to low degree correlation. The p-value in the Monte Carlo test was 0.000, less than 0.05, meaning the correlation between price levels of brands and attitudes of respondents toward price premium was statistically important.

Question 13 was aimed at surveying general comparison between price and quality by the respondents in the evaluation of brand choice. As Figure 13 showed, 68% respondents agreed the equal position of price and quality in the consideration. 27% respondents emphasized the importance of quality much more, and only 4% of them considered quality

to be less important than price. In addition, only 1% of the whole respondents especially expressed his idea of favouring good quality matched with low price.

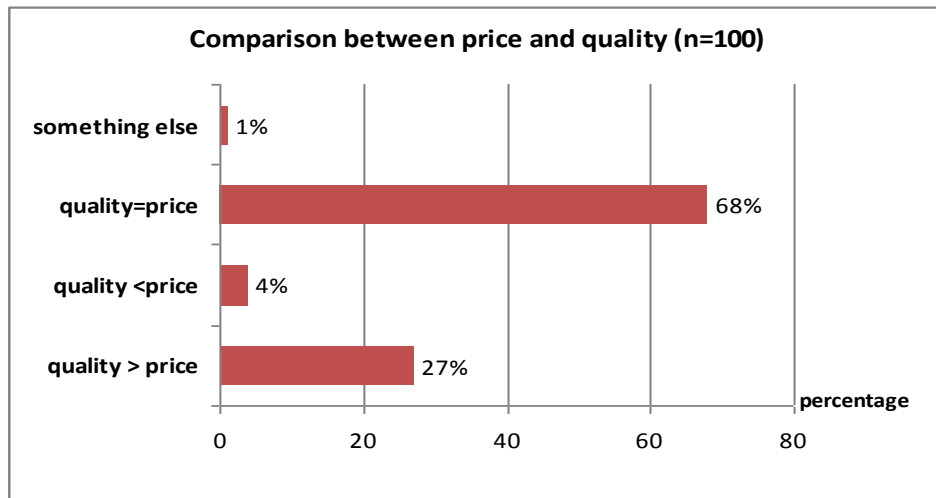


Figure 13. Statistics of Comparison between Price and Quality (n=100)

Here the unknown relationship was attempted to seek between question 12 and question 13. According to Spearman rho, the correlation coefficient was  $-0.309$  at 0.01 level. This negative low level association implied that when respondents were more willing to pay price premium, they would less likely think that price was more important than quality in the general evaluation process. The contingency coefficient between this two variables was 0.369, belonging to low level correlation. The p-value in Monte Carlo test was 0.008, less than 0.05. Therefore, their relationship was probably statistically significant. Relevant information could be found from Table 49 to Table 52 (Appendix 2, 17-18).

Because question five was an elementary one only referring to importance of price in the evaluation process, there were some tentative combinations among question five and some important price and quality-related questions in pursuit of possible relationship. The first one was between question five and question seven which was about the extent of price as a quality indicator. Relevant information can be found from Table 104 to Table 107 (Appendix 2, 39-40). Spearman rho shows there was no association between importance of price in the selection and the extent of price as quality indicator. Contingency coefficient showed there existed low degree correlation between these two variables at the value of 0.468, the p-value in Monte Carlo was 0.026, implying possible importance in statistical view.

The second one was between question five and question nine which involved quality dimension ranking at different preferred price levels. Relevant information can be found from Table 112 to Table 126 (Appendix 2, 42-47). According to Spearman rho, style and design was most related with importance of price, followed by serviceability, durability and reliability. There was no relationship between importance of price and other three quality dimensions.

However, style and design was the only one negatively related to importance of price. In other words, the more important the respondents considered price to be in the evaluation, the less important they considered the role of style and design to be a product quality dimension. On the contrary, they would consider much more about serviceability, durability, and reliability in the aspect of product quality.

Contingency coefficient showed product feature was most related with importance of price, followed by serviceability at moderate degree, and performance at low degree. Monte Carlo showed the associations of these three factors with price importance were important in statistical perspective. According to the range of p-value, the correlation of product feature with importance of price was most statistically significant, followed by serviceability and performance.

The third combination was between question five and question 12 which concerned attitudes of respondents toward price premium, relevant information could be found from Table 131 to Table 134 (Appendix 2, 49-50). Spearman rho showed correlation coefficient was -0.258. Therefore, there was a negative association between importance of price in the selection and the respondents' attitudes toward price premium. In other words, when price became more important in the consideration, respondents would be less willing to pay the price premium. Contingency coefficient showed there existed low degree correlation between these two variables at the value of 0.351, the p-value in Monte Carlo was 0.022, less than 0.05, implying possibly statistical importance.

