THE STUDY OF FACTORS AFFECTING CUSTOMER SATISFACTION IN AUTOMOBILE SERVICE INDUSTRY IN SHANGHAI CHINA

YUEQIN YU

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE GRADUATE SCHOOL

MASTER OF BUSINESS ADMINISTRATION

STAMFORD INTERNATINAL UNIVERSITY

ACADEMIC YEAR 2014

The Research has been approved by

The Graduate School

Stamford International University

Title The Study of Factors Affecting Customer Satisfaction in Automobile Service Industry in Shanghai China

Researcher Yueqin Yu

The Thesis Committee:

Chairman _____

(Dr. Boonyarat Samphanwattanachai)

Advisor _____

(Dr. Martin Goerlich)

Committee member _____

(Dr. Kelvin C.K. Lam)

Committee member _____

(Dr. Donn Pjongluck)

_____

(Dr. Apitep Saekow)

Dean, Graduate School

October, 2014

Thesis title: The Study of Factors Affecting Customer Satisfaction in Automobile Service Industry in Shanghai China

Researcher: Yueqin Yu **Student ID**: 013271006

Degree: Master of Business Administration

Thesis advisor: Dr. Martin Goerlich

Academic year: 2014

Abstract

The objectives of this research were to search and identify what factors affect customer satisfaction in automobile industry in Shanghai, China, and to analyze and examine whether there is a significant interrelationship between each effect factor and customer satisfaction in automobile service industry in Shanghai area.

The study adopted quantitative methodology to achieve findings and a questionnaire was used as a tool to collect data. A sample of 420 respondents who have cars in Shanghai, China was selected as a judgmental sampling and the attitude responses of respondents were measured by using five-level Likert scale. The Data Analysis Program included frequency, percentage, mean, standard deviation, Pearson correlation coefficient, and multiple regression analysis. Independent variables (hypothetical effect factors) examined to influence customer satisfaction are: product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery.

The result of descriptive statistics showed a majority of the respondents highly agreed that the seven variables effect respectively customer satisfaction in automobile industry. The result of the hypotheses testing found that each factor had a positive effect on customer satisfaction in automobile service industry in Shanghai, China.

Keywords: Effect factors, customer satisfaction, automobile service industry

ACKNOWLEDGEMENTS

This research work could not have been completed without the guidance of my thesis committee members, assistance of my friends, and support from my family.

Firstly, I would like to express my profound gratitude to my advisor Dr. Martin Goerlich for his kindness, understanding, enlightenment, and invaluable guidance throughout this study. Besides, I very appreciate the encouragements, insightful comments, and supervision from the rest of the defense committee: Assoc. Prof. Dr. Boonmark Sirinaovakul, Dr. Ronald Vatananan, Assoc. Prof. Dr. Chow Rojanasang, Dr. Boonyarat Samphanwattanachai, Dr. Kelvin C. K. Lam, and Dr. Donn Pjongluck.

Secondly, l would like to express my thanks to all of the professors and the staff at Stamford international University, Bangkok campus, for allowing me to consult any problem during the study. Their helpfulness enabled me to overcome many difficulties. Furthermore, my special thanks would go to all of my friends who helped me distribute the survey questionnaire as well as sincere thanks to the respondents who answered my survey patiently.

Specially, I am as ever indebted to my family and relatives for their support, inspiration and perpetual love throughout my life. Finally, I want to express my deep thanks to all my classmates who help me with school courses and practicing English.

Yueqin Yu

CONTENTS

Page

CONTENTS (Cont.)

Page

LIST OF TABLES

Page

LIST OF TABLES (Cont.)

Page

LIST OF TABLES (Cont.)

Page

LIST OF TABLES (Cont.)

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

The chapter is consisted of eight sections, as the following:

1.1 General Introduction

1.2 Statement of the Problems

1.3 Objectives of this Study

1.4 Research Scope

1.5 Hypotheses

1.6 Conceptual Framework

1.7 Significance of the Research

1.8 Definition of Terms

1.1 General Introduction

With the accelerating globalization, there is an unprecedentedly fierce competition in the market of automotive industry where not only product homogeneity and substitutability are increasing, but also service model and customer consumption behavior are changing. Undoubtedly, in such a complex and ever-changing market competition, the simple product strategy, service strategy and other marketing tools have been unable to be identified by customers. Therefore, to move the "customer-center" and to constantly improve customer satisfaction have become a main goal of every firm. Indeed, customer satisfaction has been becoming a guiding principle for managers and organizations in many companies because they generally believe that customer satisfaction leads to repurchase, brand loyalty and word of mouth, finally translates to higher future profits which support sustainable development of corporations

As the crystallization of human wisdom, modern industry, science and technology,

automobiles extend the time and space of human life, improve the quality of life, and promote social and economic development. For a lot of people, the significance of an automobile is not just as a simple means of transport, but also gradually becomes an expression vector that interpretate the concept of life and personality.

