



TELEVISION PURCHASE EVALUATION CRITERIA IN BANGKOK
METROPOLITANS:
AN APPLICATION OF CONJOINT ANALYSIS

By
SHAOKUI LU

A Thesis submitted in partial fulfillment
of the requirements for the degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok, Thailand
December
2006

188138

TELEVISION PURCHASE EVALUATION CRITERIA IN BANGKOK
METROPOLITANS:
AN APPLICATION OF CONJOINT ANALYSIS

By

SHAOKUI LU

A Thesis submitted in partial fulfillment
of the requirement for the degree of

Master of Business Administration

Examination Committee :

1. Dr. Chittipa Ngamkroekjoti (Advisor)
2. Dr. Theerachote Pongtaveewould (Member)
3. Dr. Jakarin Srimoon (Member)
4. Dr. Sirion Chaipoopirutana (Member)
5. Dr. Panarat Panmanee (MOE Representative).....

Examined on : 18 December 2006

Approved for Graduation on :

Graduate School of Business
Assumption University
Bangkok, Thailand
December
2006

ABSTRACT

This consumer behavior study focused on discovering the relative importance of television (TV) purchase evaluation criteria for Bangkok Metropolitan consumers on consumers' intentions to purchase. To be more specific, the purpose was designed to evaluation criteria in this study were defined by the empirical researches which had used them to test the consumer preference factors when they purchase TV.

Typical Conjoint analysis was chosen for this study because of two reasons. Firstly, this research method has been used by empirical researches to define the consumer behavior which focuses on the preference. Secondly, it is the feature of conjoint analysis which is very suitable to simulate the consumer behavior. Six attributes of TV selected for this research were Brand Name, Country of Origin (COO), Price, Picture Quality, Length of Warranty, and Reliability. SPSS version 14 was selected to process the data for this research.

In total, 130 questionnaires were collected in the main department stores and discounted stores by taking two steps. The overall samples' preferred evaluation criteria ranked from the most important to the least important were Brand Name, COO, Price, Picture Quality, Reliability, and Length of Warranty. Moreover, it was found that Brand Name, Price, and Reliability had correlation with income levels; COO and reliability had correlation with educational levels. Finally, as the empirical findings showed, Bangkok consumers also regarded Brand Name and COO as the two most important criteria when making television purchase intention.

This research is very important for the TV manufactures and marketers who have entered or plan to discover Thai television market. It is especially significant for Chinese TV manufactures. They have to pay more attention to their Brand Name strategy rather than price strategy only. They have to improve the brand awareness and build up the brand image and loyalty. Besides, the marketers can also use this conclusion to select the right product to distribute in Bangkok Metropolitan market. Finally, it is expected that consumers will also gain benefits if more and more preferred products are provided by the manufactures.

ACKNOWLEDGEMENTS

The effort of many people went into the construction of this thesis. The writer would like to express his sincere thanks to all of them for their kind cooperation and advice. The comments of my reviewers were extremely helpful to the completion of this project.

Firstly, I would like to express my sincerely appreciated to my advisor, Dr. Chittipa Ngamkroeckjoti, who gave me a precious guidance to the whole research; my pre-advisor, Dr. Theerachote Pongtaveewould, who offered me recommendations about the conjoint analysis; Dr. Jakarin Srimoon, who illustrated the way to do the literature review, and Dr. Sirion Chaipoopirutana, who kindly gave me comments about the content and structure.

Secondly, I would like to express my earnest gratitude to my familiar, my father and mother who gave me life and educated me to be an honest and good person. Because of their love, money and support, I could be able to become an knowledgeable, usable person for the society; I also appreciate my sister, who helped me take care of my parents when I stayed thousands miles away from them; and my girlfriend, Summer, who has encouraged and helped me a lot in doing this research.

In additional, I would like to express my sincere thankfulness for those friends who had helped me and supported me to do this research. Thanks a lot for the following companies, Samsung Electronics Co., Ltd (Thailand), Haier Group Company (China), ChangHong Electronics Co., Ltd (China), and TCL Corporation (Thailand), who sincerely provided their experiences and data about Thai Television market.

Finally, thanks a lot for the respondents who kindly contributed their time and energy to answer the questionnaires, especially for those respondents who also gave recommendations about this research and questionnaire. I also want to say thanks for those people who work for the process of this thesis.

Shaokui Lu
December, 2006

CONTENT

Chapter	Page
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
CONTENT	iii
LIST OF FIGURES	v
LIST OF TABLES	vii
CHAPTER 1 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem	4
1.3 Research Objectives	5
1.5 Research Limitations	6
1.6 Significance of the Study	7
1.7 Definition of Terms	7
1.8 Abbreviation	11
CHAPTER 2 REVIEW OF RELATED LITERATURE AND STUDIES	12
2.1 Consumer Behavior	12
2.2 Conjoint Analysis	19
2.3 Empirical Findings	20
2.4 Conclusion of Previous Studies	29
CHAPTER 3 RESEARCH FRAMEWORK	31
3.1 Diagram of Framework	31
3.2 Expected Findings	35
CHAPTER 4 RESEARCH METHODOLOGY	36
4.1 Research Method	36
4.2 Respondents and Sampling Procedures	36
4.3 Research instrument	39
4.4 Pretest	41
4.5 Data Collection method	47
4.6 Statistic treatment of data	48
CHAPTER 5 PRESENTATION OF DATA AND CRITICAL DISCUSSION OF RESULTS	49
5.1 Profile of the Sample	49

Chapter	Page
5.2 Conjoint Analysis Result	50
5.3 Diagnosis of Methods Result	59
5.4 Explanation	59
CHAPTER 6 CONCLUSION AND RECOMMENDATIONS	61
6.1 Summary of the Major Findings	61
6.2 Conclusion and Discussion	62
6.3 Implication	64
6.4 Further Research	65
BIBLIOGRAPHY	67
APPENDIX A QUESTIONNAIRE	71
APPENDIX B ORTHOGONAL DESIGN	77
APPENDIX C SPSS CONJOINT SYNTAX	81
APPENDIX D MARKET SURVEY	83
APPENDIX E PRETEST RESULT	85
APPENDIX F CONJOINT ANALYSIS RESULT	89



LIST OF FIGURES

Figure	Page
1.1 Thai Television Market Size in Sale Volume (2002-2009)	1
1.2 Market Share of Pure Flat Television in Sale Volume (Jan-Sep, 2006)	2
1.3 Market Share of World Television Productivity (2005)	3
2.1 A complete model of consumer behavior showing purchase and its outcomes	14
2.2 Alternative evaluation and selection process	15
2.3 The Consumer Decision Process with Key Factors	30
3.1 Diagram of Television Evaluation Process	31
3.2 Conceptual Framework	32
4.1 The Report of SPSS Orthogonal Design	40
4.2 Averaged Importance of Attribute in Pretest	44
4.3 Brand Name Utility in Pretest	44
4.4 COO Utility in Pretest	45
4.5 Price Utility in Pretest	45
4.6 Picture Quality Utility in Pretest	46
4.7 Length of Warranty Utility in Pretest	46
4.8 Reliability Utility in Pretest	47
5.1 Overall Relative Importance Summary	50
5.2 Income Segment I Relative Importance Summary	52
5.3 Income Segment II Relative Importance Summary	53
5.4 Income Segment III Relative Importance Summary	53
5.5 Education Segment I Relative Importance Summary	56
5.6 Education Segment II Relative Importance Summary	56
5.7 Education Segment III Relative Importance Summary	57

Figure	Page
B.1 Plan Cards	78
C.1 SPSS Conjoint Analysis Syntax	82
D.1 Market Survey of Price of TV	84
D.2 Market Survey of COO of TV	84
E.1 Subfile Summary Pretest	86
F.1 Subfile Summary of Overall 130 Respondents	90
F.2 Subfile Summary of Income Level I below Baht 15,000	91
F.3 Subfile Summary of Income Level II between Baht 15,000 to 35,000	92
F.4 Subfile Summary of Income Level III above Baht 35,000	93
F.5 Subfile Summary of Education Level I, High School or Lower	94
F.6 Subfile Summary of Education Level II Diploma or Bachelor Degree	95
F.7 Subfile Summary of Education Level III Master Degree or Higher	96

LIST OF TABLES

Table	Page
2.1 Summary of the Related Researches	24
2.2 Summary of previous thesis in similar topic	27
3.1 Attributes and attributes' Levels	35
4.1 Weighted Score of TV Attributes and Attribute Levels	42
4.2 Weighted Score of Sixteen Cards	43
5.1 Frequency Descriptive of Income Level	49
5.2 Frequency Descriptive of Education Level	50
5.3 Utility Score of Attribute Level	51
5.4 Income Segmentation Summery	54
5.5 Income Segmentation Rank	54
5.6 Education Segmentation Summery	58
5.7 Education Segmentation Rank	58
6.1 Overall Conclusions	61
E.1 Descriptive Statistics of Six Attributes Weighted Score	87
E.2 Descriptive Statistics of Brand Attribute Levels	87
E.3 Descriptive Statistics of COO Attribute Levels	87
E.4 Descriptive Statistics of Price Attribute Levels	87
E.5 Descriptive Statistics of Picture Quality Attribute Levels	88
E.6 Descriptive Statistics of Length of Warranty Attribute Levels	88
E.7 Descriptive Statistics of Reliability Attribute Levels	88
E.8 Detailed Weighted Score for Sixteen Cards	88

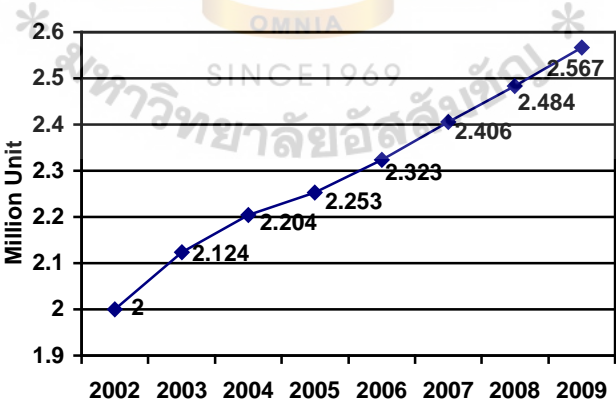
CHAPTER 1
INTRODUCTION

1.1 Background of the Study

1.1.1 Thai Television Market

Globalization of business has exposed world consumers to a wider range of product choices. Therefore, consumers use multiple criteria to evaluate a products or service is more popular. Many studies have focused on the multiple evaluation criteria which affect consumer purchase intention and purchase decision. Moreover, it has also driven international marketers to change their market strategies more synthetically and cross-nationally. Therefore, it is sometimes difficult for consumers to make a product decision with certainty countries of origin of a product. This phenomenon is quite common among electronic products, especially televisions (TVs). For example, Sony Televisions available in Thai market could be made in Japan, made in Thailand, made in China, or even made in the other worldwide factories of Sony; however, the market survey¹ showed that most of the TVs sold in the market are made in Thailand.

Figure 1.1 Thai Television Market Size in Sale Volume (2002-2009)



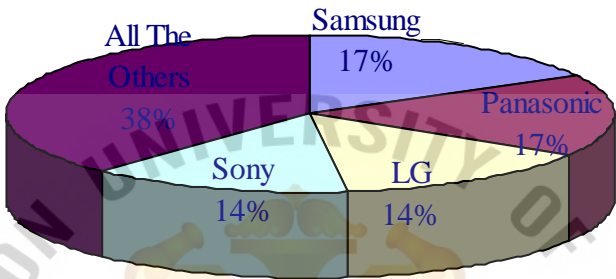
Source: Economist Intelligence Unit² (2005), *Industry Forecast: Asia and Australasia*

¹ The survey was been made at Central Power Buy and BIG Ramkhamhaeng Branch on November 8, 2006. Both the seller interview and product survey has been done.

² The Economist Intelligence Unit Limited, *Industry Forecast: Asia and Australasia*, December 2005 contacted by The Economist Intelligence Unit 60/F, Central Plaza, 18 Harbour Road, Wanchai, Hong

Concerning television market size in Thailand, Figure 1.1 (page 1) shows the good growing potential. To be more specifically, it shows that the approximate growth of thirteen percent during 2002-2005. At the same time, they were forecasted to keep increasing at least in the following four years; Secondly, Thai TVs market is full of products made by multinational companies, such as Samsung, Sony, Panasonic, and LG.

Figure 1.2 Market Share of Pure Flat Television in Sale Volume (Jan-Sep, 2006)



Source: GfK Marketing Services (2005), *Television market report: Pure Flat TV*

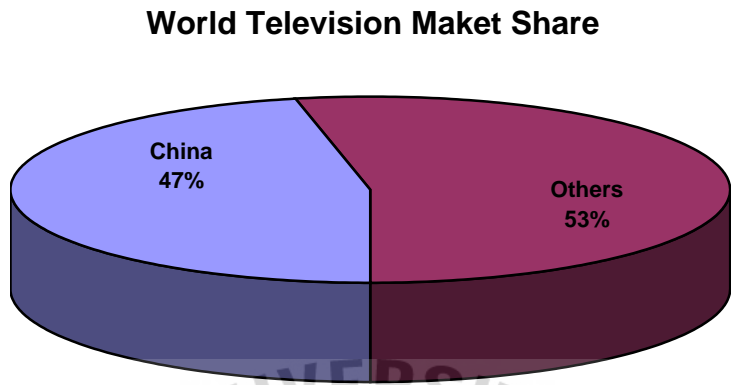
The foreign brands acted as the most important roles in the Thai television market, as Figure 1.2 shows. At the beginning of year 2006, the GfK Marketing Services Thailand Limited³ revealed that Thai electronic market leader - Samsung ranked number one in terms of market shares of liquid crystal display (LCD), Plasma, and Color televisions (TVs). Figure 1.2 shows the current market share of Thai television market in sale volume. All the top four are Japanese and South Korea originated brands. However, the country of origin (COO) of most of these products available in the Thai television market is not Japan or South Korea, but Thailand. Therefore, it will be very interesting to find out whether Thai consumers are aware of the concept of COO when they purchase television.

Kong, Tel. 852 2585 3888 Fax: 852 2802 7638 Email: hongkong@eiu.com. Also, the website is available at the www.store.eiu.com (accessed on 5th November 2006).

³ The GfK Group, the number four market research organization worldwide. Contacted by GfK Marketing Services Thailand Ltd. 27th Floor, Empire Tower, 195 South Sathorn Road, Yannawa, Sathorn, Bangkok 10120 Thailand, Tel : +66 2 670 3300 Fax : +66 2 286 2596 EMail: gfkms_th@gfkms.com

1.1.2. World Television Market

Figure 1.3 Market Share of World Television Productivity (2005)



Source: Taylor C. (2006), “TV Market Moves and Shakes”, Sep 26, 2006, <http://www.edn.com/article/CA6375307.html?ref=nbednnenews&industryid=22043>

ChinaIRN (2006) China Color Television Productivity January-December 2005, March 27, 2006, <http://www.chinairn.com/doc/60210/59299.html>

At present, China, the most fastest-growing Asian country, ranks among the most dynamic Asian economies, generally is optimistic about its prospects for the international community. According to the report of iSuppli Corporation⁴, the world television productivity reached 177.5 million units in the year 2005. Figure 1.3 shows that China accounts for about 47% productivity of the world. Furthermore, TCL Company of China and Thomson Europe merged in 2003 as TCL - Thomson Electronics, which became the biggest television company of the world. Most importantly, they successfully made their brand name famous and popular all over the world.

Therefore, good economic background has also brought Chinese electronic products a glorious future. In the year 2005, according to the report of Chinese Ministry of Electronic Industries, China made about 82.83 million units of television

⁴ iSuppli Corporation, the global leader in electronics industry intelligence. Contacted by iSuppli Corporation (Asia), Room 706A, 7/F, Hollywood Plaza, 610 Nathan Road, Kowloon, Hong Kong, Contact: Jason Ma. Email: jma@isuppli.com, Phone: 852.2834.7833 Fax: 852.2834.7098

sets and 48%, 39.74 million units of those were exported to the world in terms of Chinese Custom report.

Chinese electronic products have suffered a big failure in Thai market although they are well sold in the international markets. It is well known that Thai-Sino trading has kept fast growing and the total trading amount achieved the new high record US Dollar 21.81 billion in the year 2005 (Available on the website: http://www.moc.gov.cn/06liaoning/jiaotongxw/200610/t20061019_96951.html, retrieved on November 6, 2006). Nonetheless, Chinese-brand electronic products are rarely seen in the Thai market. It is worthwhile, hence, to explore the reasons behind this strange phenomenon.

1.2 Statement of the Problem

Firstly, the brands of Japanese and South Korean take the lead in Thai television market (see Figure 1.2, page 2); all of them are multinational companies. The governing of these multinational companies' makes multi COO products appeared in one market to be possible; therefore, it will be very interesting to find out whether Thai consumers are aware of the concept of COO when they purchase television sets which are made by these multinational companies.

Secondly, Chinese television products are quite popular in the many international market, but they have suffered failures when entering Thai market, as Haier⁵, ChangHong⁶, and Tcl⁷ put it when discussing their histories in Thai market. Do the customers dislike televisions made in Chinese? Do they have strong perceptions about County of Origin? Is consumer impression on COO, brand name affected by the rapid development and globalization of television technology and industry? Therefore, the statement of problem relating to this research is:

⁵ Haier Group, China's largest home appliance brand and one of the world's leading white goods home appliance manufacturers, The global revenue of Haier for 2005 was RMB 103.4 billion, Contacted by online contact, Address: No.1 Haier Road Hi-tech Zone Qingdao China zip:266101, Tel:(086)532-88939999 FAX:(086)532-88938666 Web: www.haier.com

⁶ ChangHong Electronics Co., Ltd, sales in 2005 hit RMB17.6 billion. Contacted by Phone, Head Office, Address: 1 North Xingye Road, Nantou, Zhongshan, Guangdong, China Postcode: 528427, Mr. Guo Lee TEL: +86-760-3138548 FAX: +86-760-3138528 MOBILE: +86-/ 13392925890 E-MAIL: australia.exp@changhong.com; lee.lg@changhong.com Web: www.changhong.com

⁷ TCL Group Company Limited, the total revenues reached to RMB 50 billions in 2004, Contacted by Email, Address: 8/F, TCL Industrial Building, No.6 ELing South Road HuiZhou, GuangDong 516001, China Tel: 86-752-2288333 Fax: 86-752-2265428 Email: tcl_webmaster@tcl.com Web: www.tcl.com

What is the relative importance of Thai consumers' key evaluation criteria when purchasing televisions?

1.3 Research Objectives

The overall objective of this research is to determine Thai consumers' attitude towards COO and brand name when purchasing televisions. The specific objectives are shown as follows:

- To explore the relationship between income and education levels and the most important evaluation criteria
- To determine the most important key evaluation criteria that affect Thai consumers' television-purchasing decision
- To recommend the manufacture and consumer to make a better purchase decision

1.4 Research Scope

The scope of this research mainly covered the most current Television market in Thailand.

1.4.1 Area

Base on the sample survey method, this study was conducted in Bangkok metropolitan area.

1.4.2 Survey Period

November and December, 2006 were chosen as the survey period since the upcoming New Year is the peak season for shopping. The number of potential consumers who are going to purchase televisions, therefore, will increase. Based on the above reason, the survey was more efficient and reliable.

1.4.3 Product Studied

Standard TVs were selected in this study because the technology's globalization may change the importance of the key evaluation criteria. The previous and current Number one of Thai TV market (GfK Reports), Samsung, Sony, were selected as they

are the current market leaders in Thailand (see Figure 1.2, page 2); a potential brand, Haier was also selected as it is China's largest home appliance brand and one of the world's leading white goods home appliance manufacturers. Its global revenue in 2005 was RMB 103.4 Billion. The original countries of these brands were selected as the COO countries in this study. The detailed information is as follows:

- Country of Origin (COO): China, Japan, and South Korea;
- Brand Names: Haier, Sony and Samsung;
- Price: Below Baht 6,990.00, between Baht 6,990.00 and Baht 14,990.00, and above Baht 14,990.00;
- Picture Quality: Excellent Quality picture performance and Normal quality picture performance;
- Length of Warranty: longer than one-year warranty and one-year warranty or less; and
- Reliability: High reliability and Normal reliability.

1.4.4 Target Survey Population

The target respondents were the people who were searching information in order to buy a TV now or in the near future. They were randomly selected from TV sales zones in major stores in Bangkok, such as: The Mall, Central, Big C, and Tesco Lotus.

1.5 Research Limitations

In terms of the research scope, the study had the following limitations. Firstly, conjoint analysis used in this study limited the numbers of attributes, which may not allow the researcher to choose all attributes desired. Secondly, conjoint analysis was also weak at measuring the people's emotional responses which were sometimes important for purchasing behavior. Thirdly, conjoint analysis was not capable of determining the interaction between different evaluative criteria, which could limit its effectiveness in the case that one evaluative criterion was indirectly linked with

another. Due to the limitations of this research method, the study only focused on the standard televisions in order to reduce the attributes.