#### 4.7 Further Analysis

For basic section in the questionnaire, question three concerned personal income of respondents at detailed six levels. According to the statistics, the incomes of majority of the respondents ranged from 1000 to 3999 yuan per month, and this income level could be

positioned as middle level, and only 14 % of them had income more than 4000 yuan per month. Therefore, this research could not fully reflect the perception of high income group. Relevant information can be found in Table 53 (Appendix 2, 18).

Because personal income is economy-related factor, in addition to the designed correlation analysis in the questionnaire, some further tentative researches were made between personal income and selected important questions in the formal question section.

The first pair was the study of relationship between personal income and question two concerning prior purchasing brand decision, which can be found from Table 54 to Table 57 (Appendix 2, 19-21). The correlation coefficient in Spearman rho equalled 0.440 at 0.01 significance level. This low level positive correlation meant when respondents had higher income level, they would have higher possibility to know which brand to buy before purchasing. The contingency coefficient between this two variables was 0.440, belonging to low level correlation. The p-value in Monte Carlo test was 0.011, less than 0.05, so their relationship was probably statistically meaningful.

The second pair was the study of relationship between personal income and question four concerning general choice criteria for evaluation of consumer appliance. Personal income in this questionnaire referred to six levels, and question four contained complicated categories as well. The cross tabulation among these two questions was not made because there would be many complex and less meaningful cells in the output table. Only related and necessary correlation tests were made.

Then there were the correlation tests which can be found from Table 58 to Table 68 (Appendix 2, 21-25). The correlation coefficient in Spearman rho showed value for money was most closely associated with personal income level, followed by style and after-sales service. The correlation coefficients of these three factors were all between 0.25 and 0.50, at low degree correlation. The other two ones were not correlated with income level. For elements of value for money and style, because their coefficients were below zero, indicating that along with the heightening of personal income level, respondents would consider value for money and after-sales service to be less important in their general evaluation of alternative brands. On the contrary, they would consider style of product to be more important when choosing brands. In the Contingency Coefficient test, according to the output value, style was most correlated with income level at moderate degree, followed by value for money at moderate degree, after-sales service, availability, and easy to use all at low degree. However, Monte Carlo test showed that at 0.05 significance level, among these five



associations, the one between product style and income level was most statistically significant, followed by value for money. Other correlations might happen by chance.

The third pair was research on the association between personal income and question five, which can be found from Table 69 to Table 72 (Appendix 2, 25-26). As the Spearman's rho showed, there was no relationship between these two variables. However, in the Contingency test, the coefficient was 0.510, between 0.50 and 0.75, belonging to moderate level correlation. The p-value in Monte Carlo is 0.006, less than 0.05, implying their possible relationship with statistical importance.

The fourth pair was cross tab between personal income and question seven concerning the extent of price as a quality tool. As to the cross tabulation, for the reason mentioned in the second pair, there was no explanation for the cross tabulation, here it was only an informative display which can be found in Table 74 (Appendix 2, 27).

Then there were the correlation analyses which can be found from Table 73, Table 75 and Table 76 (Appendix 2, 26-28). In the Spearman rho, correlation coefficient between these two variables equalled 0.288 and was at low degree positive correlation level. P-value of 0.006 was at 0.01 significance level and less than 0.05, implying that the higher the respondents personal income level was at, the more apparently and clearly, they would think, the function of price as a quality indicator.

Contingency coefficient value between these two variables was 0.560, implying the moderate degree correlation. For the Chi-square with Monte Carlo, the null hypothesis is that there is no association between personal income and perception level of price as a quality tool. The output table shows at the freedom degree 20, the Chi-square value was 41.185, the p-value was 0.049. Although it was slightly less than 0.05, it indicated that their correlation was statistically significant. Thus, it was reasonable that personal income levels of respondents probably had impact on their recognitions of price as a quality dimension tool. Therefore, it can be ensured that rejecting the null hypothesis is reasonable.

So far, in the above hypothesis, personal income and preferred price levels of brands were two important prerequisite questions for the possible correlation test. Now, the correlation between these two economy-related questions was set as the fifth pair. Like mentioned before, here cross tabulation was only an informative display, which can be found in Table 78 (Appendix 2, 28-29).