The general trend of vehicles sale was slowly growing in worldwide car market during 2013. The U.S. automobile market was the only one to maintain growth in the mature market, both Europe and Japan passenger car sales showed a downward trend in 2013. Although U.S. auto sales continued to rose, the growth rate slowed down. Only Chinese vehicles sales (passenger cars got rise rate of 20%) were growth in vehicles market among BRIC countries. Except China, the vehicles sale trends in markets of the rest of BRIC countries such as Russian, Brazilian and India were declining. In the other major emerging markets, the Thai automobile sales showed a little fall, Indonesia and Argentina achieved significant growth respectively.

Thanks to the reform and opening-up policy, China's automobile industry has achieved rapid development in the past 10 years. According to the Chinese Association of Automobile Manufacturers statistics (2014), the production and sale volume of vehicles in the Chinese market have surpassed the production and sale volume of vehicles in the U.S. and Japan for five consecutive years to become the biggest automobile power of production and sale since year 2009. The specific numbers are shown in the Table 1.1.

Table1.1 The production volume and sale volume of vehicles in years 2009-2013 in Chinese market

Year	Production Volume (thousand)	Sale Volume (thousand)
2009	13,791.10	13,644.80
2010	18,264.70	18,061.90
2011	18,418.90	18,505.10
2012	19,271.80	19,306.40
2013	21,168.00	21,984.10

Source: Chinese Association of Automobile Industry, 2014

As one of the biggest cities in China, Shanghai is on the top of the production volume and sale volume of vehicles. For example, according to the report of Shanghai automobile industrial development from the Shanghai Academy of Social Sciences (2012), both the production volume and sale volume of vehicles in year 2011 increased 12% than they had last year in Shanghai City. They are higher 10% than the amount of national average. In addition, Shanghai International Automobile Industry Exhibition (2013) was held with a remarkable scale. This exhibition provided 17 pavilions with 280,000 square meters. It has attracted nearly 2,000 exhibitors who came from 18 countries, and have demonstrated 111 the newest models in the world, in which 49 sets of new cars will be put in production in Asia.

Thus it can be seen that automobile manufacturers around the world have already spotted potential in this big field in China. There are 543 automobile models competing for consumer attention in year 2014. It is certain that the competition between manufacturers or dealers in the Chinese passenger car market is reaching an unprecedented intensity. Although with more car brands and models flocking into Chinese market, it is seems that the car service market is being rapidly developed, and the dealer network is being aggressively expanded, the quick growth in car sales still puts a great pressure on the dealer after-sales sector and the ability of service.

The feedback on forums, riders groups or social media sites show that car owners express little optimistic news for customer satisfaction in Chinese automobile service industry. Although many automobile service firms have restructured extensive network of dealers, car showrooms and after-sales service stations in the nation, they also seemed to be willing to invest in infrastructure to implement and operationlize a new information management model, it still has lags behind in customer satisfaction.

According J.D. Power Asia Pacific (2009-2013) China Customer Service Index (CSI) study in Chinese automobile industry, namely, the Table 1.2, it showed that customer satisfaction scores in year 2013 had a significant decline.

Table 1.2 The customer satisfaction scores in years 2009-2013

Year	Scores of customer satisfaction
2009	810
2010	819
2011	833
2012	832
2013	815

Source: The reports (2009-2013) on China Customer Service Index (CSI) of the J.D. Power Asia Pacific

According to another report from the Chinese Automotive Quality Network (2014), this site received complaints from automobile owners of a total of 22,328 on automotive products and service in year 2013. The complaints increased 92 % compared to it did in 2012. It exceeded the sum of the complaints of years 2010-2012, and reached a new high point, which showed that the rate of consumer dissatisfaction to the quality of automotive products or relevant services was quickly rising. These complaints were divided into product quality complaint, service issue complaint, and comprehensive complainant three major types. The Joint venture brand had the largest vehicle holdings in the country, so it accounted for 52.46% of the total amounts, the domestic brand took up 44.72% and only 2.82% from the import brand.