1.6 Significance of the Study

This research will benefit both the international television manufacturers who would like to explore the Thai market, such as Chinese television manufacturers, and global marketers, especially Thai marketers. Moreover, the conclusions of this research may also help reduce the risk and cost of the manufacturers and distributors and finally may benefit consumers. The details are as follows:

- 1) The Bangkok consumers' impression on COO will help the international television enterprises make better marketing strategies. As one of the major television manufacturing country, China and her companies should learn from the study results and hopefully be able to adapt their marketing strategies towards the Thai Market;
- 2) Thai marketer will also gain benefits from the study because the results may be able to help them seek, import, and sell more suitable products;
- 3) The study will also have significance for television manufacturers. Customers' preferences will help them develop the right products for the right market so as to gain more profits.
- 4) Consumers will gain benefits finally. It will be easier for them to find out the products that they want to buy because the manufacturers and distributors can produce and sell the right products for them to choose.

1.7 Definition of Terms

Appearance: The appearance of an object is the result of a complex interaction of the light incident on the object, the optical characteristics of the object, and human perception (Harold, 2001). In this study, appearance means the outlook style of the television that the buyers perceive.

Attributes (Product Attributes): The factors used as expressions of self and/or to indicate prominence and status, such as brand, quality, and price (Tidwell et al.,

1993; cited in Wickliffe and Pysarchik, 1999). This study focuses on the key evaluation criteria, which is called key product attributes within conjoint analysis.

Attribute Levels: means the options of each attribute (Available on http://www.dobney.com/Conjoint/conjoint_design.htm, Retrieved on November 6, 2006). In this study, attributes levels have similar meanings to key evaluation criteria levels which indicate the number of options of attribute. The more attribute levels have, the higher attribute degrees are.

Behavioral Intention: A plan to perform an action. Intentions are produced when beliefs about behavior consequences of the action and social normative beliefs are considered and integrated to evaluate alternative behaviors and select among them (Peter and Olson, 2002). In this study means the consumers' beliefs about the key TV purchase evaluation criteria.

Brand: A distinguishing name and/or symbol (such as logo, trademark or package design) intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors (Aaker, 1991).

Brand Awareness is the recognition or recall of a brand; this usually implies the differentiation of one brand from other brands by reference to one or more characteristics (Solomon, 1997).

Brand loyalty Jacoby and Olson (1970) proposed a definition that required all three forms of loyalty to be present and this was adopted by Jacoby and Chestnut (1978). Their full definition of brand loyalty is:

The biased (i.e. non-random),

Behavior response (i.e. purchase),

Expressed over time,

By some decision-making unit (e.g. household, person),

With respect to one or more alternative brands,

Which is a function of psychological process (decision-making, evaluation)?

Brand name: (together with associated pack designs and logos) is a major company asset and product naming practices are of strategic importance; because these most companies have rules that ensure coherence and control on brand naming throughout the company (Solomon, 1997). To be more specific, brand names of television in this study comprise Sony, Samsung, and Haier.

Conjoint analysis: Conjoint analysis is a method for measuring consumers' trade-offs decision making among product attributes, including service attributes and service dimensions (Virens and Oppewal, 2000).

Consumer Attitude: is an enduring combination of motivational, emotional, perceptual and cognitive processes with respect to some aspect of our environment (Krech and Cruthfield, 1984).

Consumer Behavior: That is, on an understanding of how and why consumer purchase (or didn't purchase) products and services (Neal et al, 2002).

Consumer Decision Making: suggests that an individual carefully evaluates the attributes of a set of products, services or brands, and rationally selects the one that solves a clearly recognized need for the least cost (Neal et al, 2002).

Country of origin (COO): The country where corporate headquarters of the company marketing the product or brand is located (Ozsomer and Cavusgil, 1991, cited in Al-sulaiti and Backer, 1998). In this study, COO is the place where the product has been produced, source of country which represents the consumer's impression of "Made in".

Country of origin effects: Intangible barriers to enter new markets in the form of negative consumer bias toward imported products (Wang and Lamb, 1983, cited in Alsulaiti and Backer, 1998).

Evaluation Criteria: are the various features a consumer looks for in response to a particular type of problem; or are the typically product features or attributes associated by customers with either the benefit they desire or the cost they must incur (Neal et al, 2002).

Guaranty: A formal agreement, usually in writing, that a product, service, etc will conform to specified standards for a particular period of time; (Available on <http://www.allwords.com/word-guarantee.html>, retrieved on November 6, 2006).

Market Segmentation: The division of a market into different homogeneous groups of consumers is known as (Charles, 1998).

Picture Quality: The best measure of any analog or digital television system is the viewer's satisfaction with the image received. Traditionally, the quality of analog and full-bandwidth digital video systems (Available on http://www.tek.com/M Measurement/cgi-bin/framed.pl?Document=/Measurement/App_Notes/PicQuality/&FrameSet=television, retrieved on November 6, 2006). In this study, picture quality means how well and beautiful the picture is performed by a television of Sony, Samsung, and Haier.

Preference Test: are employed to compare reactions to different product attributes or quality levels (Dalrymple and Parsons, 2000).

Product Evaluation: Same as alternatives evaluation, is the third step within the consumer buying process, the buyer weights the advantages and disadvantage of the various alternatives and eventually makes a decision (Dalrymple and Parsons, 2000).

Purchase behavior: From a marketing standpoint, consumer behavior is about human responses in a commercial world: how and why people buy and use products, how they react to prices, advertising and other promotional tools, and what underlying mechanisms operate to help and hinder consumption (Solomon, 1997). This study focuses the TVs purchasing decision making behavior.

Purchase Intention: A decision plan or intention to buy a particular product or brand (Peter and Olson, 2002). In this study, purchase intention was used to how strong the intention to purchase the studied products.

Purchase Decision: It is the mental process of choosing the most desirable alternative, the outcome of alternatives evaluation (Walters and Bergiel, 1989)

Quality: A product's ability to satisfy customers' needs and requirements (Perreault and McCarthy, 2002). In this study, it means a promise to the consumer

that the quality of a product and/or service achieved a standard, normally ISO series or the other international Quality Assurance and Control standards.

Reliability: The probability that a component part, equipment, or system will satisfactorily perform its intended function under given circumstances, such as environmental conditions, limitations as to operating time, and frequency and thoroughness of maintenance for a specified period of time (Science and Technology Dictionary, available on <http://www.answers.com/topic/reliability-1>, retrieved on November 6, 2006). In this study, it means the non-stop use time of TVs.

Television: An electronic apparatus that receives such signals, reproducing the images on a screen, and typically reproducing accompanying sound signals on speakers (The American Heritage Dictionary, available on <http://www.answers.com/topic/television>, retrieved on November 6, 2006). This study focuses on the **Standard television set**, which use the classic Cathode ray tube (CRT) technology, include Classic CRT, Flat CRT, and Pure Flat CRT TVs.

Warranty: What the seller promises about its product (Perreault and McCarthy, 2002). In this study, it represents commitments on the part of the seller to repair and change products of television that fails to perform after purchase.

1.8 Abbreviation

ACA = Adaptive Conjoint Analysis

COO = Country of Origin

CBC = Choice Based Conjoint

CRT = Cathode Ray Tube

CVA = Conjoint Value Analysis

LCD = Liquid Crystal Display

TC = Typical Conjoint Analysis

TV(s) = Television(s)

CHAPTER 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter discusses the theories and diagrams of how to define the consumer behavior. The theories of evaluation and selection process are also discussed in order to support this study. Finally, the current related research articles and journals have been summarized to support the topic of this study.

2.1 Consumer Behavior

Consumer behavior is the most important theory for marketing research. It is the favorite topic of the marketers and researchers aim to find out and its importance has been well accepted by worldwide traders and corporations. However, it is not easy to uncover the purchasing behavior of a definite market because many factors and environments will affect the customer behavior.

Concerning the contemporary Thai TV market, what the most important factors affecting Thai consumers' purchasing behavior are and how these factors work and function during the decision-making process, however, are not clear. Hence, it is quite necessary to seek recommendations and suggestions from previous researches in this area. Some researchers focused on the effectiveness of brand, price and service strategies across different Country of Origin (COO), using explicit or implicit cues. Chao had conducted a study using advertisements of electronic products in a large mid-western United States city and had found strong COO effects (Chao, 1989). Wallet al. reported a multi-cue study in the Canadian province of Ontario using actual products where weak effects of COO were obtained (Wallet et al, 1991). Ahmed et al. had also carried out a multi-cue conjoint analysis study with student samples in the Canadian province of Quebec, finding rather strong made-in effects (Ahmed and Astous, 1993).

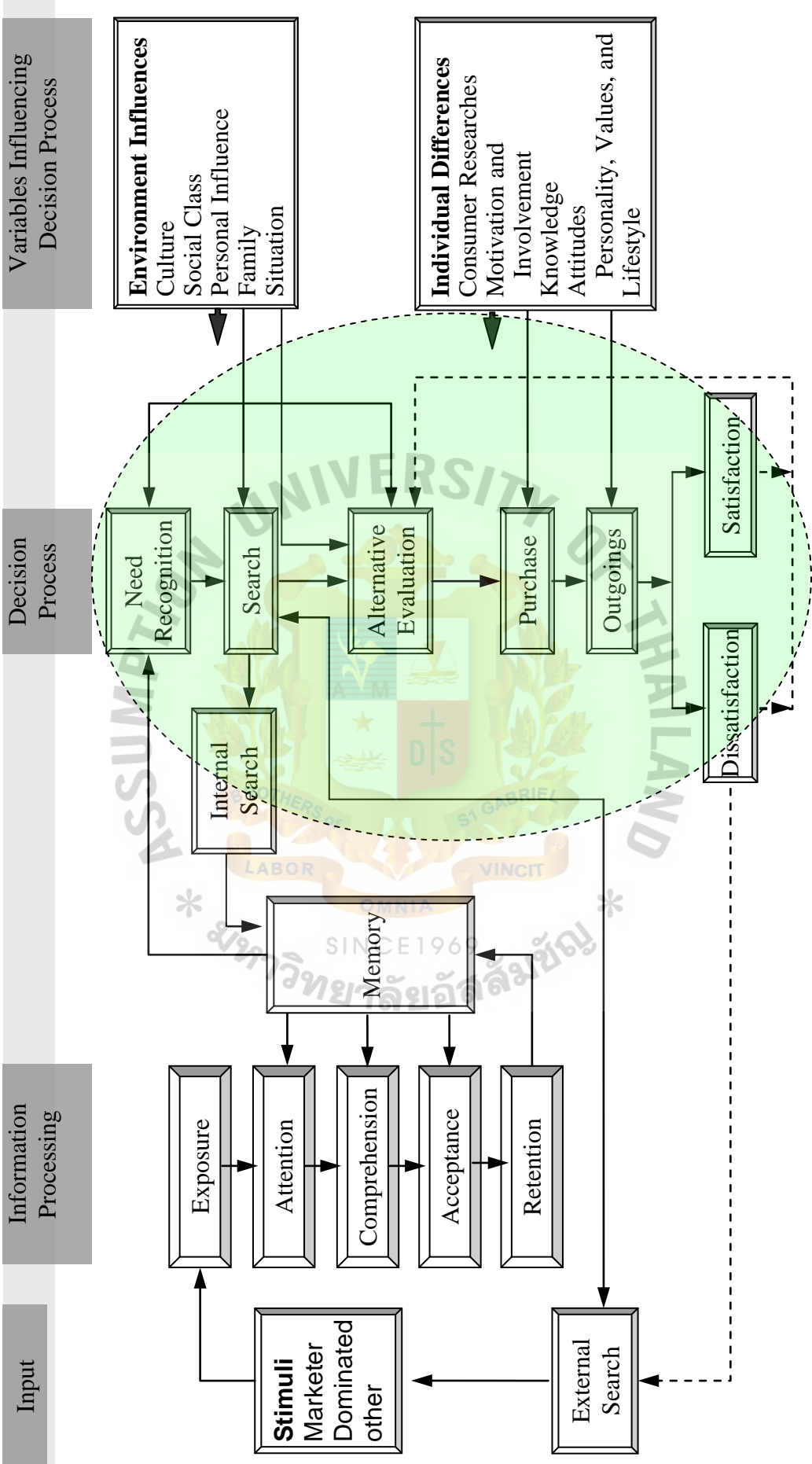
Experiential evidence suggests that consumers use the country of origin (COO) factor to evaluate imported products when they do not know much with the product's intrinsic qualities (Lawrence, 1992). The products' COO affects consumers' product evaluations; Consumers tend to hold stereotyped images of products made in different countries (Han, 1998). The COO, like price and brand name, constitutes an extrinsic factor in consumer product evaluations (Hong, 1989). According to these empirical

evidences and the above theories, a study of the effectiveness of COO and Brand Name had been processed through testing the consumer attitude when they purchase Color Television set in Western and East European markets, “Brand name and COO effects in the emerging market economies of Russia, Poland and Hungary” (Ettenson, 1993).

Figure 2.1 on page 14 shows a complete diagram of consumer behavior. It provides the full view of the consumer behavior which helps many marketers and researchers understand and are able to focus on their questions. It has been widely accepted by many researchers and cited in many books such as *Consumer Behavior* (Solomon, 1997). As the objective described in chapter one, this study aims to find out the factors affecting TVs purchase, therefore, the highlight showed in Figure 2.1, “Decision Process” phase was focused. This part relates to all the other parts and leads to the purchase decision and also gives a clear picture of how consumers sequentially take those steps. Nonetheless, it is still unclear enough how consumers process each step within the Environment Influences and Individual Differences influence, especially within the “Alternatives Evaluation”. For this reason, it needs taking a closer step to explore consumers’ purchase decision process.

Consumer Purchase Decision is a decision in which the group agrees on the desired purchase and differs only in terms or how it will be achieved (Solomon, 1997). There are five types of decision making rules: Conjunctive, Disjunctive, Elimination-by-aspect, Lexicographic, and Compensatory, the difference among them is the Evaluation Criteria, which criterion will be chosen and how these criteria are evaluated by consumers (Neal et al, 2002). Therefore, the relative importance of TV evaluation criteria can be tested when consumers make TV purchase decisions.

Figure 2.1 A complete model of consumer behavior showing purchase and its outcomes

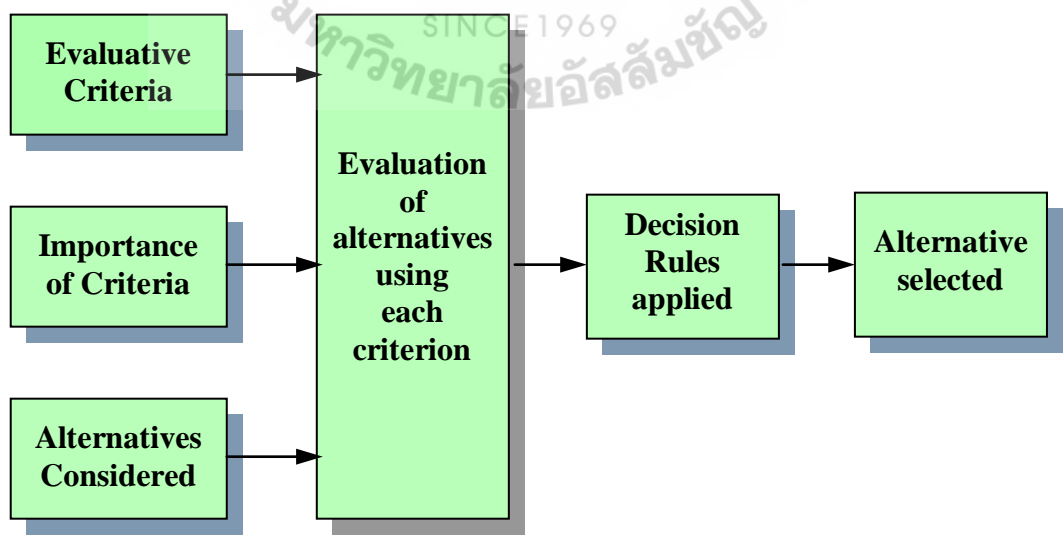


Source: Engel J.F. and Blackwell R.D., and Miniard P.W. (1986), Consumer Behavior 5e, Chicago, Harcourt School.

Consumer purchase behavior may be predicted either from stated intention or from the person’s estimate of their purchase probability (East, 1997). Measures of intention have been well tested in the field of consumer durable purchase and also been used in the planned behavior research (East, 1997). Behavioral Intention is a plan to perform an action. Intentions are produced when beliefs about behavior consequences of the action and social normative beliefs are considered and integrated to evaluate alternative behaviors and select among them; a decision plan or intention to buy a particular product or brand was defined as purchase intention (Peter and Olson, 2002).

Market segmentation was used for discovering the above customer purchasing processes. A “Buyer’s Black Box” was used to explain that this part was unavailable for marketers, because it can not be exactly found what factors will affect and how consumer’s personal characters or environments affect consumers’ purchasing behavior. However, consumers can be organized into groups, according to Geographic, Demographic, Psychographic, and Behavioral Basis; moreover, through the survey or the other technique, the most important factors, criterion, and attributes of a certain customer group can be found out when they purchase a certain categorized products. The division of a market into different homogeneous groups of consumers is known as market Segmentation (Lamb, 1999).

Figure 2.2 Alternative evaluation and selection process



Source: Neal C.M. (2002), *Consumer behavior: implications for marketing strategy 3e*, Boston, McGraw-Hill.

Following the assumptions and doubt above, many researchers had studied this question and tried to find out the most important factors affecting consumers' product evaluation, uncovering the "Buyer Black Box" through discovering the key factors affecting consumers' product or alternative evaluations (Figure 2.2, page 15). There are three main areas in this framework: First, the nature and characteristics of evaluative criteria (the features the product should have); second, the ability of consumers judge the performance of products; and finally, the decision rules used in alternatives selecting (Neal et al., 2002). Many researches had been made to evaluate the importance of the evaluation criterion when consumers make purchasing decision, because when know the importance of each criterion, consumers or marketers can make a better marketing position and strategy according to different market segmentations. However, before evaluating the importance of criteria, it must be clear which factors will become the evaluation criteria. And then, according to human intuition and logical thinking, it is possible to set assumptions and test them.

According to this diagram, each criterion will have its importance within the evaluation process. Therefore, many researchers had tried to find the significance of the hypothesis criteria. A new perspective on cross-cultural ethical evaluations: The use of conjoint analysis (John, 2002); Cross-national evaluation of made-in concept using multiple cues (Ahmed, 1993); an attribute-anchored conjoint approach to measuring store image (Amirani, 1993), which are all the application and evidence of the above theories.

Evaluation Criteria are the typically product features or attributes associated by customers with either the benefit they desire or the cost they must incur. Focusing on evaluative criteria is important. If an advertising campaign for a company's product convinces the target market that a particular evaluative criterion is both relevant and important, this may enable the company to gain a major advantage over competitors that lack this feature (Neal et al., 2002). There are many methods available for measuring consumers' judgments of brand performance on specific attributes. Such as rank-ordering scales, semantic differential scales, and Likert scales. Furthermore, determining the relative importance of evaluative criteria is another very important application for evaluation criteria. Constant-sum scale and conjoint analysis are the most common direct and indirect methods to test relative importance of evaluative criteria. Conjoint analysis provides information on the relative importance each

consumer attaches to various levels of each potential product feature. This allows individuals with similar preference structure to be grouped segments (Neal et al., 2002).

Therefore, it is able to find the importance of a susceptible respect(s) which may affect consumer evaluation and selection process when understand consumer purchasing process and how it is processed. The preference test was designed to achieve this purpose and help managers set product specifications to achieve the best market positions (Dalrymple and Parsons, 2000). However, the function of preference test is more than this; it is also suitable for the exiting products entrance to a new market, especially for the international market. The evaluation grid encourages marketing managers to view each product as bundles of features or attributes. The scores in a grid indicate one consumer's attitude toward each feature of each products. If customers of target market don't give a high score to a feature of one product, it may indicate a problem. The manufactures might want to change the product to improve that feature or use more promotion to emphasize the already acceptable features (Perreault and McCarthy, 1999).

Moreover, the types of consumer decision and decision rules also affect the consumers' evaluating process and decision making. There are three types of consumer decisions which are Habitual decision making, Limited decision making, and extended decision making. Habitual decision making, in effect, involves no decision as such. It occurs when there is very low involvement with the purchase and result in repeat purchasing behavior and brand loyal decision. Limited decision making covers the middle ground between habitual decision making and extended decision. It is very similar to Habitual decision making and also occurs in response to some emotional or environmental needs. Extended decision making is the response to a very high level of purchase involvement. An extensive internal and external information search is followed by a complex evaluation of multiple alternatives. After purchase, uncertainty about its correctness is likely and a thorough evaluation of the purchase will take place (Neal et al., 2002). Therefore, extended decision making is more suitable for the purchasing process evaluation. For decision rules, the conjunctive, disjunctive, lexicographic, elimination-by-aspects and compensatory rules are the frequently used rules by consumers. Well understand the target consumers' decision rules can lead marketing managers to achieve product positioning and then increase the chance of selection.

According to the empirical researches showed in Table 2.1 (Page 24), the relative importance of brands and COO on consumer decision making of purchasing TV Set has been studied together with other evaluative criterion. Nevertheless, how to select the evaluation criterion is another problem which needs discussing. But, as mentioned in the previous studies and literature, the evaluation criterion will vary from different products and service. However, the evaluation criteria of the Television Set have been determined, tested, and studied in the past researches.