Then there were the correlation results which can be found from Table 77, Table 79 and Table 80 (Appendix 2, 28-30). Spearman's rho showed that personal income level was also positively related to the preferred price levels of brands by the respondents, meaning that when respondents had higher income, they would be more likely to choose the higher priced brands. Correlation Coefficient 0.358 was at a low degree at the 0.01 significance level (2-tailed), and p-value was 0.00, less than 0.05. Contingency coefficient between them was 0.533, belonging to moderate level, In the Chi-square test table, p-value in the Monte Carlo section equalled 0.00, much less than 0.05. It could be interpreted as that their association at moderate degree might not occur by chance and maybe meaningful in statistical perspective.

The sixth pair was the combination between personal income and question ten concerning price bands knowledge levels of consumers. There was no explanation for cross tabulation, relevant information can be found in Table 82 (Appendix 2, 30). Then there were the correlation analyses which can be found from Table 81, Table 83 and Table 84 (Appendix 2, 30-31). As to Spearman rho, correlation coefficient between personal income level and respondents' price band knowledge level was 0.416 at 0.01 significance level, meaning these two variables were positively related to each other at low degree. In other words, rising income of respondents made their price bands knowledge richer and they would be clearer on detailed price range on their preferred price level. Contingency Coefficient test showed their coefficient equalled 0.526, this was a positive association at moderate degree. Monte Carlo test showed, the p-value was 0.005, much less than 0.05. Thus it could be concluded that there was an important difference between these two variables and they were probably dependent on each other in essence.

The seventh pair was between personal income and question 12 concerning attitudes respondents toward price premium, which can be found from Table 85 to Table 88 (Appendix 2, 31-33). Spearman Rho shows correlation coefficient between personal income level and this variable was 0.148, meaning for this sample of 100 respondents, there was no correlation between these two variables. Contingency Coefficient test showed their coefficient equalled 0.417, this was an association at low degree. Monte Carlo test showed, the p-value was 0.014, less than 0.05, therefore, there was an important difference between these two variables. In statistical perspective, personal income level probably had influence on respondents' attitude toward price premium.

The last pair was between personal income and question 13 which concerned general perception of quality and price by consumers. There was no explanation for the cross

tabulation which can be found in Table 90 (Appendix 2, 33-34). As to correlation test, which can be found from Table 89, Table 91 and Table 92 (Appendix 2, 33-34), Spearman rho showed the correlation coefficient was -0.448 at 0.01 significance level, meaning personal income was negatively related to comparison between price and quality. That possibly meant, when respondents had higher income, they would pay more attention to the quality of the product in the general evaluation and the role that price played in their perception would become less important. Contingency Coefficient between them was 0.483, similar to the correlation coefficient, was at low correlation degree. As to the statistical significance, Monte Carlo test showed the p-value between these two variables equalled 0.073, higher than 0.05, implying their correlation might be caused just by chance and they probably did not affect each other in reality.

#### 4.8 Summary

In the end there were analyses about the impacts of price levels of brands, personal income levels, and importance of price on important selected questions basing on comparisons by the p-value in Monte Carlo test and contingency coefficient. The first reference for comparison was question eight, which was marked as f8. Important selected combinations contained its association with question ten (f10), question 12 (f12) question five (f5) and personal income level (b3). Among these marks, the letter “P” meant question in the formal question section of questionnaire, letter “b” meant question in the basic information section of questionnaire (Appendix 1, 1).

As Table 1 showed, by standard of both the Monte Carlo and contingency coefficient, apparently, preferred price levels of brands had the closest relationship with personal income, followed by its relationship with attitude toward price premium, and importance of price in the selection process.

Table 1. Comparison of Correlation between Question Eight and Other Selected Questions

question combination	Monte Carlo p-value	Contingency coefficient	evaluation rank
f8f10	0.652	0.202	4
f8b3	0.000	0.533	1
f8f12	0.000	0.446	2
f8f 5	0.001	0.429	3

The second reference for comparison was personal income level, which was marked as b3. Selected combinations contained its association with question two (f2), question five (f5), question seven (f7), question eight (f8), question ten (f10), question 12 (f12) and question 13 (f13). The information about the question mark was the same as mentioned above. As table 2 showed, by Monte Carlo standard, the association between personal income levels and preferred price levels of brands had the highest statistical significance, followed by its relationship with respondents' price bands knowledge level, and extent of role of price as a quality tool.