“A brand is a name, term, sign, symbol, or design intended to distinguish the goods and services of one seller from another; for buyer, a key attraction of brands is they simplify product decisions” (Dalrymple and Parsons, 2000). Brands help buyers identify products, thereby, reducing search cost and assuring a buyer of a desired level of quality. In addition, buyers receive psychological rewards by purchasing brands that symbolize status and prestige. Many consumer decisions focus not on the brand image but, rather, on the feelings or emotions associated with acquiring or using the brand, or with the environment in which the product is purchased or used (Mowen 1988, cited in Neal et al, 2002). Brand strategy is particularly important in the global market where the branding decision is more difficult than domestic branding (Onkvisit and Shaw, 1989). Brand Awareness is the acknowledgment or remembers of a brand; this usually implies the differentiation of one brand from other brands by indicated to one or more characteristics (Solomon, 1997). Research based on a number of grocery products in different countries has found that, within particular product category subtypes and their variants, there is a small different among competing brands in terms of the demographic and socioeconomic characteristics of their customer (Hammond and Kathy, 1996). Brand name is often used as a surrogate indicator of quality.

COO is frequently used by marketers to capitalize on consumers' home bias or the existence of stereotypes about different countries where the products been made (Neal et al, 2002). Empirical evidence suggests that the COO of a product affects consumers' product evaluations (Han, 1998). The COO, like price and brand name, constitutes an extrinsic cue in consumer product evaluations (Hong, 1989). The value of Country-of-origin perceptions varies across national cultures, although many similarities do exist (Schütte and Ciarlante, 1998). In many developing countries and also in Asia, imported products tend to be more appreciated, especially when they

come from industrialized countries (Johansson, 1989, cited in Schütte and Ciarlante, 1998).

2.1.1 The Relationship between Consumer Behavior and Product evaluation

The goal of consumer behavior is to obtain products and services that meet their need and wants when people act as a customer (Walters and Bergiel, 1989). Consumer decision process includes five recognized steps: Need recognition, information searching, alternatives evaluation, purchase, and outcomes (Figure 2.1 page 14). Consumers compare product features and/or store characteristics. Consumer decision is the outcome of evaluation and the mental process of choosing the most desirable alternative (Walters and Bergiel, 1989). Therefore, the product evaluation is especially important for exploring consumers' behavior. For this study, the product evaluation is the TVs purchasing evaluation; the product features is the TVs' features which include the key concepts above. The desirable alternatives will be selected according to the consumers' performance of purchasing TVs, which means consumers' preference and attitude will be tested in this research.

2.1.2 The relationship between Purchase Decision and Purchase Intention

Purchase intention means a decision plan or intention to buy a particular product or brand (Peter and Olson, 2002); Purchase decision is the mental process of choosing the most desirable alternative, the outcome of alternatives evaluation (Walters and Bergiel, 1989). According to the definition of purchase decision, for a single purchase process, normally only one product or conclusion was selected and there are no outcomes about the other unselected alternatives. However, once many products were selected to be asked the consumer to make many decisions is impossible. Therefore, the purchase intention was used to solve this problem for the researchers; then they could get the consumer's evaluation result for all designed alternatives, thought, make the analysis. As a result, this study chose the purchase intention and the depend variable for the framework.

2.2 Conjoint Analysis

To determine the criteria which are used by consumers in a specific product decision, the marketing researcher can utilize either direct or indirect methods of measurement. Direct methods include asking consumers which information they use

for a particular purchase or, in or focus-group setting, observing what consumer say about products and their attributes (Neal et al, 2002). Indirect measurement is preferred when consumer can not or will not state their evaluative criteria. Projective techniques and Perceptual mapping are the most popular method in indirect evaluative criteria measurement.

The importance of the evaluating criteria can also be measured by direct or indirect methods. Conjoint analysis is the most popular indirect-measurement method to evaluate the relative importance of evaluation criteria. This technique provides data on the structure of consumer' preferences for product features and their willingness to trade one feature for more of another (Neal et al, 2002).

The primary purpose of conjoint analysis is to model human behavior, usually purchasing behavior (McCullough, 2002). The Conjoint method is based on the assumption that customer decision making involves the evaluation and combination of information on multiple product attributes (Green and Srinivason, 1990). Clearly, conjoint analysis presents much potential for marketers, but further research would also be needed, in most case, if marketers were to gain a full understanding of consumers' preferences (Neal et al, 2002). Therefore, conjoint analysis was employed in this study.

2.3 Empirical Findings

In 1993, Ettenson Richard used conjoint analysis to study the Brand name and COO effects in the emerging market economies of Russia, Poland and Hungary. The effect of brand name and COO information on consumers' decision behavior in the above countries had been tested. This study proved that both of those two factors affect the consumer purchasing behavior. Both of them were not tested individually, but together with the other related factors on television sets because this will make the study environment be more like the real market one.

Mr. Richard believed that the consumers' purchasing decision-making behavior among those former Socialist countries belonged to the type of actively participating, rather than the type that consumers had their keen desire for the availability of goods (Kaynak and Samli, 1986; Shama, 1992). The conclusion of this study was hoped to guide the strategic positioning of products and services in Russia and Eastern Europe

at that time when former Cold War ends and the globalization of Market formed rapidly. Three major findings emerged with implications for Western and East European marketers and researchers in this study: 1. Differences were found in the use of COO among these former socialist consumers. 2. Brand name played less of a role in consumers' decision making than was expected. 3. The interaction between brand name and COO played a relatively minor role in each group's decision making.

This study gave a good framework between COO, Brand name and the consumer purchasing behavior which has been proved within this study. Another good point is this study focused on the special time which the Cold War just ended and the special location which referred to the former socialist countries. However, this study had limitations. Firstly, the attributes used to test the consumer purchasing behavior at that time may change a lot because the environment and technology change rapidly. Secondly, the consumer behavior may change a lot when encountering the new market or a free market; therefore, the research time and its significance become serious problems for these kinds of studies.

Another similar research was studied in 1994 by Okechuku and Chike. The research title is: The importance of product of COO: A conjoint analysis of the United States, Canada, Germany, and Netherlands. This study also focused on the COO, but did not contribute the same significance to Brand Name. COO, Brand name, price, and other intrinsic and extrinsic attributes were used in this study. Therefore, this was very similar to the former example. Both of them thought that COO would affect the consumers' decision behavior more than the other factors; moreover, both of those two studies focused on Television set purchasing behavior discovering. The only difference was that the second study chose another electric product and more locations to test how or whether the COO affected consumers' product evaluation. Therefore, the main objective of this study was to find out the importance of COO for Consumer Product evaluation.

Compared with the former study, the study conducted by Okechuku and Chike (1994) was better concerning the number of countries selected. Within their study, four countries were selected to be surveyed to realize the objective of the research, which indicated a wide range of exposure, familiarity and, perhaps, attitudes of their citizens towards foreign products; and moreover, these four countries were members

of a free-trade alliance for several decades and depended extensively on foreign trade for economic wellbeing at that time. Therefore, the selected countries had similar market environments; and furthermore, free-trade environment was more suitable for this hypothesis. All of these above factors had brought this research a better quality and more significance for the future studies.

The outcome of the above study was that consumers in different countries ranged the attributes similarly, but differently on varied products according to the significance of each attribute in their mind. Such as, For TV sets, the COO was the most important attribute to American respondents; brand name and picture quality were most important to Canadian and German respondents; and brand name was most important to Dutch respondents. For car radios, the brand name was the most important attribute to American and Dutch respondents; the brand name and the COO were most important to German respondents; and the COO was most important to Canadian respondents.

Indeed, all of these results, including the former research, gave a relative importance of COO with/and the other factors. Moreover, the conjoint analysis method is able to ensure the validity how consumers make decisions within the real purchasing environment. However, in a review of past research tradition, the authors noted that the effect of COO was likely to be exaggerated when this was the only information provided for evaluating alternatives (Bilkey and Nes, 1982). In addition, the importance of the COO tended to be exaggerated in studies using self-reports. When asked how important it was to purchase apparel “Made in the USA”, 59 per cent of the respondents reported that it was “very important” or “somewhat important” (Dickerson, 1982 and Ettenson & Gaeth, 1988). In another study, 40 per cent of the respondents claimed that the COO was important in their apparel purchasing decisions even though a conjoint analysis showed that this factor explained only 6 per cent of the variance in their purchasing decisions (Ettenson and Gaeth, 1988). Furthermore, most previous researches had assessed the effect of COO by providing respondents with only a single cue, the country in which the product was made, despite the knowledge that consumers evaluate products using multiple cues (Olson and Jacoby, 1972).

Irvine Clarke, Margaret Owens, and John B. Ford (2000) concluded in their article “Integrating country of origin into global marketing strategy -A review of US marking statutes” that the country of origin markings as they would apply to products, or even components, can be an effective strategic tool for global marketers. A company should consider the information which is conveyed through country-of-origin markings to the target markets in that country. By understanding the regulations which stipulate country-of-origin markings, marketers will have greater ability to achieve the desired country-of-origin designations for products. This enhanced knowledge will increase the flexibility of marketers to balance global sourcing opportunities, customs disparities, and consumer perceptions. (Irvine et. al, 2000)

“The importance of product country of origin” (Okechuku, 1994) was used to study the relative importance of the “country of origin” through the United States, Canada, Germany, and the Netherlands customers. This research also used conjoint analysis and found the relative importance of country of origin was much lower than individual test of country of origin.

A comparison of consumer nationality as a determinant of Country of origin preferences had been explored in Thai and U.S. markets through investigating Sony Walkman and General Electric AM/FM radio (Amine and Shin, 2002). It also tried to find out the differences of consumer behaviors between Thai and U.S. about the country of origin effect on the above products evaluation.

To summarize, many researches related to this topic and research methods are the important and useful resources to understand the characteristics, framework, methodology and implementation of this kind of study. Table 2.1 is the summarization of further researches which used to study on the related topics which evaluate consumer preference on the key assumed evaluation factors. However, different products and evaluation criteria might be used to test the consumer preference or attitude towards the key evaluation factors such as COO, Brand name. It may also be different in terms of actual purposes such as COO performance, Consumer attitudes towards foreign and domestic products, and Forecasting demand. But the basic idea is to test or study the consumer preference, attitude, ethic, or the general consumer behavior. According to the common characters shared, the studies were summarized as follows:

Table 2.1 Summary of the related literature

Author:	Title:	Research Objective(s):	Attributes:	Research Methodology:	Conclusion:	Research Location & Product:
Amine Lyn S. & Shin Sang-Heun 2002	A comparison of consumer nationality as a determinant of Country of origin preferences.	Focus on consumer nationality to see how it impacts country preference and willingness to buy	Source of Country Brand name	Structured questionnaire, ranking of product attributes and preferred countries of origin, a dollar preference scale, and a graphic scale.	Real differences of attributable to nationality were found.	US and Thai students in mid-western university. Sony Walkman and a General Electric AM/FM radio
Kirkland C. Eric. 1999	Evaluation of captioning features to inform development of digital television captioning capabilities.	Address the various features that potentially could be provided by digital television. Assess any impact on comprehension of captions that might be attributable to the new combinations of features, as compared to the current combinations of standard features.	Content, Font, Color, Case, Background box, Presentation mode, Placement	The conjoint analysis capabilities of SPSS Categories (SPSS, 1995) were used to evaluate Preference ratings from Phase 1 and Phase 2 independently.	Phase 1: students and adults expressed similar preferences for certain new features Phase 2: demonstrate less agreement between the students and the adults. Two groups' agreement was that the color white was still preferred for the captions, and that this was still very important.	The New York School for the Deaf (White Plains, NY) Digital television

Source: Integrated and summarized by Author

Table 2.1 Summary of the related literature (to be continued)

Author:	Title:	Research Objective(s):	Attributes:	Research Methodology:	Conclusion:	Research Location & Product:
Weiner Jonathan 1994	Forecasting demand: Consumer electronics marketer uses a conjoint approach to configure its new product and set the right price.	Determining the Unit demand for a new product in a relatively new product category through using conjoint modeling based on existing data for competing products	Brand, Price, and a Peripheral bundling feature	Conjoint analysis traditionally has been used for determining the ideal product configuration for new and existing products. It provides the flexibility of altering features and estimating the impact on unit demand.	1. Conjoint analysis is one tool that provides the flexibility of altering features and estimating the impact on unit demand 2. Calibrating and generating unit demand estimates allows marketers to explore a range of 4P support alternatives, providing a realistic guide for strategic market planning.	In shopping malls across five U.S. cities& New consumer electronics category
Ahmed Sadrudin A. and Astous Alain 1993	Cross-national evaluation of made-in concept using multiple cues	To investigate the effects of three COO To estimate the main effects of the cues, the interaction effects. To discuss the implications of the above results for domestic and global marketing management.	Brand, COO, Price and Service.	The methodology used to estimate the impact of made-in and the other informational cues is metric conjoint analysis.	Price interacts significantly with COO and brand name, but not with service or consuming country. Made-in and brand name interact significantly with each other and with the consuming country variable.	Canada and Belgium The purchase value of an automobile

Source: Integrated and summarized by Author

Table 2.1 Summary of the related literature (to be continued)

Author:	Title:	Research Objective(s):	Attributes:	Research Methodology:	Conclusion:	Research Location & Product:
Ettenson Richard 1993	Brand name and country of origin effects in the emerging market economies of Russia, Poland and Hungary	The purpose of this study is to explore the effect of brand name and COO information on the decision behavior of Russian, Polish and Hungarian consumers	Brand name (BN, COO, Speaker type, Price, Length of warranty, Tuner type, and Type of remote control (if any))	This study utilizes conjoint analysis to assess consumer decision behavior in Russia, Poland and Hungary in a single product category, color televisions	First, differences were found in the use of COO among these former Socialist consumers. Second, brand name played less of a role in their decision making than was expected. Third, the interaction between brand name and COO played a relatively minor role in each group's decision making.	Major Cities of Russia, Poland and Hungary Television set
Okechuku Chike 1994	The importance of product country of origin: A conjoint analysis of the United States, Canada, Germany, and the Netherlands	Investigate the relative importance of the COO of a product to consumers in the United States, Canada, Germany and The Netherlands through Conjoint analysis.	For TV: brand name, price, picture quality, warranty, and COO. For Car radio: brand name, price, receiver quality, cassette player quality, and COO.	Uses conjoint analysis to investigate the relative importance of the COO of a product to consumers in the United States, Canada, Germany, & the Netherlands by providing respondents with multiple cues.	For TV sets, COO was the most important attribute to US respondents; brand name & picture quality were most important to Canadian & German respondents; brand name was most important to Dutch respondents. For car radios, brand name was the most important attribute to US & Dutch respondents; brand name & COO were most important to German respondents; COO was most important to Canadian respondents.	Major City of United States, Canada, Germany, and the Netherlands Television set & Car radio/ cassette players

Source: Integrated and summarized by Author

Table 2.2 Summary of previous thesis of conjoint analysis from the Assumption University library

Author:	Title:	Research Objective(s):	Attributes:	Research Framework & Methodology:	Conclusion:	Research Location & Product:
Patchareepron Jiraprachaya 2003	Segmentation Basis: A study of product Attributes and Shoppers's Perception of Value on Jewelry Selection at World Trade Center, Bangkok	1. Study the element of product attributes relevant to jewelry selection, 2. Synthesize market value and customer value into segmentation of jewelry selection, 3. Determine the joint property of product attributes and value on jewelry selection based on segmentation basis.	Type of Jewelry Type of Material Type of Stone Sharp of Stone Price Perception of Consumer	Product Attributes has relationship with Customer Value and Market Value Conjoint Analysis Rank Basis	Research Objectives were achieved	World Trade Center, Bangkok Jewelry
Anucha Apiromdej 2003	A Study of The Selection of Family Meal Restaurant: A Case Study of Customers at Central Department Store at Ladprao	1. Analyze the importance factors in the selection of restaurant for family meal. 2. Analyze the difference score among demographic groups in terms of gender, age, education level, occupation, and income level.	Location Type of Food Car Park Price Customer Service	Factors determine Choice of restaurant Conjoint Analysis, Rank Basis t-test, and ANOVA	The rank of the important factor is, Price, Type of food, Location, Car Park, and then Customer Service. The different was found within some factors and segmentations.	Central Department Store Latprao Branch Restaurant

Source: Integrated and summarized by Author

Table 2.2 Summary of previous thesis of conjoint analysis from the Assumption University library (to be continued)

Author:	Title:	Research Objective(s):	Attributes:	Research Framework & Methodology:	Conclusion:	Research Location & Product:
Nippon Wangcharoenrat 2001	An Investigation of Consumer's Preferences for attributes of Air Conditioners: The Conjoint Based Application	1. Identify necessary and required attributes for air conditioners; 2. Identify major high perceived values attributes combined that lead to consumer's choice of purchase; 3. Investigate different performance for attributes amount segments of buyers according to two types of buyers, five income group, and three education levels.	Fast Cooling Air purifying TIS/ISO Inverter System Energy Saving Price Easy of Use	Factors Influencing Buyer Decision SPSS Conjoint Analysis, Score Basis	Energy Saving and Easy of Use are the most two factors, the following is Price, Inverter System, Fast Cooling, Purifying, and TIS/ISO Standard. Different preference was found between Education and Income segmentation.	Bangkok Two Types of Air Conditions

Source: Integrated and summarized by Author

2.4 Conclusion of Previous Studies

2.4.1 Previous Thesis Study

There are four theses which employed the Conjoint Analysis method to conduct their researches. Table 2.2 shows the details of the previous researches and current researches. They share the following common characteristics. Firstly, selected a product(s) or service(s) as their research physical objective; secondly, used fewer attributes or factors of a product(s) or service(s) for the study, from five to seven attributes; and finally, data were processed by using SPSS software for Conjoint Analysis.

Compared with the previous studies within table 2.2 (page 27), this research has some different features. Firstly, for research framework, this study focuses on the key evaluation criteria affecting decision making whereas the previous studies used Customer Value vs. Market Value, Factors determining choice of restaurant, and factors influencing buyer decision. Secondly, the research applications are also different. For instance, two theses used the Rank basis survey method for their conjoint cards; one of them deducted the cards' number without any explanation and theories support. Although this TVs purchase decision study uses the same survey method, questionnaire's scoring basis is supported by the reasons explained in chapter four. Finally, this research also focuses on the empirical findings, in which the importance of Brand Name and COO is hoped to provide guidance for both Thai marketers and international TV manufacturers and marketers.

On the whole, all the previous studies, focusing on how consumers evaluate or select a product or service, had been conducted successfully by employing conjoint analysis method. It indicates that the conjoint analysis is a suitable and applicable research method for conducting consumer behavior researches, which finely supports the selection of conjoint analysis as the research method in this study.

2.4.2 Previous Researches

In conclusion, the previous studies have both advantages and disadvantages. The contributions of these studies not only provide a clear framework of how to evaluate the consumer decision behavior affected by COO through multiple cues (Figure 2.3), but also present the importance of market and time validity which this

study would like to study. Interestingly, the studies also share their experiences of designing, organizing, and conducting this type of researches. The first disadvantage of those studies is that the attributes selected and studied are limited because of the limitation of the research method, such as attributes used to test the consumer purchasing behavior at that time may change a lot currently because the environment and technology change rapidly; the second disadvantages is the consumer behavior may change a lot when encountering the new market or a free market. Accordingly, the research time and its significance become serious problems for these kinds of studies.

Figure 2.3 The Consumer Decision Process with Key Factors.

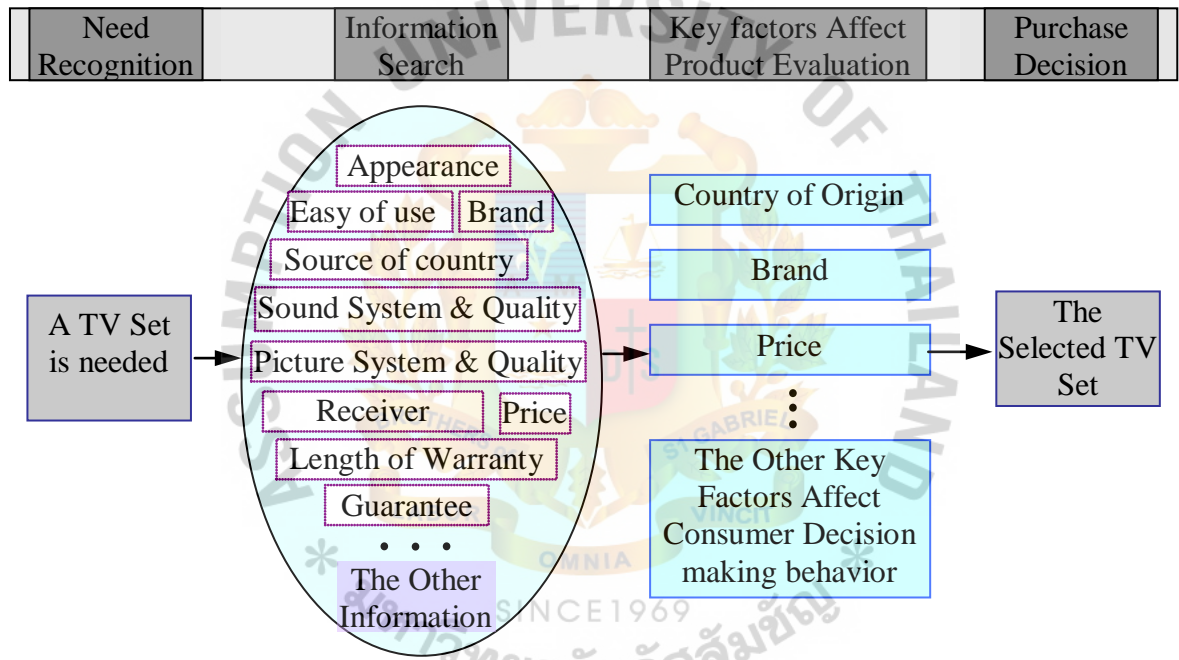


Figure 2.3 shows the summarized key evaluation factors which had been used by previous TV studies according to the focused part of full view of consumer behavior. This is very helpful to define the potential key evaluation criteria for this study. COO, Brand, and Price had been chosen as the key evaluated factors according to this diagram.