Table 2. Comparison of Correlation between Personal Income and Other Selected Questions

question combination	Monte Carlo p-value	Contingency coefficient	evaluation rank
b3f2	0.011	0.440	4
b3f5	0.006	0.510	3
b3f7	0.049	0.560	6
b3f8	0.000	0.533	1
b3f10	0.005	0.526	2
b3f12	0.014	0.417	5
b3f13	0.073	0.483	7

The third reference for comparison was question five (f5). Selected combinations contained its association with question seven (f7), question eight (f8), question ten (f10) and question 12 (f12). The information about the question mark was the same as mentioned above. As table 3 showed, by Monte Carlo standard, the association between importance of price in selection process and preferred price levels of brands had the highest statistical significance.

Table 3. Comparison of Correlation between Question Five and Other Selected Questions

question combination	Monte Carlo p-value	Contingency coefficient	evaluation rank
f5f7	0.026	0.468	4
f5f8	0.001	0.429	1
f5f10	0.016	0.425	2
f5f12	0.022	0.351	3

Then there were also other comparisons by standard of statistical importance. For question two, among its correlation with question one, question three and personal income, by the standard of p-value in the Monte Carlo test, it could be concluded that the correlation between in-store visiting and prior purchasing brand decision had the highest statistical significance.

For question four, by comparison, three factors, including style and design, availability, and value for money, had correlations with importance extent of price in the selection. At the same time, these three correlations all had statistic significance. On the other hand, only style and value for money had statistically important correlation with personal income. Therefore, generally speaking, the factor of importance of price for the respondents probably has more impact on their criteria choosing for TV set.

For the question seven, by comparison, it was obvious that the correlation between price's importance in the selection and the extent of price as a quality tool has more statistical meaning.

For question nine, according to the survey result, there were three product quality dimensions respectively correlated with both importance of price and price levels of brands with statistical significance. By the standard of contingency coefficients obviously importance of price in the evaluation of alternative brands had more relationship with product quality dimension than that of price levels of brands. While by the p-value in Monte Carlo, it was obvious that the correlation between favoured price levels of brands and product quality dimensions was more important in statistics viewpoint.

For question ten, as the analysis showed before, there was no correlation between price bands knowledge levels and price levels of brands. By the Standard of Spearman rho, there was no correlation between price bands knowledge levels and importance of price in selection process. However, for its combination with personal income, Spearman Rho, Monte Carlo, and contingency test all showed correlations between these two variables with statistical importance. Thus, respondents' price bands knowledge level had the closest relationship with personal income level with highest statistical significance.

In addition, for the question 12, the correlation between people's attitude toward price premium and preferred brand's price level had the highest statistical significance.

For the question 13 the correlation between people's attitude toward price premium and general comparison between price and quality was the only one statistically meaningful.

For the respondents with higher income level, they were more likely to choose higher priced brand, they agreed the price role as quality tool more, and they had more price knowledge on their favoured brands, and they considered the factor of quality more important in the selection process.

Furthermore, respondents favouring high priced brand held a more largely positive attitude toward price premium, paid much attention to style and design, serviceability, and durability. They more sought emotional benefits that the brand could bring to them. Price was not very important in their whole consideration. For those respondents who considered price to be important in the selection process, they more likely valued style and design, availability and value for money, and more agreed function of price as a quality dimension.

## 5 CONCLUSION

Price plays a consistently significant role in the purchasing process. Urban Chinese consumers were price sensitive for the sake of limited disposable income, changing market environment and economic situation. They were more likely to be so in the current economy crisis, and inclined to save money (Nielsen 2008, 2). As the analysis showed, individual financial capability, for instance, personal income level, was closely related to respondents' consideration of price in the evaluation of alternative brands, and had significant impact on both the choice of price levels of brands and their own attitudes towards price premium.

Detailed price perception of individual customer shows great differences along with the individual affordability, brand knowledge level and market environment. But as the analysis showed, urban Chinese consumers had many channels to collect relevant product information other than single in-store visiting. These information resources could provide them more price information as references, such as tagged market price, competitive prices of other alternatives, discount price and so on. Basing on those collected price information, consumers can further make comparison across stores according to their own situation (Hsu et al. 2007, 8-9). In order to get the best deal, looking through advertisement, brochure, promotion and seasonal discount, and relevant price information was necessary for the consumers, but a fairly part of them lacked necessary level of price bands knowledge.

As the statistics of question 13 shows, nearly 70% of respondents cited the quality at least as important product attribute as price, they would not lower their quality requirement for the products, especially for the typical representative of consumer electronics, such as television set, which is more expensive, less frequently purchased, and possesses more technical characters. Especially in current consumer electronic market fashion, colour television set design are merged with much more high techniques, such as flat panel, digital, liquid crystal display.