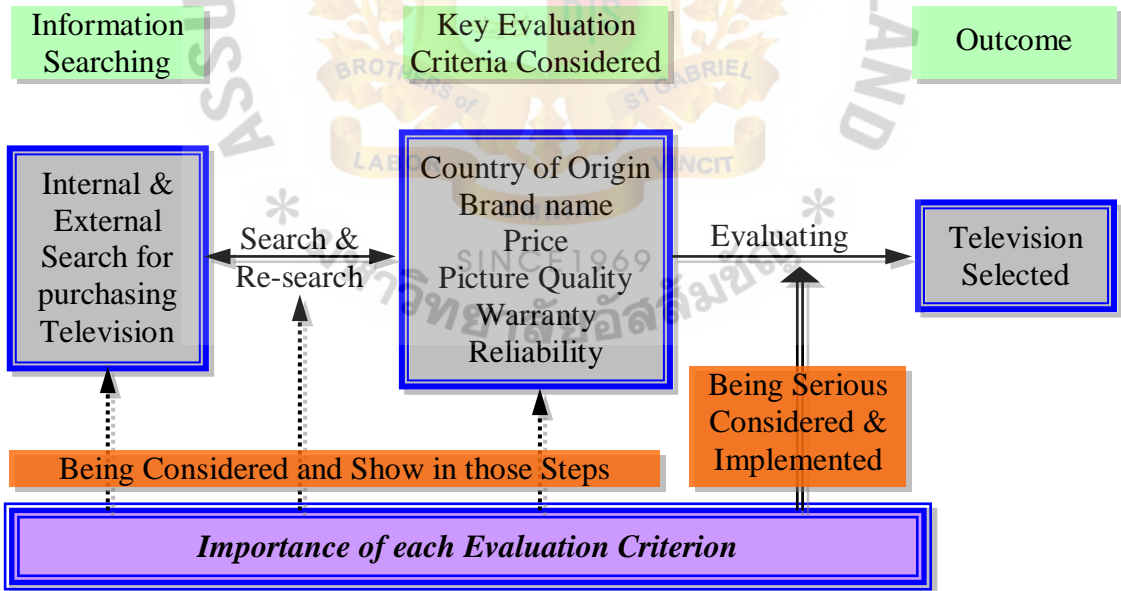
CHAPTER 3
RESEARCH FRAMEWORK

The framework used to support this study is how consumer purchasing behavior and decision making relate to the evaluation and combination of multiple attributes. The previous researches which had been illustrated in Chapter 2 suggested five or six significant attributes to test consumer preference: brand name, Country of Origin (COO), price, picture quality, length of warranty, and reliability. This chapter will illustrate the relationship between the theories and attributes.

3.1 Diagram of Framework

This diagram of framework is used to illustrate TV purchase process by applying the literatures in last chapter. The content within the diagram are focused on the research key evaluation criteria which are designed to be studied. It helps to define the conceptual framework of this study.

Figure 3.1 Diagram of Television Evaluation Process

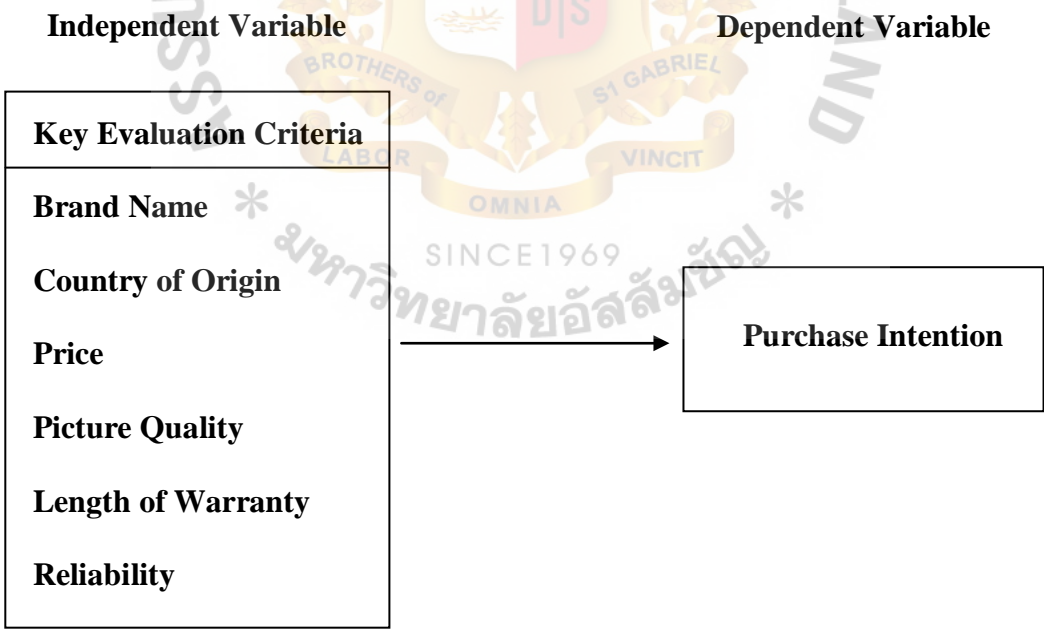


The full view of TV purchasing evaluation process was showed in Figure 3.1. It was created by the following theories and concepts of consumer behavior with detailed evaluation process and television attributes. It begins with the information searching and ends with the alternative decision. The key evaluation factors come from the Internal and external Information searching result and influenced by the

Environment (Culture, Social Class, Personal Influence, Family, and Situation) and Individual Differences (Consumer Researches, Motivation, Involvement, Knowledge, Attitudes, Personality, Values, and Lifestyle).

The key evaluation criteria affect both the information searching and the evaluation process. The information searching and research are the common activities during the purchasing process and it is very difficult to define such personal information which is known as a “Buyer’s Black Box”. Therefore, this research will focus on the significant evaluation process, which will be easier to define the key evaluation criteria than the common information searching and also more available to find the importance of each evaluation criterion. The key evaluation criteria selected according to the empirical studies summarized in chapter 2 are Brand Name, COO, Price, Picture Quality, and Length of Warranty. Besides, Reliability is another potential criterion which this research would like to define. The key evaluation criteria, or multiple cues, set to be groups according to the previous studies in conjoint analysis, are defined as product’s attributes.

Figure 3.2 Conceptual Framework



The conceptual framework used in this study was generated from the above diagram, which is expected to build up the relationship between the factors which were studied and the results which are hoped to find out. Figure 3.2 shows the details.

The six key evaluation criteria were grouped as the independent variable will be used to determine the evaluation results. The dependent variable, product purchase intention, is like the real consumer behavior in the market before they make a purchase action; after all, consumer does not make a television purchase decision within the survey.

3.1.1 Definition of the Variables

There are six key evaluation criteria which were selected in this study based on the traditional statistic researches. Within conjoint analysis, the variables were called “attributes” or “factors” in the past. As mentioned above, these variables include the real attributes of a product and the other factors which consumers will seriously consider during the TV purchasing process. According to the conjoint analysis, these variables were required to be assigned for several levels based on the consumer habit and market situation.

Another two variables, education level and income level, were also selected because of two purposes. One is to help interviewees be familiarized with the survey; the other one is to explore the relationship between income and education levels and the most important evaluation criteria. The details of each variable are as follows:

Brand Name: (together with associated pack designs and logos) is a major company assets and product naming practices are of strategic importance because these most of companies have rules that ensure coherence and control on brand naming throughout the company.

Education Level: Personal factor which has been used to evaluate the knowledge level of a person.

Income Level: The most important factor which may determine the purchasing power and decision making result.

Length of Warranty: represents how long the commitments on the part of the seller, manufacturer, and producer to repair and adjust products that fail to perform after purchase.

Price: The formal ratio that indicates the quantities of money goods or services needed to acquire a given quantity of goods or services.

Picture Quality: How good and beautiful the picture is performed by the television.

Reliability: The ability of a Television set to perform its required functions under stated conditions for a specified period of time.

Country of origin: Source of country means where a product is being made and/or where services are being created.

3.1.2 Attributes and Attribute Levels

The conjoint profiles of television sets chosen in this study were based on attributes list within the diagram (Figure 3.2, page 32) and the previous studies' methods and experiences. The multiple cues used for this study are:

- Brand Name
- Source of country
- Price
- Picture Quality
- Length of Warranty
- Reliability

Thus, the conjoint analysis of Television was based on six attributes. And based on the same reasons above, the attribute levels chosen in this study are as follows:

- Brand Name (3)
- Source of country (3)
- Price (3)
- Picture Quality (2)
- Length of Warranty (2)
- Reliability (2)

The sources of countries (made in) selected were Japan, South Korea, and China since they are the major Television manufactures of the world and located in different

manufacturing history and/or levels. The brands selected were Sony, Samsung, and Haier because Thai consumers will have different impressions on their names. The former two are popular in Thai market and the third one is the famous brand in China and many European countries. The price levels selected for this conjoint design represented a low, an average, and a high price of the brands based on the market observations and consumer interviews, please see Appendix B. The picture quality and reliability levels selected were high preference and low preference. The length of warranty level selected was one year or less and more than one year. Table 3.1 shows the detail of the attribute levels.

Table 3.1 Summary of Attribute and Attribute Levels of Variables.

Attribute Name	Number of Attribute Level	Attribute Level
Brand Name	3	Haier
		Samsung
		Sony
Source of country	3	China
		Japan
		South Korea
Price	3	Lower than Baht 6,990
		Baht 6,990-14,990
		Higher than Baht 14,990
Picture Quality	2	Excellent
		Normal
Length of Warranty	2	More than 1 year
		One year or less
Reliability	2	High
		Normal

3.2 Expected Findings

This research is expected to find out which factors are most important for Thai consumers when they make a television purchasing decision. The differentiation among the designed segments is another excepted finding. Moreover, the other key factors taking main roles within the Television evaluation process can help marketers or managers to make correct decision on market positioning.

CHAPTER 4

RESEARCH METHODOLOGY

This chapter will present the method which used for this study. The respondents and sampling procedure will be described according the designed method and research requirement. The data collection and treatment are going to be explained. Finally, a pretest will be done in order to test the research method and the facility of designed questionnaire.

4.1 Research Method

Both Descriptive Statistic and Inferential Statistic were used for this research. Conjoint analysis could only be able to give the relative importance of evaluated attributes, but it failed to indicate any result about the correlation between the dependent and independent variables. Therefore, this study was considered as a descriptive statistic study. For inferential statistic, this research used the sample conclusion to infer the population's behavior.

This study chose Typical Conjoint Analysis (TC), the full profile traditional conjoint analysis as the research method. It is also the feature of SPSS Conjoint. . Conjoint analysis is an excellent method for defining the human purchasing behavior and consumer preference. The conjoint method is based on the assumption that consumer decision-making involves the evaluation and combination of information on multiple key evaluated product attributes (Green and Srinivason, 1990).

4.2 Respondents and Sampling Procedures

4.2.1 Target Population

The target population of this study was the people (both male and female) who had televisions or intend or were willing to buy televisions now or in the near future for any purpose in Bangkok, Thailand. They were randomly selected from TV sales zones in major stores in Bangkok, such as: The Mall, Central, Big C, and Tesco Lotus.

Therefore, the Sampling type of this study was the people who had televisions or who intended to buy traditional televisions in Bangkok. The sampling unit was the

household and business users or potential users. The population element was the male or female who was able to choose the televisions by themselves.

4.2.2 Sampling

Once the Non-Probability survey, in which units of the sample were selected on the basis of convenience, was determined to conduct this study, the sampling design must be a serious question to be considered and defined. The convenience sampling was adopted because it was simple, less time-consuming and budget-limited. Nevertheless, people who intended to buy or just bought a television had better answers than those who were not interested in television consuming. Thus, the survey was implemented in the Television set sectors of famous Department stores, The Mall Ramkhamhaeng & Bankapi branched, Central Rama II branch, and the discounted stores, Tesco Lotus Rama II & Rama IV branches, and Big C Ramkhamhaeng branch, which are located in Bangkok Metropolis area.

4.2.3 Deterring sample size

There are three ways to determine the sample size of statistic studies, calculated by using the formula, read from the Table, and referred by the previous studies. However, the conjoint analysis has its own characteristics to calculate the sample size. Sawtooth Software⁸ has recommended the following rule-of-thumb when deciding sample size for aggregate-level conjoint analysis modeling:

$$n_{ta} / c \geq 500$$

Where:

n = number of respondents

t = number of tasks

a = number of alternatives per task (not including the “None”)

c = number of “analysis cells”

⁸ Sawtooth Software, Inc., the fourth most-used software (after SPSS, Excel, and SAS), 530 West Fir Street Sequim, WA 98382-3284 United States of America Email: support@sawtoothsoftware.com, other info - info@sawtoothsoftware.com Phone 1-360-681-2300 Fax +1-360-681-2400

When considering main-effects, c is equal to the largest number of levels for any one attribute. If you are also considering all two-way interactions, c is equal to the largest product of levels of any two attributes (Orme, 1998).

4.2.3.1 Typical Sample Sizes and Pre-Practice

Sample sizes for conjoint studies generally range from about 150 to 1200 respondents for infinite (very large) populations. It was based on the theories of conjoint analysis and the observations of common practices in the market research community (Orme, 1998).

If the purpose of your research is to compare groups of respondents and detect significant differences, you should include enough sample size to accommodate a minimum of about 200 per group. For investigational work and developing hypotheses about a market, from 30 to 60 respondents may do (Orme, 1998).

This research was regarded as an investigational work that tried to find if there were any differences among the segments. Therefore, the sample size per group chosen was 30. Based on the research objective, the maximum income and education levels are three. Therefore, there were six cross-level subgroups; the sample required was, therefore, about 180 respondents within the minimum requirement of thirty samples for per group:

Sample size per Group * Group Number

=30*6

=180

However, the questionnaire may not be collected up to 180, because the overlap between the education and income segmentation. One respondent must belong to two segments at the same time. If the collected questionnaires satisfy 30 samples requirement for each segment, the survey will be stopped.

4.2.4 Sampling procedure

There were two phases included in this sampling procedure. The first phase was the pretest, which not only tested the research method, but also determined the weight importance of the cards which were randomly generated by the software. The pretest

sampling was chosen in one location according to convenience. The questionnaire required the respondents to score is a full profile conjoint analysis's nine cards in five grades (one to five); and the higher score the card achieved, the more preferred it was by respondents. However, in the second phase, the mass survey location covered in the research scope included the major Department stores, Discounted Stores in Bangkok Metropolitan areas.

Furthermore, in order to cover the whole Bangkok areas, the researcher applied the following sampling procedure:

Firstly, five stores located in both sides of the Chao Phraya River were chosen to do the research: two stores on the Thonburi side, and three on another side.

Secondly, all the number of respondents in the every group, segment of income and education must achieve 30; otherwise, the survey was continued until the above required sample size was fulfilled. The details are as follows:

High School or below:	30 Samples or more
Diploma or Mater Degree	30 Samples or more
Master degree or Above	30 Samples or more
Income below 15000	30 Samples or more
15000 to 35000	30 Samples or more
Income Above 35000	30 Samples or more

4.3 Research instrument

According to the feature of questionnaire used in this study, the data recorded in the SPSS data file was the score of each card. Starting with the lowest score 1, representing the most disliked card and ending with the highest score 5, representing the most preferred card. The following information was how data were recorded if the subject was asked to order the profiles from the most to the least preferred.

Figure 4.1 the Report of SPSS Orthogonal Design

Notes	
Output Created	01-NOV-2006 17:44:11
Comments	
Syntax	ORTHOPLAN /FACTORS=BrandName 'BR' (1 'Sony' 2 'Samsung' 3 'Haier') CoubtryofOrigin 'COO' (1 'China' 2 'South Korea' 3 'Japan') Price 'Price' (1 'Lower than 6990' 2 '6990-14990' 3 'Higher than 14990') PictureQuality 'PQ' (1 'High' 2 'Normal') Warranty 'Warranty' (1 'More then 1 year' 2 '1 Year or less') Reliability 'RLB' (1 'High' 2 'Normal') /OUTFILE='G:\SPSS Thesis\tpplan. sav'.
Resources	Elapsed Time
	0:00:00.37

A plan was successfully generated with 16 cards.

4.3.1 Design Conjoint Cards

Sixteen Conjoint Cards were designed to be used within this study. According to the total number of attributes, attribute levels, and the property of conjoint analysis, this research followed the typical model of conjoint analysis: SPSS conjoint. By default, the minimum number of necessary cases for an orthogonal array was generated. The procedure determined the number of cases that need to be administered to allow estimation of the utilities (SPSS Conjoint, 2005). Therefore, in terms of the system default minimum number of cards generated by the SPSS Orthogonal Design, sixteen cards were designed for this study. Figure 4.1 shows the SPSS Orthogonal design generated sixteen cards. However, there are some unreasonable cards within the total 16 cards. Though, another weighted study focused on the attributes and attribute levels was conducted in order to increase the facticity of this study. The mass survey will use less then ten cards according to the result of the weighted study.

4.3.2 Questionnaire

There are two questionnaires was used for this study, the first questionnaire is used to determine the weighted score of the designed attributes and attribute levels. And then according to the weighted score, select the conjoint analysis cards which

randomly generated by the SPSS orthogonal design. The second questionnaire is design to collect the segmentation information according to the information of respondent and the score of the chose cards.

The first questionnaire is covered in one page and shown in Appendix A. The second questionnaire included two parts. Part A included two questions: Income Level and Education Level; respondents were required to tick in the box. Two questions were used to segment the respondents and try to find if there was any difference among those groups, the result could be used to lead a further hypothesis researches in this topic. Part B was selected cards according to the weighted score of questionnaire I which required the respondents to give the score of them by tick the box under each card according to their preference.

4.4 Pretest

The pretest within conjoint analysis study is to make sure that respondents correctly interpreted the designed attributes and levels and to find out specifically what each attribute meant to them. Also the pretest will help make sure that the conjoint task is not too long or difficult. Besides, it will also be used to diagnose the conjoint analysis method and help to identify the possible problems that might occur while conducting research.

The questionnaire used in the massive survey will be the same one used in the pretest, which aims to find out whether the questions are understood easily and whether the questionnaire is too complicated to be answered.

The data collected in the pretest will be recorded and counted as the primary data if there is no serious problem which may affect the research result. By doing so, any problem found in the pretest can be solved before mass survey starts, which, hence, can increase the validity and reliability of data analysis. The research framework and methodology will also been tested.

4.4.1 Pretest Result of Questionnaire I

Table 4.1 Weighted Score of TV Attributes and Attribute Levels

Attribute Name	Weighted Score	Rank	Attribute Level	Weighted Score	Rank
Brand Name	25.33%	1	Haier	14.87%	3
			Samsung	35.17%	2
			Sony	49.94%	1
			Sum	100%	
Source of country	11.20%	5	Made in China	18.73%	3
			Made in Japan	56.76%	1
			Made in South Korea	24.50%	2
			Sum	100%	
Price	18.43%	3	Lower than Baht 6,990	22.4%	3
			Baht 6,990-14,990	51.87%	1
			Higher than Baht 14,990	25.73%	2
			Sum	100%	
Picture Quality	21.13%	2	Excellent	73.17%	1
			Normal	26.83%	2
			Sum	100%	
Length of Warranty	9.7%	6	More than 1 year	79.30%	1
			One year or less	29.70%	2
			Sum	100%	
Reliability	14.20%	4	High	76.83%	1
			Normal	26.17%	2
			Sum	100%	
Sum:	100%				

Totally 30 samples was collected for questionnaire I. The descriptive statistics reports were attached in APPENDIX E, Table E.1 to Table E.7. Table 4.1 shows the weighted importance of all studied attributes and attribute levels. Brand name and Price in Table 4.1 are the top two highest weighted attributes. It will be used to weight the cards that randomly generated by the SPSS orthogonal design and then eliminate the unreasonable cards.