Market in China was still impressive of brand influence, but urban Chinese consumers only kept certain degree of brand loyalty to some big brand. In essence, searching and acquiring brand with better quality and acceptable price for the best deal is the ultimate objective of most customers. Given the latest economic situation and numerous brands on market, making purchasing decision on the basis of perceived value, not brand, was the tendency of

brand selection. In addition, preference for functionality, brand size, and environmental awareness were the driving elements in the brand selection. High quality, advanced technology and convenient good after-sales service were the three most valued buying points for the consumer electronics (Insight China 2008, 25-26).

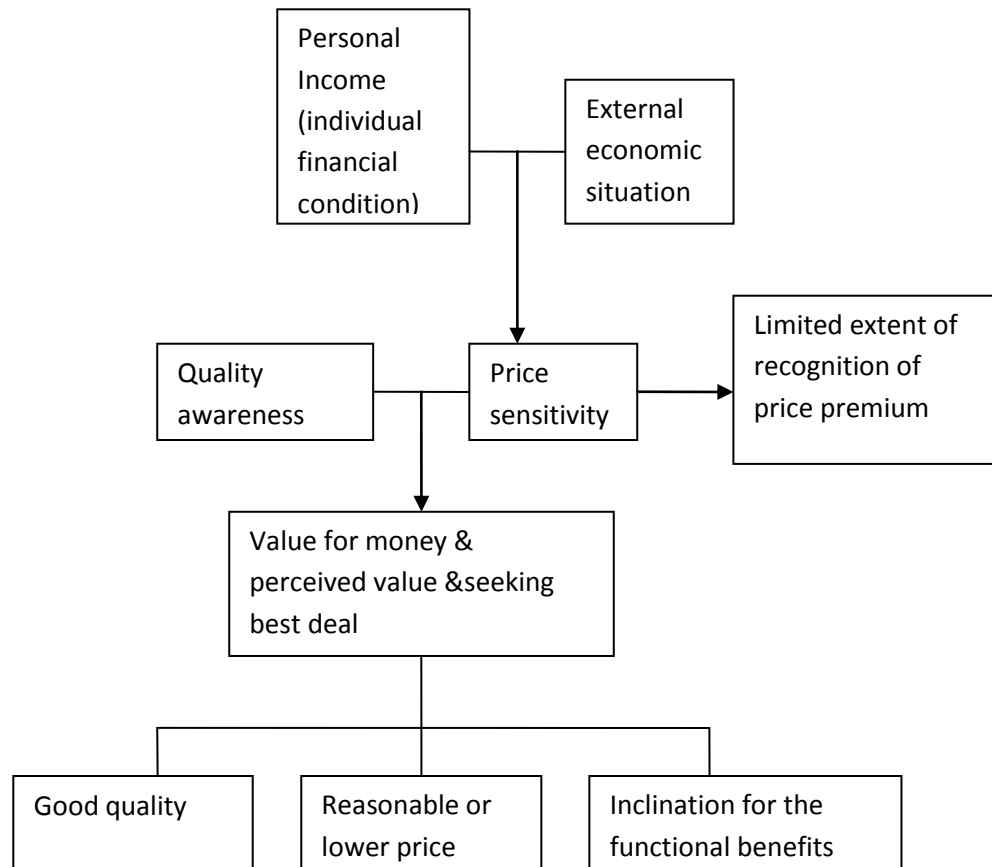


Figure 14. Conclusion Structure

Figure 14 displayed an outline of conclusion basing on analyses in this research and other research results. For the product category of consumer electronics, urban Chinese consumers perceived both product quality and price significant in the evaluation of alternative brands. Personal financial condition had certain impact on price sensitivities of consumers, further influencing their attitudes towards price premium. Price sensitivity and quality awareness together cause consumers to seek best value for money. Therefore, functional attributes were closely connected with price factor together in the evaluation of alternative brands (Hsu et al. 2007, 8). Like the statistics of question nine showed, such functional attributes as product performance, feature, and reliability were more attractive and practical for them.



This research was a small and preliminary study concerning the quality and price perception of urban Chinese consumers. There are several further areas worth researching. The first one is possible in-depth study about price conscious level and price knowledge level of the urban Chinese consumer group, for example, whether price sensitivity equals price attention or price awareness for urban Chinese consumers, this may be helpful for the marketers. Another possible topic could refer to how the miscellaneous pricing strategies and promotional tools across stores affect the price perceptions of consumers. Finally, how the Chinese consumers analyze the price information, make a best deal, and whether there are some common rules going beyond individual differences are also instructive fields worth studying.

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