Table 4.1 also shows the tradition study method result for the weighted importance of those evaluation criteria. The rank from the most important to the less important is Brand Name, Picture Quality, Price, Reliability, Source of Country, and

Length of Warranty, which been scored 25.33%, 21.13%, 18.43%, 14.20%, 11.20%, and 9.70%, respectively.

Table 4.2 Weighted Score of Sixteen Cards

	Weighted Score	Rank	Mean	Rank to Rank Difference	*Rank to Rank Difference	Accu. ^a Difference
Card 4	81.15%	1	0.13525		x1000	
Card 11	78.34%	2	0.13056	0.0046861	4.69	
Card 7	77.95%	3	0.12992	0.0006459	0.65	5.33
Card 15	76.80%	4	0.128	0.0019166	1.92	7.25
Card 10	76.15%	5	0.12691	0.0010892	1.09	8.34
Card 9	72.27%	6	0.12044	0.0064676	6.47	14.81
Card 16	70.89%	7	0.11815	0.0022924	2.29	17.10
Card 6	66.04%	8	0.11006	0.0080887	8.09	25.19
Card 14	64.04%	9	0.10674	0.0033225	3.32	28.51
Card 12	59.48%	10	0.09913	0.0076117	7.61	36.12
Card 08	56.85%	11	0.09475	0.0043821	4.38	40.50
Card 13	56.60%	12	0.09433	0.0004179	0.42	40.92
Card 02	53.65%	13	0.08941	0.004914	4.91	45.83
Card 05	53.11%	14	0.08851	0.0009034	0.90	46.74
Card 03	48.54%	15	0.0809	0.0076117	7.61	54.35
Card 01	36.59%	16	0.06099	0.0199094	19.91	74.26
Average			0.10713		4.64	78.90

^aAccu. = Accumulated

Table 4.2 shows the weighted score and the statistics figures for sixteen cards. The score for each attribute of each card was calculated by the attribute multiply attribute level weighted score within Appendix E, Table E.8. Average of Mean for the sixteen cards will be used as a standard to select the cards which will be used for the data presentation and conclusion of this study. The reason is that the high score of the Mean represents the good awareness for the information in a card. Therefore, questionnaire I was necessary for increase the facticity of this study. Finally, eight cards which the Mean is higher than the average 0.10713 were selected. They are card number four, six, seven, nine, ten, eleven, fifteen, and sixteen. However, the SPSS can not process only 8 cards for the designed attributes and attribute levels; therefore, one more card has to be added to the analysis, card number 14 is selected for the selection standard. Finally, the first nine cards were selected to have the final analysis.

4.4.2 Pretest Result of Questionnaire II

The following is the Second time pretest results for the questionnaire II which the cards was been scored according to their intention to buy.

Figure 4.2 Averaged Importance of Attribute in Pretest

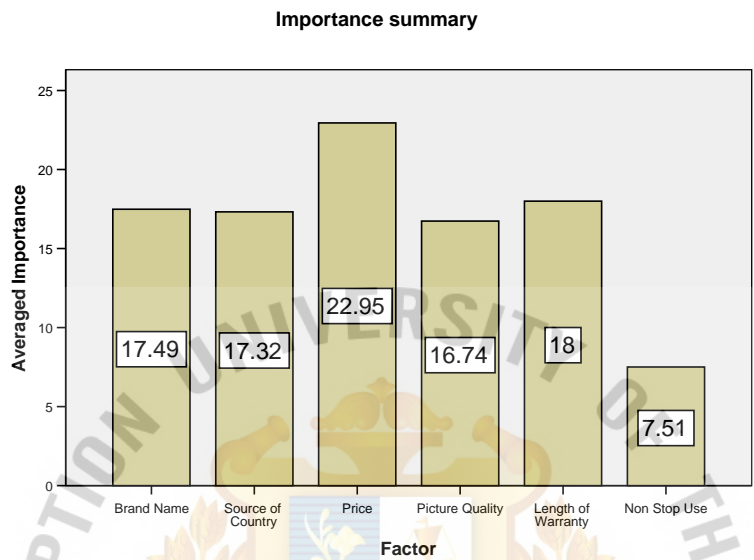
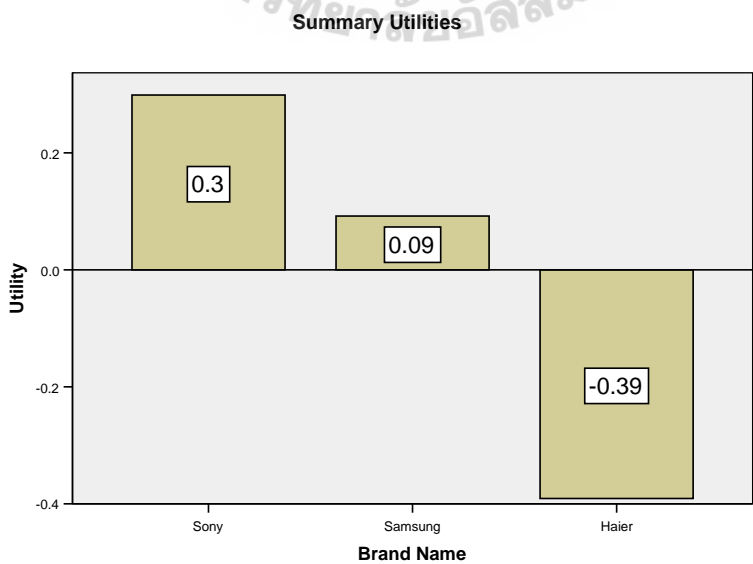


Figure 4.2 shows the averaged importance of factors within the pretest. Price hold 22.95% list at the first position, Length of Warranty accounted 18%, Brand was accounted 17.49%, COO 17.32%, and Picture Quality 16.74%, has similar relative importance. Reliability 7.51% is list at the last position.

Figure 4.3 Brand Name Utility in Pretest



The SPSS conjoint analysis not just tells the relative importance of those key evaluation criteria, but also tells the preference level of each criterion. Figure 4.3 shows the utility of brand name, Sony is the most preferred brand, followed by Samsung, and Haier is the last choice for respondents.

Figure 4.4 COO Utility in Pretest

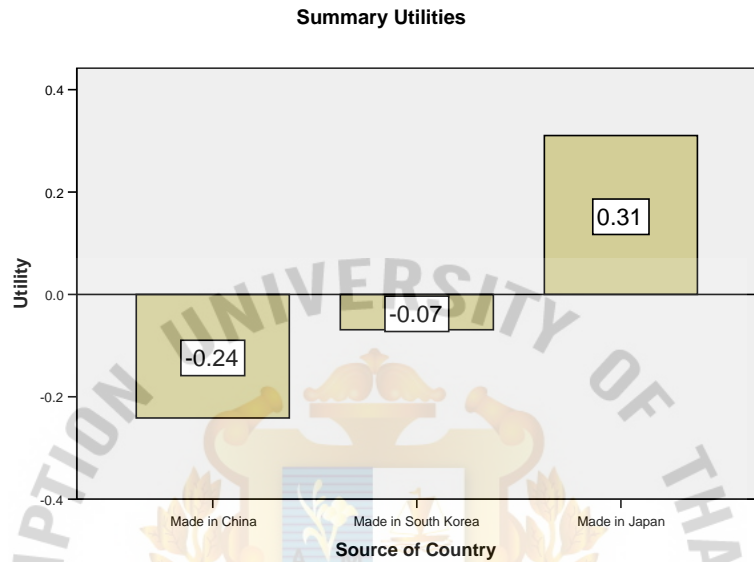


Figure 4.4 shows the COO utility. The respondents preferred the TVs made in Japan more than the others, followed by Made in South Korea and Made in china is the last selection.

Figure 4.5 Price Utility in Pretest



Figure 4.5 shows the Price utility. All of them are negative influence for the respondents. However, consumer preferred the low price for TVs.

Figure 4.6 Picture Quality Utility in Pretest

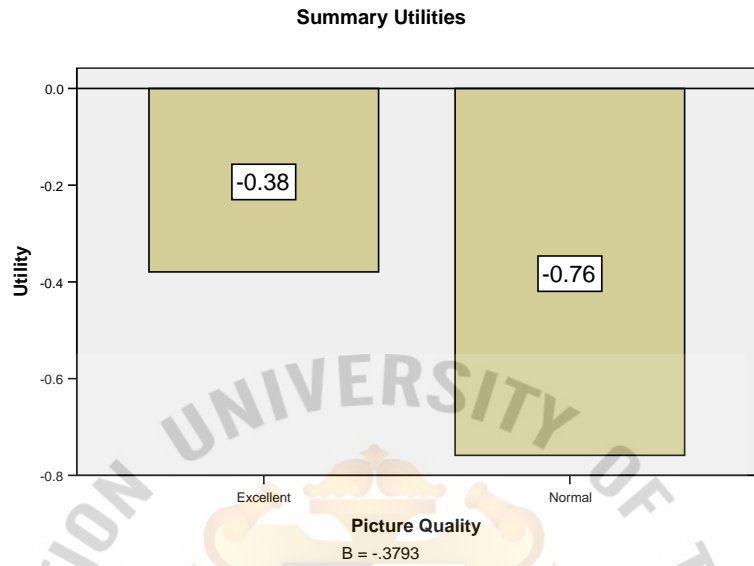


Figure 46 tells the Picture Quality utility. Both of them are negative influence for the respondents. The excellent picture quality TVs are preferred.

Figure 4.7 Length of Warranty Utility in Pretest

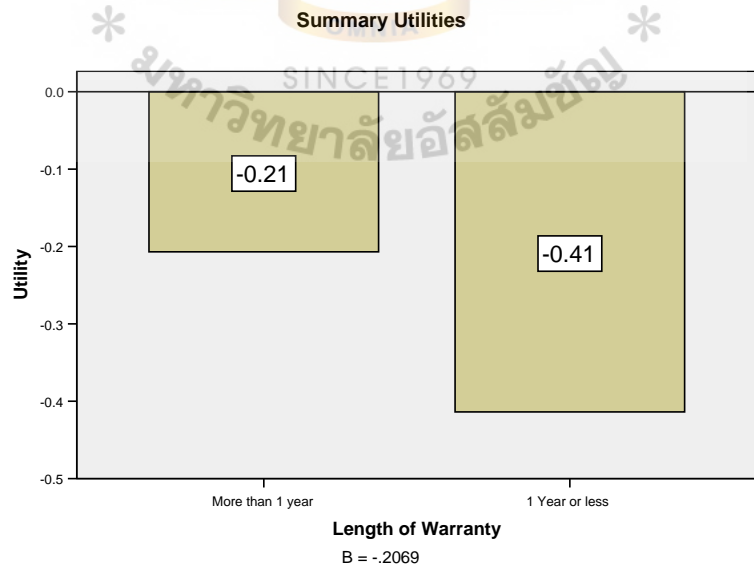


Figure 4.7 tells Length of Warranty utility. Two levels are negative influence for the respondents. However, they preferred the TVs with long time warranty.

Figure 4.8 Reliability Utility in Pretest

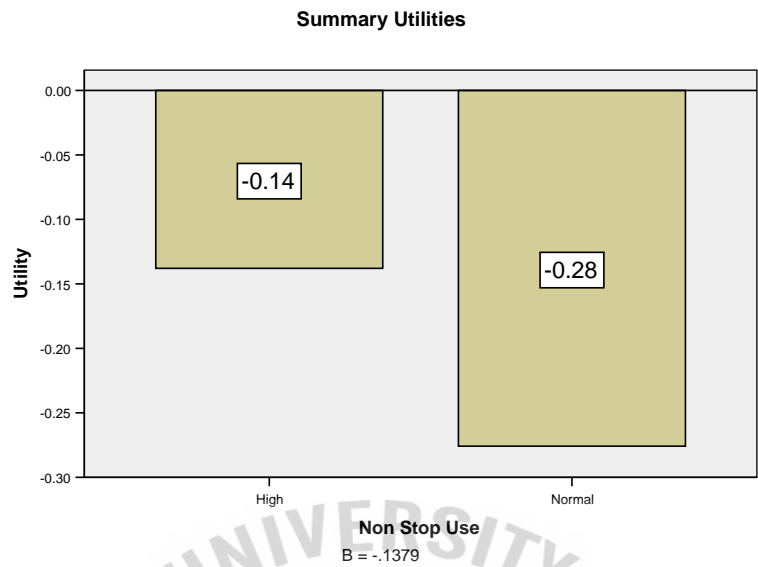


Figure 4.8 shows the Reliability utility. Both factor levels are depressing weight for the respondents. However, high reliability TVs is preferred.

The **Pearson's R** and **Kendall's tau** statistic of Pretest which showed at the bottom of Subfile Summary in Appendix E, (Figure E.1) is 1.000 and 1.000; this result is very good. Because the questionnaire was designed to ask the respondent to give the score of every card, it quit similar with the general questionnaires which ask the evaluated the importance or possibility of a hypothesis question. The nine cards were similar as the nine questions and this pretest survey went well. Therefore, the questionnaire II which been used in the pretest will be used in the following survey.

4.5 Data Collection method

This research used both Primary Data and Secondary Data, which were used in different phases.

Primary data, gathered and assembled specifically for a research project, were used in this research for the statistic analysis to support the achievements. Since there was no historical data available in related researches; therefore, all of the data used were collected from the respondents who were required to give scores for the nine cards and other required information. The market survey of "Made in" was also an important primary data concerning the current situation of Thai TV Market.

Secondary data were used to determine the attributes and attributes' level in the questionnaire. These data included the data from the World Wide Web (WWW), international journals, professional research companies and the other research articles about the statistic method. Furthermore, some primary data, collected from interviewing customers about how they chose a TV set and which factors were important for them when making purchasing decisions, also contributed to the phase of determining the attribute and attribute levels.

4.6 Statistic treatment of data

SPSS Conjoint analysis was chosen as the treatment instrument to process the data for this study. The data will be recorded as the data file of conjoint analysis, according the measurement of variables. Within Questionnaire, Ordinal scale variables are Education level, Income level, and Score of Card. The detailed measurements of the card's attributes belong to two groups: Nominal scale for Brand Name and COO, Ordinal scale for Price, Picture Quality, Length of Warranty, and reliability, they are used for the Plan file of conjoint analysis. Another measurement for the six attributes was used for the conjoint analysis Syntax which in order to analyze the data and create the utility file for further analysis.

Finally, the software used in this study was the most popular statistic tool, SPSS, version 14, Conjoint Analysis module, Frequency report, and Orthogonal design three functions were used in this study. The software was provided by Assumption University Computing Center.

CHAPTER 5

PRESENTATION OF DATA AND CRITICAL DISCUSSION OF RESULTS

Once conjoint analysis was chosen as the research method, a descriptive analysis was determined to be selected. This chapter will describe conjoint analysis results which focus on the relative importance of key evaluation criteria as well as description depending on the segmentation. Furthermore, the statistic items, **Pearson's R** and **Kendall's tau**, which were analyzed and outputted by SPSS Conjoint analysis module, will also be discussed in order to test the performance of the research method.

5.1 Profile of the Sample

130 questionnaires were finally collected from the target population through the survey by following the sampling procedure. The reason of why did not collect 180 is because the minimum thirty-sample requirement for all subgroups was fulfilled. The whole survey had been conducted two days. In the first day, 100 questionnaires were distributed and collected. The results were inputted to the SPSS data file sonly and analyzed by frequency report. Nevertheless, the samples of high school or lower in the education level, 21 samples, and above Baht 35,000 in Income level, 25 samples, did not achieve the minimum requirement. Therefore, in the second day, another 30 questionnaires were added in order to achieve the designed sample size according to the percentage of the collected questionnaires. The results of these 30 questionnaires was also inputted into the SPSS data file and analyzed by the frequency report immediately just after all thirty was collected.

Table 5.1 Frequency Descriptive of Income Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than Baht 15,000	49	37.7	37.7	37.7
	Baht 15,000 - 35,000	46	35.4	35.4	73.1
	Above Baht 35,000	35	26.9	26.9	100.0
	Total	130	100.0	100.0	

According to the figures within Table 5.1, the collected sample size is 130. For the income level, salary less than baht 15,000 have 49 respondents, accounting for

37.7% of the samples; salary between Baht 15,000 and 35,000 have 46 respondents, accounting for 35.4% of the samples; salary above Baht 35,000 have 35 respondents, accounting for 26.9% of the samples.

Table 5.2 Frequency Descriptive of Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School or Lower	30	23.1	23.1	23.1
	Diploma or Bachelor	64	49.2	49.2	72.3
	Master or Higher	36	27.7	27.7	100.0
	Total	130	100.0	100.0	

According to the figures within Table 5.2, For education level, High school or lower have 30 respondents, occupying 23.1% of the samples; diploma and Bachelor has 64 respondents, occupying 49.2% of the samples; master or higher has 36 respondents, occupying 27.7% of the samples.

5.2 Conjoint Analysis Result

5.2.2 Overall results

The overall results represent the preference of target population through all 130 respondents. The data were processed by the Conjoint Analysis Module of SPSS for Windows Version 14.

Figure 5.1 Overall Relative Importance Summary

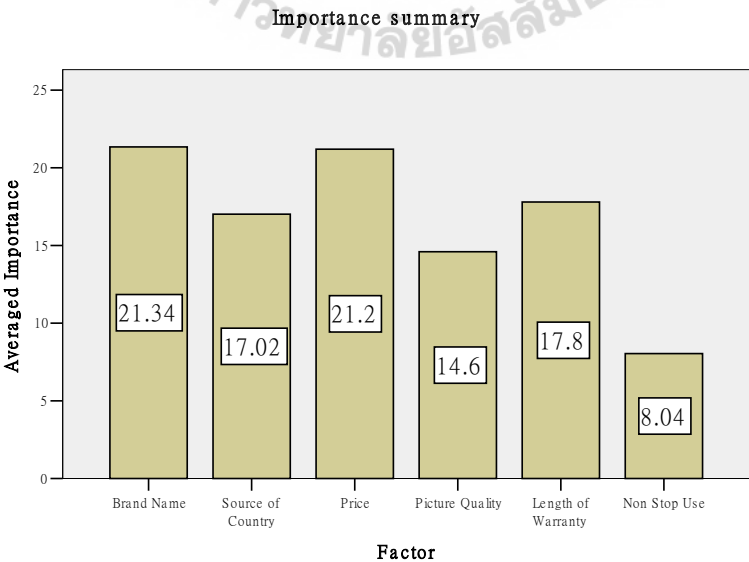


Figure 5.1 shows the relative importance of tested six evaluation criteria from all 130 respondents. The most important criterion is Brand Name which accounts for 21.34% of the averaged importance and Price got the very close score 21.2%. The length of warranty and Country of Origin (COO) got a similar score from 17.8% and 17.02%. Picture quality accounts 14.6% averaged importance. And the Reliability just got 8.04% of the averaged importance.

Table 5.3 Utility Score of Attribute Level

Attribute Name	Attribute Level	Utility Score	Rank
Brand Name	Haier	-.409	3
	Samsung	.071	2
	Sony	.339	1
Source of country	China	-.333	3
	Japan	.356	1
	South Korea	-.022	2
Price	Lower than Baht 6,990	-.055	1
	Baht 6,990-14,990	-.110	2
	Higher than Baht 14,990	-.165	3
Picture Quality	Excellent	-.579	1
	Normal	-1.157	2
Length of Warranty	More than 1 year	-.547	1
	One year or less	-1.094	2
Reliability	High	-.091	1
	Normal	-.181	2

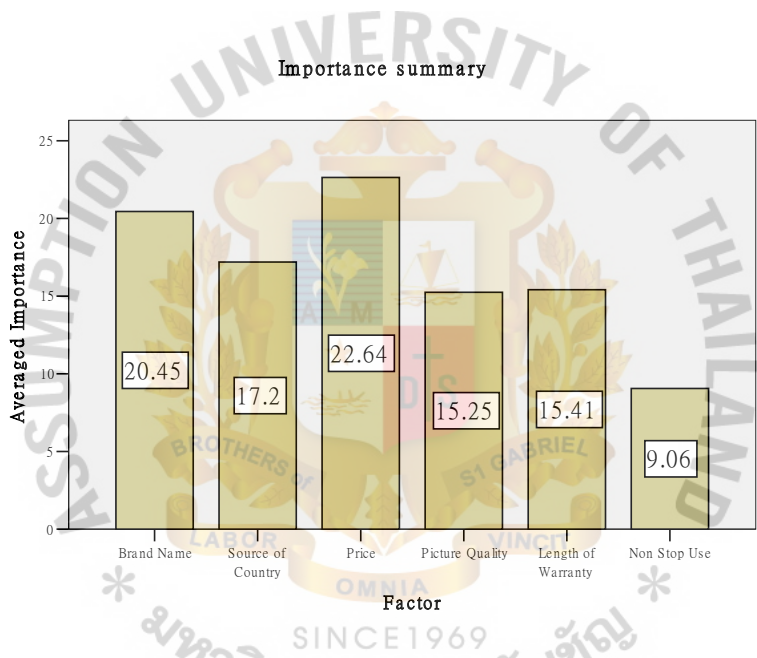
Each level of an evaluation criterion represents the preference of the study population. Table 5.3 shows the detailed information about the utility score of each level. The utility score represents the preferred degree, the higher the more preferred. For Brand Name, Sony was the most favorite brand for consumers in Bangkok Metropolitan as well as Samsung; however, the new brand for Bangkok Market, Haier was not preferred compared with Sony and Samsung. For COO, made in South Korea was ranked for the most favorite COO whereas made in Japan was ranked as the second preferred COO; made in China was ranked as the last preferred COO. For Price, the lower the price was, the more preferred the TV was. For Picture Quality, Warranty, and Reliability the table shows the negative scores. However, the excellent picture quality, longer warranty period, and high reliability were also preferred by consumers.

5.2.3 Income Segmentation Results

The overall samples were sorted according to the income segmentation. Three separated SPSS data file for conjoint analysis were created: Income Segment I, salary lower than Baht 15,000; Income Segment II, salary between Baht 15,000 and 35,000; and Income Segment III, salary above Baht 35,000. The sample size of segments is showed in Table 5.1: 49 samples, 46 samples, and 35samples for Segment I, II, and III. Three segments were analyzed separately.

5.2.3.1 Income Segment I Results

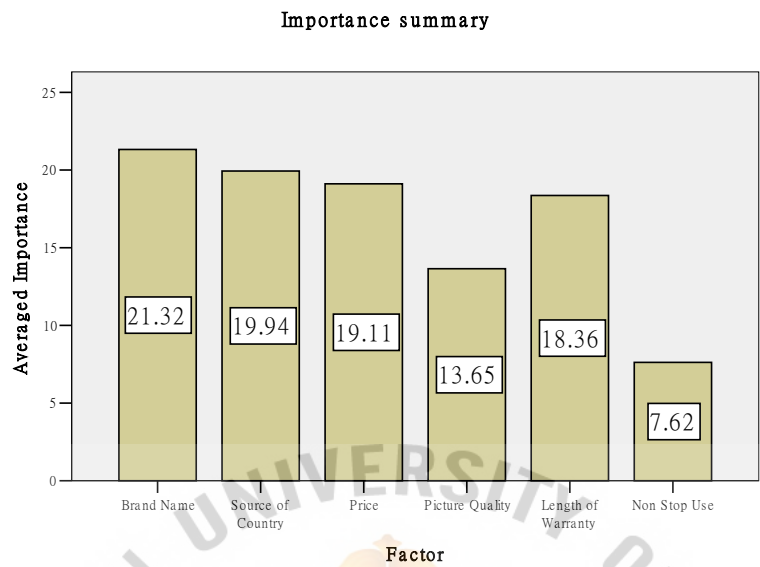
Figure 5.2 Income Segment I Relative Importance Summary



The conjoint analysis results show the preference of income segment I through 49 samples. Figure 5.2 shows the averaged importance of the tested six evaluation criteria. The most important criterion was Price which accounts for 22.64% of averaged importance; the second important criterion was Brand name which accounts for 20.45%; and the third important criterion was COO which accounts for 17.2%; followed by Length of Warranty, Picture Quality, and Reliability which respectively occupy 15.41%, 15.25%, and 9.06% of the averaged importance; and the Reliability was the least important evaluation criterion in this segment when making TV purchasing decision.

5.2.3.2 Income Segment II Results

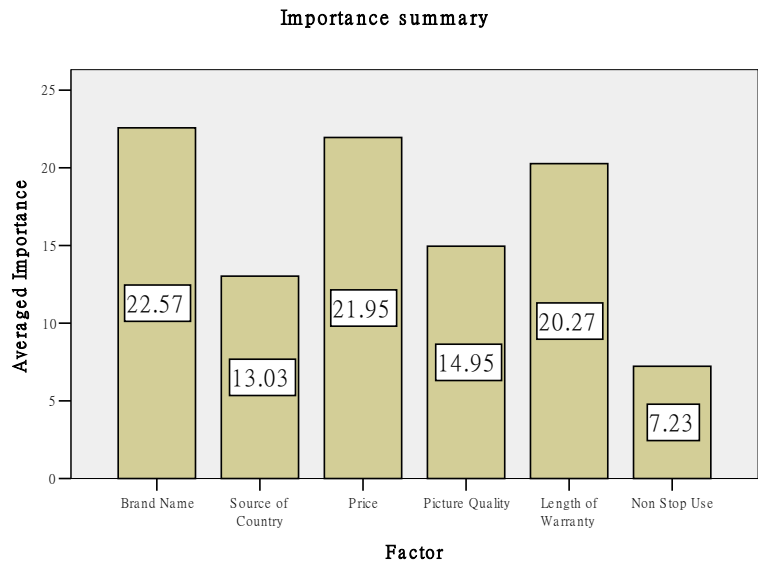
Figure 5.3 Income Segment II Relative Importance Summary



The conjoint analysis results show the preference of income segment II through 46 samples. Figure 5.3 shows the relative importance of the tested six evaluation criteria. The most important criterion was Brand Name, occupying 21.32% of the averaged importance; the second important criterion was COO, occupying 19.94%; and the third important criterion was Price, occupying 19.11%; followed by Length of Warranty, Picture Quality, and Reliability, accounting for respectively 18.36%, 13.65%, and 7.62% of the averaged importance; and Reliability held the tinniest importance in this segment.

5.2.3.3 Income Segment III Results

Figure 5.4 Income Segment III Relative Importance Summary



The conjoint analysis results indicate the preference of income segment III through 35 samples. Figure 5.4 shows the relative importance of the tested six evaluation criteria. The most important criterion was Brand Name, accounting for 22.57% of the averaged importance, which was the comparatively high importance score; the second important criterion was Price, accounting for 21.95%; the third important criterion was Length of Warranty, occupying 20.27%; and followed by Picture Quality, COO, and Reliability, occupying respectively 14.95%, 13.03%, and 7.23% of the averaged importance. Reliability was the unimportant criteria in this segment.

5.2.3.4 Income Segmentation Summary

Table 5.4 Income Segmentation Summary

Evaluation Criteria Income Segments	Brand Name	COO ^a	Price	Picture Quality	Length of Warranty	Reliability
Below Baht 15,000	20.45%	17.20%	22.64%	15.25%	15.41%	9.06%
Between Baht 15,000 and 35,000	21.32%	19.94%	19.11%	13.65%	18.36%	7.62%
Above Baht 35,000	22.57%	13.03%	21.95%	14.95%	20.27%	7.23%

^aCOO=Country of Origin

Table 5.5 Income Segmentation Rank

Evaluation Criteria Income Segments	Brand Name	COO ^a	Price	Picture Quality	Length of Warranty	Reliability
Below Baht 15,000	3	2	1	1	3	1
Between Baht 15,000 and 35,000	2	1	3	3	2	2
Above Baht 35,000	1	3	2	2	1	3

^aCOO=Country of Origin

In summary, Brand Name was the most important evaluation criterion for income segment II an III, segment I scored it at the second important position. The Brand Name score in income segments was different. Brand Name occupied the highest relative importance in income segment III. The figure within the Brand Name Column of Table 5.5 shows a potential relationship between the relative importance

and the income level: the higher income level, the higher relative importance of Brand Name was considered.

For the COO, the ranked position of importance was the second, the third, and the fifth for income segment II, I, and III. There was no potential linear relationship showed between the income level and the relative importance. Nevertheless, Income segment II valued COO more than the other segments when evaluating TVs, as the COO Column of Table 5.4 shows.

Price was also ranked at the first, the second, and the third position for income segment I, III, II. There is no potential correlation was found between this evaluation criterion and the income levels, as the Price Column of Table 5.5 shows. The income segment I scored the highest importance for the criterion.

Picture quality was in the fifth position in income segment I and II, and the fourth position in segment III. Income segment I gave the highest score for it, as the Picture Quality Column of Table 5.5 shows. There was no relationship found between this criterion and the income level.

Length of Warranty was in the fifth position in income segment I and II, and the third position in income segment III. Income segment III scored the highest importance for Length of Warranty. Also, a potential relationship was found between Length of Warranty and the income level, as the Length of Warranty Column of Table 5.5 shows.

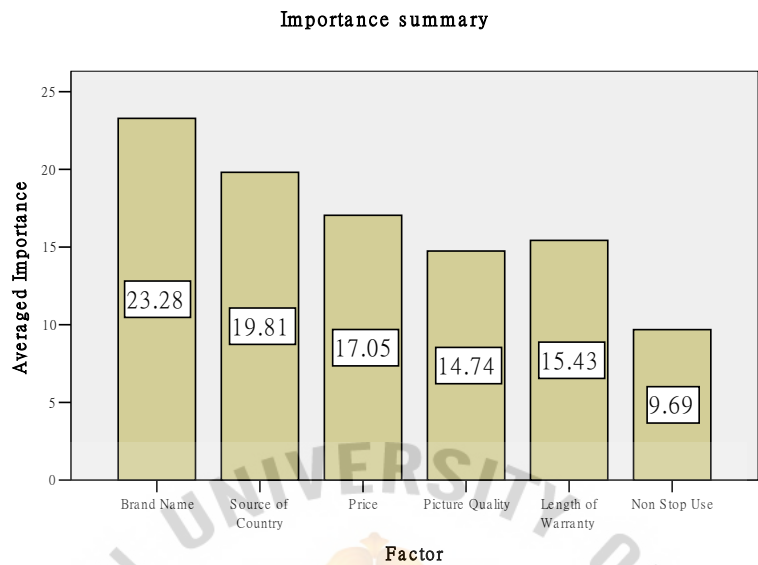
The last criterion, Reliability, was the most unimportant evaluation criterion in all income segments. Even Reliability was a less important criterion, a potential relationship was found between it and the income level, as the reliability Column of Table 5.5 shows.

5.2.4 Education Segmentation Results

The samples were also categorized according to the education segmentation. Three separated SPSS data file for conjoint analysis were created too: Education Segment I, High School or Lower; Education Segment II, Diplomas or Bachelor Degree; and Education Segment III, Master Degree or Higher. The sample size of segments is showed in Table 5.2: 30 samples, 64 samples, and 36 samples. The results were analyzed separately as well.

5.2.4.5 Education Segment I Results

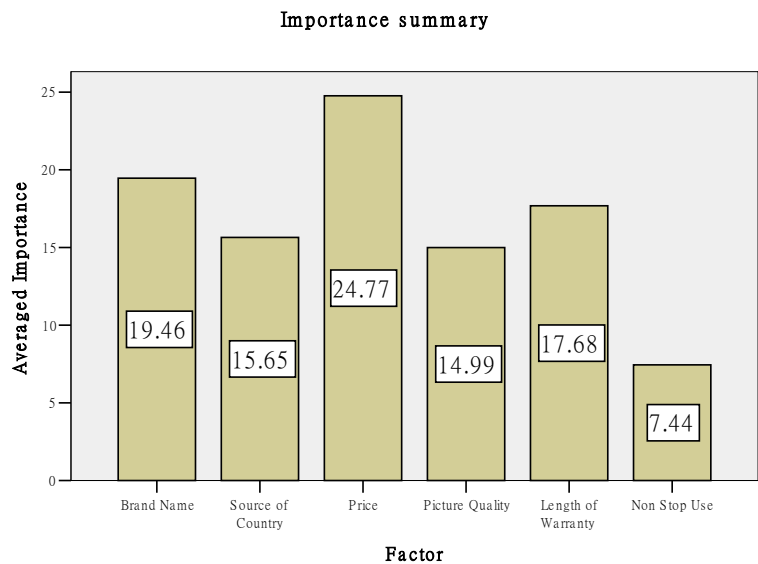
Figure 5.5 Education Segment I Relative Importance Summary



The conjoint analysis results show the preference of education segment I through 30 samples. Figure 5.5 shows the relative importance of the tested six evaluation criteria. The most important criterion was Brand Name, accounting for 23.28% of the averaged importance; the second important criterion was COO, occupying 19.81%; the third important criterion was Price, accounting for 17.05%; and followed by Length of Warranty, Picture Quality, and Reliability, occupying respectively 15.43%, 14.74%, and 9.69% of the averaged importance.

5.2.4.6 Education Segment II Results

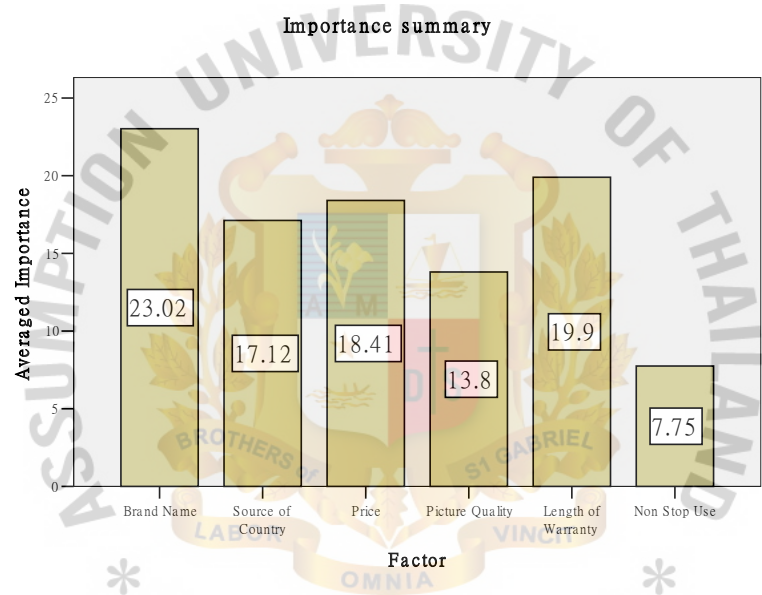
Figure 5.6 Education Segment II Relative Importance Summary



The conjoint analysis results indicate the preference of education segment II through 64 samples. Figure 5.6 shows the relative importance of the tested six evaluation criteria. The most important criterion was Price, accounting for 24.77% of the averaged importance; the second important criterion was Brand Name, accounting for 19.46%; the third important criterion was Length of Warranty, accounting for 17.68%; and followed by COO, Picture Quality, and Reliability, occupying respectively 15.65%, 14.99%, and 7.44% of the averaged importance.

5.2.4.7 Education Segment III Results

Figure 5.7 Education Segment III Relative Importance Summary



The conjoint analysis results represent the preference education segment III through 36 samples. Figure 5.7 shows the relative importance of the tested six evaluation criteria. The most important criterion was Brand Name, accounting for 23.02% of the averaged importance; the second important criterion was Length of Warranty, accounting for 19.9%; the third important criterion was Price, accounting for 18.41%; and followed by COO, Picture Quality, and Reliability, occupying respectively 17.12%, 13.8%, and 7.75% of the averaged importance.

5.2.4.8 Education Segmentation Summary

Table 5.6 Education Segmentation Summary

Evaluation Criteria Education Segments	Brand Name	COO ^a	Price	Picture Quality	Length of Warranty	Reliability
High School or Lower	23.28%	19.81%	17.05%	14.74%	15.43%	9.69%
Diploma or Bachelor Degree	19.46%	15.65%	24.77%	14.99%	17.68%	7.44%
Master Degree or Higher	23.02%	17.12%	18.41%	13.8%	19.9%	7.75%

^aCOO=Country of Origin

Table 5.7 Education Segmentation Rank

Evaluation Criteria Education Segments	Brand Name	COO ^a	Price	Picture Quality	Length of Warranty	Reliability
High School or Lower	1	1	3	2	3	1
Diploma or Bachelor Degree	3	3	1	1	2	3
Master Degree or Higher	2	2	2	3	1	2

^aCOO=Country of Origin

To summarize, Brand Name was the most important evaluation criterion in education segment I and III, and the second importance criterion for education segment II. However, the score in education segments was different. Brand Name occupied the highest relative importance, 33.32%. However, the rank within the Brand Name Column of Table 5.7 shows that there was no relationship between the relative importance and the education level.

For the COO, it was in the second importance position for education segment I. For education segment II and III, it was ranked at the fourth position. The COO Column of Table 5.7 indicates no relationship trend between the education level and the relative importance, education segment II valued COO more than other segments when evaluating TVs, as the COO Column of Table 5.6 shows.

The third position was Price in segment I and III. However, segment II ranked as the first most important position. The Price Column of Table 5.7 shows no

relationship trend was found between this evaluation criterion and the education level. Education segment II scored the highest importance for this criterion as Table 5.6 shows.

Picture quality was in the fifth position in all education segments. The Picture Quality Column of Table 5.6 shows that education segment II gave the highest score for it. No relationship was found between this criterion and the education level.

As the length of Warranty Column of Table 5.6 shows, education segment III gave the highest score for this criterion. And a potential relationship was found between the length of warranty and the education level, the detailed information is showed in the length of Warranty Column of Table 5.7.

The last criterion, Reliability, was the most unimportant evaluation criterion in all education segments, as the Reliability Column of Table 5.6 shows. There was no relationship was found between it and the income level, as the reliability Column of Table 5.7 shows.

5.3 Diagnosis of Methods Result

The **Pearson's R** and **Kendall's tau** statistic of overall samples showed at the bottom of Subfile Summary in Appendix Figure F.1 is 1.000 and 1.000, the Significance of Kendall's tau is 0.0000. This result showed the correlation between the observed and estimated preferences was very significant. It also indicated the orthogonal design according to the desired evaluation criteria was good for the respondents to express their preference. Moreover, all segments' **Pearson's R** and **Kendall's tau** statistic results were also very high, same as this overall result. Therefore, the method, including the segmentation and evaluation criteria, was very appropriate for this study.

5.4 Explanation

The data were selected and processed according to the segmentation design. The conjoint analysis results of segments were used to explain the segments' preference of the designed evaluation criteria. A descriptive statistic was selected to explain those conjoint analysis results. Furthermore, a comparative analysis was applied in order to find the differentiation and similarity among the segments through comparing the

relative importance score of evaluation criteria. The ranking of some criteria showed the linear relationship with the segments.



CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

In this chapter, significant findings of the study will firstly be summarized. This will be followed by a discussion of the limitations encountered while conducting the study and suggestions for further research.

6.1 Summary of the Major Findings

As a review, the study proposed three main objectives. Firstly, this research aims to determine the most important evaluation criteria when purchasing televisions. Secondly, it is hoped to find out the differentiation and similarity among the income level and education level segments. Thirdly, according to the empirical findings, it aims to explore whether the Brand Name and Country of Origin (COO) are also the most important evaluation criteria for Bangkok consumers or not.

6.1.1 Summary of Sample Characteristics

In this study, 130 questionnaires were collected and one sample was not counted by the SPSS Conjoint analysis because the same score for all profiles. According to the income segmentation, Table 5.1 shows, income segment I, lower than baht 15,000, accounting for 37.7%; income segment II, between baht 15,000 and 35,000, accounting for 25.4%; and income segment III, above baht 35,000, occupying 26.9% of total samples. For the education segment I, High School or lower; education segment II, Diploma or master degree; and education segment III, Master degree or higher, they respectively accounted for 23.1%, 49.2%, and 27.7% of total 130 respondents, as Table 5.2 shows, which represented the consumers' education structure in Bangkok metropolitan areas.

6.1.2 Summary of Conjoint Analysis

Table 6.1 Overall Conclusions

Evaluation Criteria Items	Brand Name	COO ^a	Price	Picture Quality	Length of Warranty	Reliability
Averaged Importance	21.34%	17.02%	21.2%	14.6%	17.8%	8.04%
Rank Position	1	4	2	5	3	6

^aCOO = Country of Origin

The overall conjoint analysis results showed the score of the tested six evaluation criteria. The ranks from the most important to the least important were: Brand Name, Price, Length of Warranty, COO, Picture Quality, and Reliability, accounting for 21.34%, 21.2%, 17.8%, 17.02%, 14.6%, and 8.04% of the averaged importance, respectively.

The segmentation analysis showed that there were some differences among the segments' preferences. Furthermore, some potential relationships were found between the tested evaluation criteria and the segments. The Brand Name, Length of Warranty, and Reliability were found having potential liner relationship with the income segments, Table 5.5 shows the facts. The Length of Warranty was found having a potential liner relationship with the Education segments, Table 5.7 shows the details.

6.2 Conclusion and Discussion

In conclusion, this research was successfully conducted in Bangkok Metropolitan areas. The empirical literatures appropriately supported the research frame work and methodology. Appropriate sampling procedure and sample size were selected in order to discover the preference of the target population. Therefore, the research objectives have been achieved. The data was analyzed properly.

It is clear that Brand Name and Price are the most important TV purchase evaluation criteria (Table 6.1, page 61) for consumers in Bangkok Metropolitan areas according to the conjoint analysis results. The results show that they account for 21.34% and 21.2% of the averaged importance respectively, which indicates that consumers' preference in Bangkok metropolitan market is different to that in the empirical studied markets. The reason for the Brand Name became the most important criterion is because target samples were selected at the major department and discounted stores like The Mall Bangkapi and Ramkhamhaeng branch, Tesco Lotus Rama IV branch, also, the respondents belong to the low-to-medium and medium income levels. So that, they have greater opportunity to select variety of brand they preferred. This result is different with an empirical COO and Brand effects study by Richard in the year 1993, which studied in Russia, Poland and Hungary three countries. The similar is that the difference between the segments and both COO and Brand played a relative minor role were found for the two studies. The different is the COO does not play the most important role for current Bangkok Metropolitan market,

but it did in Richard's research. Certainly, it is reasonable for Brand become more important then past. The environment changing and the globalization effected the consumer's perceptions. The popularization of TV and the growth of economic also change the importance of TV. Therefore, consumer will seek for the personality spirit consumption. Brand can prefer better than COO to achieve this purpose, so brand become more important.

The first research objective has been achieved. According to the averaged importance score of conjoint analysis output, Brand Name, the first considered evaluation criterion when Bangkok Consumers evaluate TV(s), together with Price can be described as the most important evaluation criteria pair because both of them got the averaged importance score over 20.00% and higher than the second important evaluation criteria at least 3.4%. The less important evaluation criteria pair is Price and Picture Quality. The least important evaluation criterion is Reliability which was scored only 8.04%. The other three criteria have the similar relative importance score will be important TV purchase evaluation criteria for the consumer of studied market.

The differentiation between the segments and the evaluation criteria has also been proved. Not only the rank of the evaluation criteria was different, but also the averaged importance for each evaluation criterion was different. Some of the differences between the averaged importance and the segments are outstanding. Therefore, the second objective has been achieved too.

Furthermore, not only the averaged importance of evaluation criteria was found, but also the potential relationships between the segments and the averaged importance were found. The consumers' preference in Income segments has been found having a potential linear relationship with Band Name, Length of Warranty, and Reliability whereas the consumers' preference in education segments has been discovered having a potential linear relationship with the Length of warranty.

Moreover, the statement of the problem can be solved through the empirical studies and this conjoint analysis application which focuses on discovering the relative importance of consumer preferred TV purchase evaluation criteria. The overall averaged importance within figure 5.1 shown the result.

6.3 Implication

The results of this study are hopefully to provide some constructive implications for Chinese TV manufactures, Thai TV marketers and Thai TV leaders such as Sony and Samsung.

Although Chinese TV manufactures have gained high reputation in most of the Asian and European countries for their high quality, low price and good after-sale service, they failed to occupy Thai TV market shares successfully according to the utility score -.409 in Table 5.1. In other words, they could not be able to attract Thai TV consumers' attention toward their advantages. In terms of the results of this study, Brand name is the most important evaluation criterion in all the income and education segments; it is suggested that Chinese TV manufactures and marketers should be aware that both Price and Brand are the important evaluation criterion in Thai TV market, they cannot just employ price strategy to compete with other competitors. Furthermore, the length of warranty may have also been considered as the competitive strategy. The more important is, Haier, the representative of Chinese brand, should pay more attention to Brand strategy and strive to improve its Brand Awareness in order to build up its Brand image in Thai TV market.

Furthermore, it is also recommended that Thai TV marketers should be aware of the evaluation criteria preferred by Thai consumers. On the one hand, Thai TV marketers could be able to choose the products with the most favorite bands and Price; on the other hand, they should keep a close eye on the global market and trace the marketing and technological potential trends of the TV market and industry, as Thai TV market is one part of global market and it will be affected by the changes occurred in the global market; and also, the new global TV manufactures' unique advantages may help infuse new vigor into Thai TV market.

Besides, the Thai TV market leaders such as Sony and Samsung can also gain benefits from this research. In order to keep their competitive advantages in Brand and Price strategy, they need to continuously working on the Brand Loyalty; furthermore, in order to face the new challenges from other brands, they may have to pay more attention to other important evaluation criteria which affect consumers' decision making such as the price, picture quality. Because of the rapid development

of TV technology, they may be required to find new evaluation criteria about the technical advantages which may seriously affect the consumers' evaluation result.

Lastly, the researcher also wants to suggest that Bangkok consumers should figure out more information about the brand performance from the global market. The most important is that they should seek more information like internationally technical standardization, global performance, brand culture, and quality control, rather than the limited simple Brand name and Price when evaluating a TV, which may help them to make reasonable and wiser decisions.

In conclusion, all marketers have to choose, build up and maintain a good brand image. Nevertheless, COO are not continue playing a serious role because the Thai custom tariff on the finished TV product and the foreign direct investment FDI policy of Thailand was forcing and attracting the manufactures to invest and manufacture TVs in Thailand, which will directly affect the price of their products, the third important evaluation criterion among Bangkok consumers.

6.4 Further Research

First, this research studied Standard TVs without including the new technology TVs which play more and more important role than ever; therefore, it is suggested that the further research should try to study the other types of TVs which use LCD, DPD, Plasma or other new technologies.

Second, this study was an investigational descriptive research; therefore, the statistic results might not perfectly reflect the real TV market in Bangkok. In order to represent the entire Bangkok or Thai market, more samples and locations have to be surveyed in the future research. The empirical researches suggested the sample size should be about 1,000.

Third, this conjoint analysis results can be used for developing further hypotheses research. The linear relationships found between the evaluation criteria and the segments can be used to do a further hypothesis research to prove the authenticity of the correlation between them.

Finally, because of the limitation of the TC and SPSS software as well as the limitation of Conjoint Analysis, the selected attributes, evaluation criteria, and attribute's level were limited; therefore, the respondents may not find their most

preferred products. However, the other software of conjoint analysis can process the conjoint analysis better through the Web-Based survey method. The researcher strongly recommends that the Assumption University can provide this powerful software for new researches.



BIBLIOGRAPHY

TEXTBOOKS

- Aaker, D.A. (1991), Managing Brand Equity: Capitalizing on the Value of a Brand Name, New York, The free Press.
- Dalrymple, D.J., Parsons, L.J. (2000), Marketing Management, New York, John Wiley & Sons.
- East R. (1997), Consumer Behavior: Advances and Applications in Marketing, Landon, Prentice Hall Europe.
- Engel, J.F. and Blackwell, R.D., and Miniard, P.W. (1986), Consumer Behavior 5e, Chicago, Harcourt School.
- Kotler, P. (2000), Marketing Management, New Jersey, Prentice-Hall.
- Krech, D. and Cruthfield, R.S. (1984), Theory and Problems in Social Psychology, New York: McGraw-Hill, p152.
- Lamb, C.W. and Hair, J. F., McDaniel, C. (1999), Essentials of Marketing 1e, New York, Thomson South-Western.
- Morswe, L.B. (1993), Statistics for Business and Economics, New York, HarperCollins College Publishers.
- Neal, C., Quester P. and Hawkins D. (2002), Consumer behavior: implications for marketing strategy 3e, Boston, McGraw-Hill.
- Perreault, W.D. and McCarthy, E.J. (2002), Basic Marketing 14e, McGraw-Hill.
- Peter, J. P. and Olson J. C. (2002), Consumer Behavior and Marketing Strategy 6th ed., NewYork, McGraw-Hill/Irwin.
- Schütte, H. and Ciarlante, D. (1998), Consumer Behavior in Asia, London: Macmilian Press Ltd.
- Solomon, M.R. (1997) Consumer Behavior 4e, New Jersey, Prentice Hall.
- Walters, C.G. and Bergiel, B.J. (1989), Consumer Behavior: A Decision Making Approach, Ohio, South-Western Publishing Co.

JOURNALS

- Ahmed, S.A. and Astous, A. (1993), "Cross-national evaluation of made-in concept using multiple cues", European Journal of Marketing, Vol. 27 No. 7, pp39-52.
- Al-Sulaiti, K.I. and Baker, M.J. (1998), "Country of origin effects: a literature review", Marketing Intelligence & Planning, Vol. 16 No. 3, pp. 150-199.
- Amine, L.S. & Shin Sang-Heun (2002), "A comparison of consumer nationality as a determinant of country of origin preferences", Multinational Business Review, Vol. 10 No.1 Spring, pp. 45-53.

- Amirani, S. and Gates, R. (1993), "Attribute-anchored conjoint approach to measuring store image", International Journal of Retail & Distribution Management, Vol. 21 No. 5, pp. 30-39.
- Bilkey, W.J. and Nes, E. (1982), "Country-of-Origin Effects on Product Evaluations", Journal of International Business Studies, No. 13, Spring/Summer, pp. 89-99.
- Chao, P., "Export and Reverse Investment: Strategic Implications for Newly Industrialized Countries", Journal of International Business Studies, Vol. 20 No. 1, Spring 1989, pp. 75-91.
- Clarke, I. and Owens, M., and Ford, J.B. (2000), "Integrating Country of Origin into Global Marketing Strategy-A Review of U.S. Marking Statutes", International Marketing Review, Vol.17 No. 2, pp. 114-126.
- Dickerson, K. (1982), "Imported Versus US Apparel: Consumer Views and Buying Patterns", Home Economics Research Journal, No. 10, March, pp. 241-52.
- Eric, C.K. (1999), "Evaluation of captioning features to inform development of digital television captioning capabilities", American Annals of the Deaf, Vol: 144 No.3, July, pp. 250-60.
- Erickson, G.M. (1984), Johansson, J.K. and Chao, P., "Image Attributes in Multi-attribute Product Evaluations", Journal of Consumer Research, Vol. 11, September, pp. 694-99.
- Ettenson R. (1993), "Brand name and country of origin effects in the emerging market economies of Russia, Poland and Hungary", International Marketing Review, Vol.10 No.5, pp.14-36.
- Ettenson, R., Wagner, J. and Gaeth, G. (1988), "Evaluating the Effect of Country of Origin and the 'Made in USA' Campaign: A Conjoint Approach", Journal of Retailing, Vol. 64 No. 1, pp. 85-100.
- Green, E. and Desarbo, W.S. (1978), "Additive Decomposition of Perceptions Data via Conjoint Analysis", Journal of Consumer Research, Vol. 5, June, pp. 58-65.
- Green, P. and Srinivason, V. (1990), "Conjoint Analysis in Marketing: New Developments With Implications for Research and Practice", Journal of Marketing, October, pp. 3-19.
- Hammond K., Ehrenberg A.S.C, and Goodhardt G.J. (1996), "Market Segmentation for competitive Brands," European Journal of Marketing, Vol.30, No. 12, pp. 39-49.
- Han, C.M. and Terpstra, V. (1988), "Country-of-Origin Effects for Uninational and Bi-national Products", Journal of International Business Studies, No. 14, Summer, pp. 235-55.
- Harold R.W. (2001), "An Introduction to Appearance Analysis", the magazine of the Graphic Arts Technical Foundation, Second sight No.84.

- Hong, S. and Wyer, R.S. (1989), "Effects of Country-of-Origin and Product-attribute Information on Product Evaluation: An Information Processing Perspective", Journal of Consumer Research, No. 16, September, pp. 175-87.
- Iyer, G.R. & Kalita, J. (1997). The Impact of Country-of-Origin and Country-of-Manufacture Cues on Consumer Perceptions of Quality and Value. Journal of Global Marketing, 11(1), 7-28.
- Johansson, J.K. (1989) 'Determinants and effects of the use of "made in" labels', International marketing Review (UK), 6(1), pp47-58.
- John, T., Bruce, S., and Petros, T. (2002). A new perspective on cross-cultural ethical evaluations: The use of conjoint analysis, Journal of Business Ethics; Dordrecht.
- Jonathan, W. (1994), "Consumer electronics marketer uses a conjoint approach to configure its new product and set the right price", Marketing Research, Chicago: Summer Vol. 6, No. 3; pg. 6, 6 pgs.
- Kaynak, E. and Samli, C. (1986), "Eastern European Marketing Systems and Western Marketing Research Voids: A Research Agenda", Journal of Business Research, Vol. 2, pp. 109-16.
- Knight A.G. (1999), "Consumer preferences for foreign and domestic products", The Journal of Consumer Marketing, Santa Barbara: Vol. 16, No. 2, pg. 151.
- Lawrence, C., Marr, N.E. and Prendergast, G.P., "Country-of-Origin Stereotyping: A Case Study in the New Zealand Motor Vehicle Industry", European Journal of Marketing, Vol. 26, 1992, pp. 37-51.
- Lichtenstein, D.R, Ridgway, N.M, and Netemeyer, R.G (1993), Journal of Marketing Research, Vol. 30, pp.234-45.
- McCullough, D. (2002), "A User's Guide to Conjoint Analysis", Marketing Research, Vol. 1, Summer, pp. 19-23.
- Mowen, J.C. (1988), "Beyond Consumer Decision Making", Journal of Consumer Marketing, Winter, pp.15-25.
- Okechuku, C. and Onyemah, V. (1999), "Nigerian consumer attitudes toward foreign and domestic products", Journal of International Business Studies, Third quarter, 30, 3; pp611-622.
- Okechuku, C., (1994), "The importance of product of country of origin: A conjoint analysis of the United States, Canada, Germany, and Netherlands", European Journal of Marketing, Vol. 28 No. 4, pp. 5-19.
- Olson, J.C and Jacoby, J. (1972), "Cue Utilization in the Quality Perception Process", in Venkatesan, M. (Ed.), Advances in Consumer Research, Third Annual Conference, Association for Consumer Research, Iowa City, IA, pp. 167-79.
- Onkvisit, S. and Shaw, J. (1989), "The International Dimension of Branding: Strategic Considerations and Decisions", International Marketing Review, Vol. 6 No. 3, pp. 23-33.

- Orme, B. (1998), "Sample Size Issues for Conjoint Analysis Studies", Sawtooth Software Research Paper Series, pp7-10.
- Oppewal, H. and Virens, M. (2000), "Preferential segmentation of restaurant attributes through conjoint analysis", International Journal of Bank Marketing, Vol. 18, No. 4, pp. 154-169.
- Ozsomer, A. and Cavusgil, S. (1991), "Country-of-origin effects on product evaluations: a sequel to Bilkey and Nes review", in Gilly (Eds), AMA Educators Proceedings, Chicago, Vol. Vol. 2, pp.269-77.
- Papadopoulos, N., Heslop, L. and Bamossy, G. (1990), "A Comparative Image Analysis of Domestic versus Imported Products", International Journal of Research in Marketing, Vol. 7 No. 4, pp. 283-94.
- Shama, A. (1992), "Transforming the Consumer in Russia and Eastern Europe", International Marketing Review, Vol. 9 No. 5, pp. 43-59.
- Tidwell, P.M, Morgan, D.D, and Kenny C. (1993), "Brand character as a function of brand loyalty", Current Psychology, Vol. 11, pp.346-51.
- Wang, C. and Lamb, C. (1983), "The impact of selected environmental forces upon consumers' willingness to buy foreign products", Journal of the Academy of Marketing Science, Vol. 11 No.2, pp.71-84.
- Wallet, M., Heslop, L. and Leifeld, J.P., "Impact of Country-of-origin Cues on Consumer Judgements in Multi-Cue Situations: A Covariance Analysis," Journal of the Academy of Marketing Science, Vol. 19 No. 2, 1991, pp. 105-14.
- Wickliffe, V.P. and Pysarchik, D.T. (2001), "A look at product attributes as enhancers of group integration among US and Korean consumers", International Journal of Retail & Distribution Management, Vol. 29, No. 2, pp. 99-109

OTHERS

- ChinaIRN⁹ (2006), "China Color Television Productivity Jan-Dec", March 27, 2006, <http://www.chinairn.com/doc/60210/59299.html>
- Ministry of Communications of Peoples Republic of China, "Dalian Port has signed cooperation agreement with 16 countries", October 18, 2006, http://www.moc.gov.cn/06liaoning/jiaotongxw/200610/t20061019_96951.html
- SPSS (2005), "SPSS Conjoint 14", Retrieved on Dec 30, 2006, http://sw.cs.uoguelph.ca/dsoft/SPSS/SPSS14Manuals/Unwrapped/SPSS Conjoint_14.pdf
- Taylor C. (2006), "TV Market Moves and Shakes", Sep 26, 2006, <http://www.edn.com/article/CA6375307.html?ref=nbednnnews&industryid=22043>

⁹ China Industry Research Network Data Source: Ministry of Information Industry of China P.R.



APPENDIX A
QUESTIONNAIRE

Questionnaire I

Questionnaire

The aim of the questionnaire is to find out the weighted score of all Attributes and Attributes’ Levels of Television Set. The result will be used for another conjoint analysis in order to get the most important profiles.

Your information is very useful for this research; your kind response to this survey is highly appreciated. Please answer all of the questions to reflect your need the most. All responses will be kept confidential.

The information you give in this questionnaire will be treated in utmost confidence and will be anonymous.

Attribute Name	Weighted Score	Attribute Level	Weighted Score
Brand Name		Haier	
		Samsung	
		Sony	
		Sum	100%
Source of country		Made in China	
		Made in Japan	
		Made in South Korea	
		Sum	100%
Price		Lower than Baht 6,990	
		Baht 6,990-14,990	
		Higher than Baht 14,990	
		Sum	100%
Picture Quality		Excellent	
		Normal	
		Sum	100%
Length of Warranty		More than 1 year	
		One year or less	
		Sum	100%
Reliability		High	
		Normal	
		Sum	100%
Sum:	100%		

Please be aware that all empty cells above 100% should be filled and the SUM should be 100 too.

Thank you very much for giving your time and answering this questionnaire.

Questionnaire II

Questionnaire

The aim of the questionnaire is to find out relative importance of the key evaluation criteria on television purchase intention. All of the selected key attributes are used to describe candidate televisions which totally been described in 9 Cards, and you will be required to mark them according to your favorite.

Your information is very useful for this research; your kind response to this survey is highly appreciated. Please answer all of the questions to reflect your need the most. All responses will be kept confidential.

The information you give in this questionnaire will be treated in utmost confidence and will be anonymous.

Part A: General Personal Information

1. Income
- ☐ Less than Baht 15,000

☐ Baht 15,000 – 35,000

☐ More than Baht 35,000
2. Education
- ☐ High School or lower

☐ Diploma or Bachelor Degree

☐ Master Degree or Higher

Part B: Question regarding the intention to buy

Instruction: Please Mark at the Bottom of each Card use ✓, The Bottom of Each card is same as the following Table, please mark as the following example.

Definitely NOT Buy	Probably NOT Buy	Not Sure	Probably Buy	Definitely Buy
-----------------------	---------------------	----------	-----------------	-------------------

<p>Brand name of TV: Sony</p> <p>Country of Origin: Made in China</p> <p>Price of TV: Below 6990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 1</p> 	<p>Brand name of TV: Samsung</p> <p>Country of Origin: Made in South Korea</p> <p>Price of TV: Below 6990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 2</p> 	<p>Brand name of TV: Sony</p> <p>Country of Origin: Made in Japan</p> <p>Price of TV: Below 6990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: Normal</p> <p>Card 3</p> 
<p>Brand name of TV: Haier</p> <p>Country of Origin: Made in China</p> <p>Price of TV: Below 6990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 4</p> 	<p>Brand name of TV: Samsung</p> <p>Country of Origin: Made in Japan</p> <p>Price of TV: Above 14,990</p> <p>Picture Quality: Normal</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 5</p> 	<p>Brand name of TV: Sony</p> <p>Country of Origin: Made in South Korea</p> <p>Price of TV: 6990-14990</p> <p>Picture Quality: Normal</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 6</p> 
<p>Brand name of TV: Sony</p> <p>Country of Origin: Made in China</p> <p>Price of TV: 6990-14990</p> <p>Picture Quality: Normal</p> <p>Length of Warrant: More than 1 year</p> <p>Reliability of TV: Normal</p> <p>Card 7</p> 	<p>Brand name of TV: Haier</p> <p>Country of Origin: Made in Japan</p> <p>Price of TV: 6,990-14,990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: More than 1 Year</p> <p>Reliability of TV: High</p> <p>Card 8</p> 	<p>Brand name of TV: Sony</p> <p>Country of Origin: Made in South Korea</p> <p>Price of TV: Higher than 14990</p> <p>Picture Quality: Excellent</p> <p>Length of Warrant: 1 Year or Less</p> <p>Reliability of TV: High</p> <p>Card 9</p> 

Thank you very much for giving your time and answering this questionnaire.

แบบสอบถาม

แบบสอบถามชุดนี้มีจุดมุ่งหมายเพื่อจะหาตัวแปรสำคัญในการตัดสินใจซื้อโทรทัศน์ ข้อมูลหลักโดยทั่วไปของโทรทัศน์แต่ละยี่ห้อได้ถูกจัดแบ่งออกเป็น 9 ใบ คุณจะต้องเลือกข้อที่ตรงกับความชอบของคุณมากที่สุด

การตอบแบบสอบถามของคุณจะเป็นประโยชน์ต่องานวิจัยนี้อย่างมาก กรุณาตอบแบบสอบถามทุกข้อและเลือกข้อที่สะท้อนความต้องการของคุณมากที่สุด

ข้อมูลของคุณในแบบสอบถามชุดนี้จะถูกเก็บเป็นความลับและไม่เปิดเผยต่อผู้อื่น

ส่วนที่ 1 ข้อมูลทั่วไป

3. รายได้

- ☐ Baht 15,000 น้อยกว่า
- ☐ Baht 15,000 – 35,000
- ☐ Baht 35,000 แพงกว่า

4. การศึกษา

- ☐ มัธยมหรือสูงกว่า
- ☐ ปริญญาตรีหรือประกาศนียบัตร
- ☐ ปริญญาโทหรือสูงกว่า

ส่วนที่2 คำถามเกี่ยวกับความตั้งใจที่จะซื้อ

วิธีตอบแบบสอบถาม กรุณาทำเครื่องหมาย (✓) ทับข้อที่ตรงกับความต้องการของคุณมากที่สุด ที่ด้านล่างของคำถามแต่ละใบดังตัวอย่าง

ไม่ซื้อแน่นอน	อาจจะไม่ซื้อ	ไม่แน่ใจ	อาจจะซื้อ	ซื้อแน่นอน
---------------	--------------	----------	-----------	------------

<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศจีน</p> <p>ราคา: ถูกกว่า 6990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 1</p> 	<p>ยี่ห้อ: ซัมซุง</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์เกาหลีใต้</p> <p>ราคา: ถูกกว่า 6990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: ปกติ</p> <p>แผ่น 2</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศญี่ปุ่น</p> <p>ราคา: ถูกกว่า 6990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 3</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศเกาหลีใต้</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ปกติ</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 6</p> 	<p>ยี่ห้อ: แซเออร์</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศจีน</p> <p>ราคา: ถูกกว่า 6990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 4</p> 	<p>ยี่ห้อ: แซเออร์</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศญี่ปุ่น</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: น้อยกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 5</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศเกาหลีใต้</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ปกติ</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: ปกติ</p> <p>แผ่น 7</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศเกาหลีใต้</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: น้อยกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 8</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศเกาหลีใต้</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ยอดเยี่ยม</p> <p>ระยะเวลาประกัน: น้อยกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 9</p> 	<p>ยี่ห้อ: โซนี่</p> <p>ประเทศที่ผลิต: ผลิตภัณฑ์ประเทศเกาหลีใต้</p> <p>ราคา: 6990-14990</p> <p>คุณภาพของภาพ:ปกติ</p> <p>ระยะเวลาประกัน: มากกว่า 1 ปี</p> <p>ความน่าเชื่อถือ: สูง</p> <p>แผ่น 6</p> 
---	--	---	--	---	---	---	---	--	--

ขอบคุณที่กรุณาสละเวลาตอบแบบสอบถาม



APPENDIX B
ORTHOGONAL DESIGN

Figure B.1 Plan cards:

Title: Profile Number)CARD

Card 1

Brand Name Haier
Source of Country Made in South Korea
Price Below 6990
Picture Quality Normal
Length of Warranty 1 Year or less
Non Stop Use Normal

Card 2

Brand Name Sony
Source of Country Made in Japan
Price Below 6990
Picture Quality Normal
Length of Warranty 1 Year or less
Non Stop Use Normal

Card 3

Brand Name Haier
Source of Country Made in China
Price Above 14990
Picture Quality Normal
Length of Warranty More than 1 year
Non Stop Use Normal

Card 4

Brand Name Sony
Source of Country Made in China
Price Below 6990
Picture Quality Excellent
Length of Warranty More than 1 year
Non Stop Use High

Card 5

Brand Name Samsung
Source of Country Made in China
Price Below 6990
Picture Quality Normal
Length of Warranty 1 Year or less
Non Stop Use High

Card 6

Brand Name Samsung
Source of Country Made in South Korea
Price Below 6990
Picture Quality Excellent
Length of Warranty More than 1 year
Non Stop Use Normal

Card 7

Brand Name Sony
Source of Country Made in Japan
Price Below 6990
Picture Quality Excellent
Length of Warranty More than 1 year
Non Stop Use Normal

Card 8

Brand Name Sony
Source of Country Made in China
Price Below 6990
Picture Quality Normal
Length of Warranty 1 Year or less
Non Stop Use High

Card 9

Brand Name Haier
Source of Country Made in China
Price Below 6990
Picture Quality Excellent
Length of Warranty More than 1 year
Non Stop Use High

Card 10

Brand Name Samsung
Source of Country Made in Japan
Price Above 14990
Picture Quality Normal
Length of Warranty More than 1 year
Non Stop Use High

Card 11

Brand Name Sony
Source of Country Made in South Korea
Price 6990-14990
Picture Quality Normal
Length of Warranty More than 1 year
Non Stop Use High

Card 12

Brand Name Samsung
Source of Country Made in China
Price 6990-14990
Picture Quality Excellent
Length of Warranty 1 Year or less
Non Stop Use Normal

Card 13

Brand Name Sony
Source of Country Made in China
Price Above 14990
Picture Quality Excellent
Length of Warranty 1 Year or less
Non Stop Use Normal

Card 14

Brand Name Sony
Source of Country Made in China
Price 6990-14990
Picture Quality Normal
Length of Warranty More than 1 year
Non Stop Use Normal

Card 15

Brand Name Haier
Source of Country Made in Japan
Price 6990-14990
Picture Quality Excellent
Length of Warranty 1 Year or less
Non Stop Use High

Card 16

Brand Name Sony
Source of Country Made in South Korea
Price Above 14990
Picture Quality Excellent
Length of Warranty 1 Year or less
Non Stop Use High





APPENDIX C

SPSS CONJOINT SYNTAX

Figure C.1 SPSS Conjoint Analysis Syntax

```
CONJOINT
  PLAN='tvplan9.sav'
  /DATA=*
  /FACTORS=BrandName (DISCRETE) COO (DISCRETE) Price (LINEAR LESS)
  PicQuality (LINEAR MORE) Warranty (LINEAR MORE) Reliability (LINEAR
  MORE)
  /RANK=C1 TO C9
  /SUBJECT=id
  /PRINT=ANALYSIS
  /PLOT=ALL
  /UTILITY='TVOUTPUTRANK.SAV'.
```





APPENDIX D
MARKET SURVEY

Figure D.1. Market survey of TVs’ Price on November 1, 2006

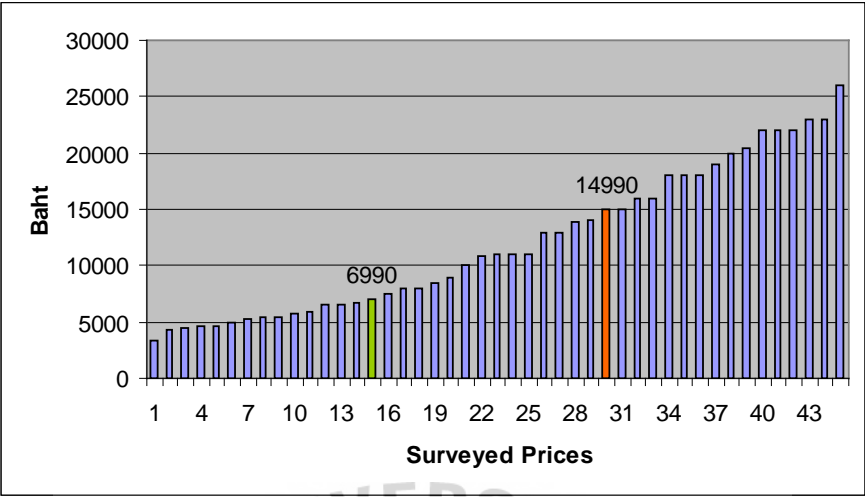
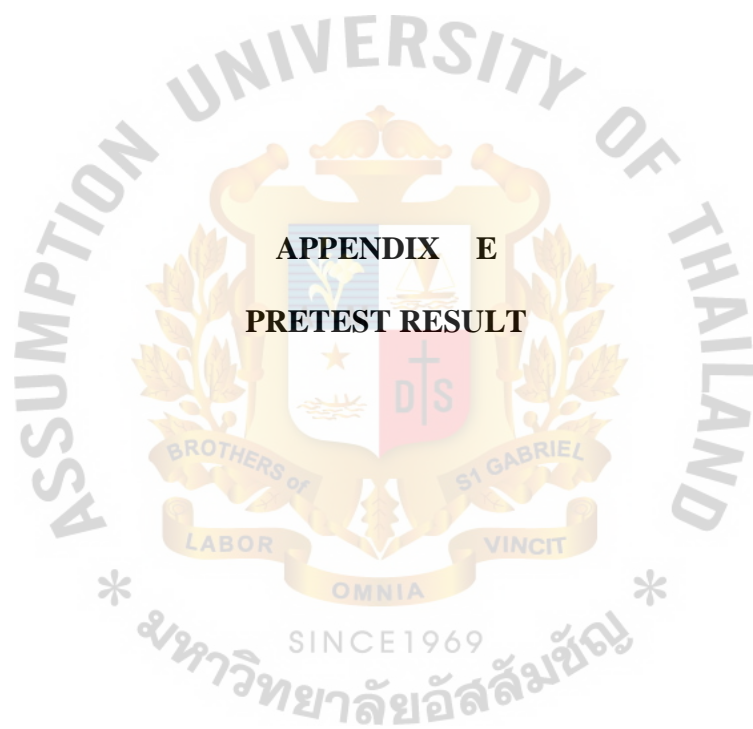


Figure D.2 Market Survey of COO on November 1, 2006





APPENDIX E
PRETEST RESULT

Figure E.1 Subfile Summary of Pretest

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.299	.
	Samsung	.092	.
	Haier	-.391	.
COO	Made in China	-.241	.
	Made in South Korea	-.069	.
	Made in Japan	.310	.
Price	Below 6990	-.207	.
	6990-14990	-.414	.
	Above 14990	-.621	.
PicQuality	Excellent	-.379	.
	Normal	-.759	.
Warranty	More than 1 year	-.207	.
	1 Year or less	-.414	.
Reliability	High	-.138	.
	Normal	-.276	.
(Constant)		4.632	.

Importance Values

BrandName	17.487
COO	17.321
Price	22.950
PicQuality	16.737
Warranty	17.998
Reliability	7.507

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	-.207
PicQuality	-.379
Warranty	-.207
Reliability	-.138

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a Correlations between observed and estimated preferences

Table E.1 Descriptive Statistics of Six Attributes Weighted Score

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Brand Name	30	10.00	70.00	25.3333	13.95395
Country of Origin	30	4.00	25.00	11.2000	5.40370
Price	30	3.00	35.00	18.4333	8.64105
Picture Quality	30	5.00	40.00	21.1333	10.09859
Length of Warranty	30	1.00	20.00	9.7000	4.46558
Reliability	30	1.00	35.00	14.2000	7.91942
Valid N (listwise)	30				

Table E.2 Descriptive Statistics of Brand Attribute Levels

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Haier	30	.00	33.33	14.8777	8.90087
Samsung	30	20.00	60.00	35.1777	11.04668
Sony	30	25.00	70.00	49.9443	13.83748
Valid N (listwise)	30				

Table E.3 Descriptive Statistics of COO Attribute Levels

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Made in China	30	5.00	35.00	18.7333	8.54172
Made in Japan	30	25.00	85.00	56.7667	15.61980
Made in South Korea	30	5.00	50.00	24.5000	10.77593
Valid N (listwise)	30				

Table E.4 Descriptive Statistics of Price Attribute Levels

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Lower than 6990	30	.00	50.00	22.4000	11.11259
6990 to 14990	30	30.00	70.00	51.8667	10.71812
Above 14990	30	10.00	47.00	25.7333	10.28535
Valid N (listwise)	30				

Table E.5 Descriptive Statistics of Picture Quality Attribute Levels

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Excellent Picture Quality	30	40.00	100.00	73.1667	16.53019
Normal Picture Quality	30	.00	60.00	26.8333	16.53019
Valid N (listwise)	30				

Table E.6 Descriptive Statistics of Length of Warranty Attribute Levels

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
More than one Year	30	30.00	100.00	79.3000	15.48782
One Year or Less	30	.00	70.00	20.7000	15.48782
Valid N (listwise)	30				

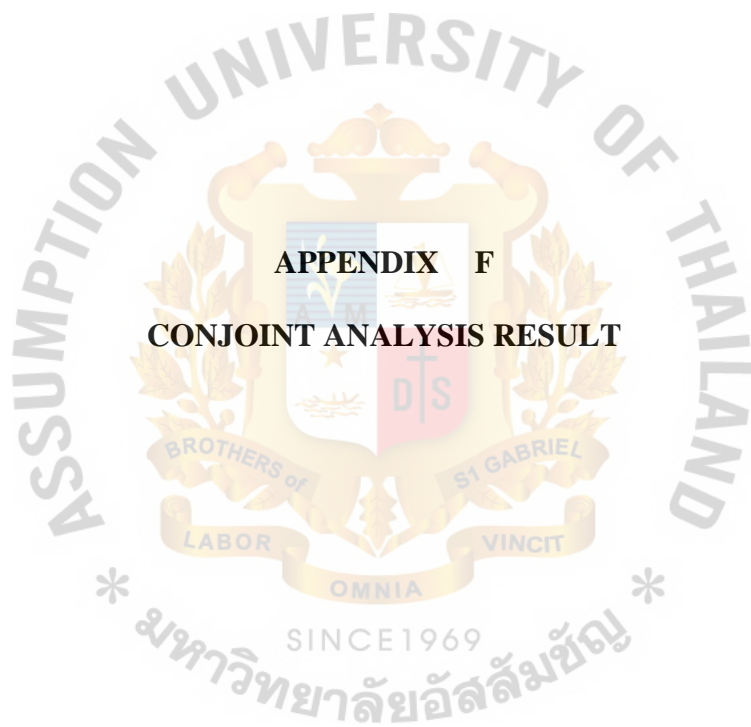
Table E.7 Descriptive Statistics of Reliability Attribute Levels

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
High Reliability	30	50.00	100.00	76.8333	14.35290
Normal Reliability	30	.00	50.00	23.1667	14.35290
Valid N (listwise)	30				

Table E.8 Detailed Weighted Score for Sixteen Cards

	Brand Name	Country of Origin	Price	Picture Quality	Length of Warranty	Reliability	Total Score	Rank
Card 4	12.65%	4.74%	5.67%	18.53%	20.09%	19.46%	81.15%	1
Card 11	12.65%	6.21%	13.14%	6.80%	20.09%	19.46%	78.34%	2
Card 7	12.65%	14.38%	5.67%	18.53%	20.09%	6.63%	77.95%	3
Card 15	3.77%	14.38%	13.14%	18.53%	7.52%	19.46%	76.80%	4
Card 10	8.91%	14.38%	6.52%	6.80%	20.09%	19.46%	76.15%	5
Card 9	3.77%	4.74%	5.67%	18.53%	20.09%	19.46%	72.27%	6
Card 16	12.65%	6.21%	6.52%	18.53%	7.52%	19.46%	70.89%	7
Card 6	8.91%	6.21%	5.67%	18.53%	20.09%	6.63%	66.04%	8
Card 14	12.65%	4.74%	13.14%	6.80%	20.09%	6.63%	64.04%	9
Card 12	8.91%	4.74%	13.14%	18.53%	7.52%	6.63%	59.48%	10
Card 08	12.65%	4.74%	5.67%	6.80%	7.52%	19.46%	56.85%	11
Card 13	12.65%	4.74%	6.52%	18.53%	7.52%	6.63%	56.60%	12
Card 02	12.65%	14.38%	5.67%	6.80%	7.52%	6.63%	53.65%	13
Card 05	8.91%	4.74%	5.67%	6.80%	7.52%	19.46%	53.11%	14
Card 03	3.77%	4.74%	6.52%	6.80%	20.09%	6.63%	48.54%	15
Card 01	3.77%	6.21%	5.67%	6.80%	7.52%	6.63%	36.59%	16



APPENDIX F
CONJOINT ANALYSIS RESULT

Figure F.1 Subfile Summary for Overall 130 Respondents

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.339	.
	Samsung	.071	.
	Haier	-.409	.
COO	Made in China	-.333	.
	Made in South Korea	-.022	.
	Made in Japan	.356	.
Price	Below 6990	-.055	.
	6990-14990	-.110	.
	Above 14990	-.165	.
PicQuality	Excellent	-.579	.
	Normal	-1.157	.
Warranty	More than 1 year	-.547	.
	1 Year or less	-1.094	.
Reliability	High	-.091	.
	Normal	-.181	.
(Constant)		4.849	.

Importance Values

BrandName	21.344
COO	17.017
Price	21.200
PicQuality	14.599
Warranty	17.797
Reliability	8.043

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	-.055
PicQuality	-.579
Warranty	-.547
Reliability	-.091

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences

Figure F.2 Subfile Summary for Income Level I below Baht 15,000

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.331	.
	Samsung	.168	.
	Haier	-.499	.
COO	Made in China	-.071	.
	Made in South Korea	-.160	.
	Made in Japan	.230	.
Price	Below 6990	-.248	.
	6990-14990	-.496	.
	Above 14990	-.745	.
PicQuality	Excellent	-.344	.
	Normal	-.688	.
Warranty	More than 1 year	.138	.
	1 Year or less	.277	.
Reliability	High	-.195	.
	Normal	-.390	.
(Constant)		4.261	.

Importance Values

BrandName	20.449
COO	17.195
Price	22.639
PicQuality	15.247
Warranty	15.414
Reliability	9.057

Averaged Importance Score

Coefficients

	B Coefficient
	Estimate
Price	-.248
PicQuality	-.344
Warranty	.138
Reliability	-.195

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a Correlations between observed and estimated preferences

Figure F.3 Subfile Summary for Income Level II between Baht 15,000 And 35,000

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.249	.
	Samsung	.190	.
	Haier	-.440	.
COO	Made in China	-.481	.
	Made in South Korea	.037	.
	Made in Japan	.444	.
Price	Below 6990	-.081	.
	6990-14990	-.163	.
	Above 14990	-.244	.
PicQuality	Excellent	-.570	.
	Normal	-1.141	.
Warranty	More than 1 year	-.689	.
	1 Year or less	-1.378	.
Reliability	High	-.081	.
	Normal	-.163	.
(Constant)		5.032	.

Importance Values

BrandName	21.323
COO	19.936
Price	19.113
PicQuality	13.647
Warranty	18.363
Reliability	7.618

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	-.081
PicQuality	-.570
Warranty	-.689
Reliability	-.081

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences

Figure F.4 Subfile Summary for Income Level III above Baht 35,000

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.463	.
	Samsung	-.213	.
	Haier	-.251	.
COO	Made in China	-.495	.
	Made in South Korea	.086	.
	Made in Japan	.410	.
Price	Below 6990	.238	.
	6990-14990	.476	.
	Above 14990	.714	.
PicQuality	Excellent	-.905	.
	Normal	-1.810	.
Warranty	More than 1 year	-1.286	.
	1 Year or less	-2.571	.
Reliability	High	.038	.
	Normal	.076	.
(Constant)		5.403	.

Importance Values

BrandName	22.572
COO	13.026
Price	21.951
PicQuality	14.954
Warranty	20.270
Reliability	7.226

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	.238
PicQuality	-.905
Warranty	-1.286
Reliability	.038

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.000
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences

Figure F.5 Subfile Summary for Education Level I High School or Lower

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.372	.
	Samsung	.188	.
	Haier	-.559	.
COO	Made in China	-.264	.
	Made in South Korea	-.121	.
	Made in Japan	.385	.
Price	Below 6990	.126	.
	6990-14990	.253	.
	Above 14990	.379	.
PicQuality	Excellent	-.546	.
	Normal	-1.092	.
Warranty	More than 1 year	-.190	.
	1 Year or less	-.379	.
Reliability	High	-.132	.
	Normal	-.264	.
(Constant)		4.117	.

Importance Values

BrandName	23.285
COO	19.811
Price	17.045
PicQuality	14.745
Warranty	15.427
Reliability	9.686

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	.126
PicQuality	-.546
Warranty	-.190
Reliability	-.132

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences

Figure F.6 Subfile Summary for Education Level II Diploma or Bachelor Degree

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.326	.
	Samsung	-.007	.
	Haier	-.319	.
COO	Made in China	-.317	.
	Made in South Korea	.019	.
	Made in Japan	.298	.
Price	Below 6990	-.253	.
	6990-14990	-.505	.
	Above 14990	-.758	.
PicQuality	Excellent	-.567	.
	Normal	-1.134	.
Warranty	More than 1 year	-.492	.
	1 Year or less	-.984	.
Reliability	High	-.196	.
	Normal	-.392	.
(Constant)		5.306	.

Importance Values

BrandName	19.461
COO	15.650
Price	24.765
PicQuality	14.995
Warranty	17.685
Reliability	7.443

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	-.253
PicQuality	-.567
Warranty	-.492
Reliability	-.196

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences

Figure F.7 Subfile Summary for Education Level III Master Degree or Higher

Utilities

		Utility Estimate	Std. Error
BrandName	Sony	.333	.
	Samsung	.111	.
	Haier	-.444	.
COO	Made in China	-.417	.
	Made in South Korea	-.014	.
	Made in Japan	.431	.
Price	Below 6990	.139	.
	6990-14990	.278	.
	Above 14990	.417	.
PicQuality	Excellent	-.625	.
	Normal	-1.250	.
Warranty	More than 1 year	-.931	.
	1 Year or less	-1.861	.
Reliability	High	.125	.
	Normal	.250	.
(Constant)		4.653	.

Importance Values

BrandName	23.022
COO	17.121
Price	18.406
PicQuality	13.801
Warranty	19.899
Reliability	7.751

Averaged Importance Score

Coefficients

	B Coefficient Estimate
Price	.139
PicQuality	-.625
Warranty	-.931
Reliability	.125

Correlations(a)

	Value	Sig.
Pearson's R	1.000	.000
Kendall's tau	1.000	.000

a. Correlations between observed and estimated preferences