Table 1.3 The complaints in years 2010-2013

Year	Amount of complaint
2010	2106
2011	7238
2012	11631
2013	22328

Source: Chinese Automobile Quality Network, 2014

1.2 Statement of the Problems

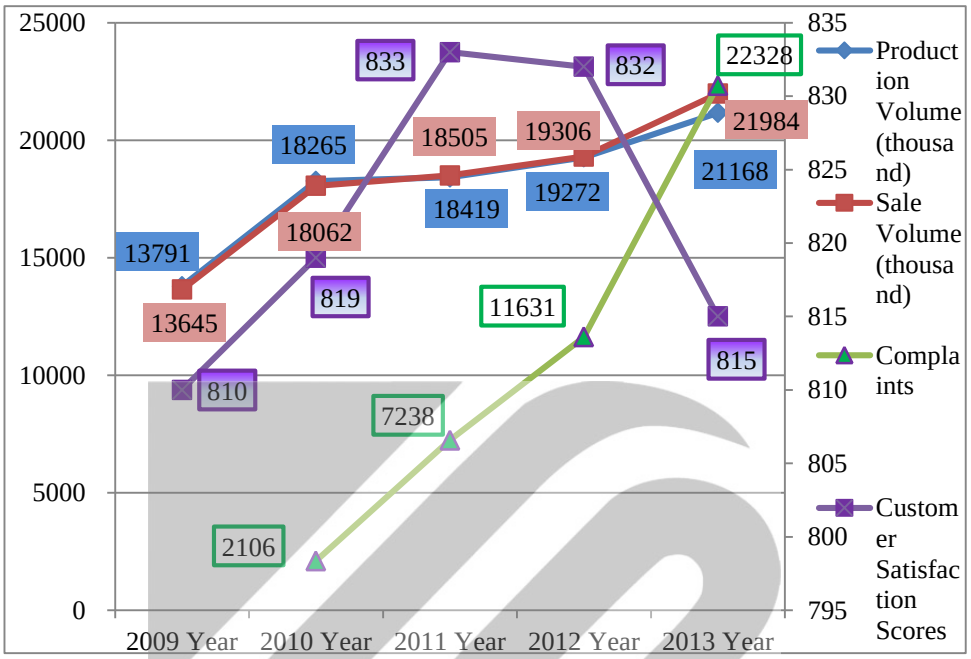

Figure 1.1 The current situation of vehicles' production and sale, and customer service in Chinese automobile market in years 2009-2013

Source: Based on the data from Tables 1.1, 1.2, and 1.3 in this paper

In order to deeply learn the current situation of vehicles' production and sale, and customer service in China's automobile market, the author puts the relevant data which from previous three tables such as the production volume and sale volume of vehicles, complaints, and customer satisfaction scores in years 2009-2013 together into the figure 1.1. The Red line and blue line show that the trends of the volumes of production and sale were increasing, from about 13milliin in 2009 to about 21million in 2013. Their average annual growth rates are 9% and 10% respectively. However, comparing with the two flat curves of production and sale volumes, the green line of customer complaints— the steep curve indicates that the growth was far quicker, from about 2 thousand to more than 22 thousand. Its average annual growth rate has reached 80%. At the same time, the purple line, the N shape curve displays that customer satisfaction scores has revealed an obvious decline in recent two years from 833to 815.

Today a product or service duty is not just "need to meet", but "experience

satisfaction", which requests the automakers and authorized dealers to take how to maximize customer satisfaction as a sign of success. Although purchasing a car is a one-time process, its subsequent issues about maintenance and repair still remain high contact with the consumer life. Most car buyers take the shopping experience and after sales service perception as the first reasons to continue buying products or using service again. The survey reports of automobile market from J.D. Power Asia Pacific (2012, 2013) China Sales Satisfaction Index (SSI) Study indicate that customer who were highly satisfied were nearly twice as likely to repurchase the same brand or use post-warranty service offered by dealers, compared with less-satisfied customer. High satisfaction is important to retain existing customers and attract new customers, to reduce customer complaints, to gain profit maximization, and to enhance competitiveness. Therefore, under the present background of China's automobile service industry, it is worthwhile to study what factors affect customer satisfaction and how to improve them in the increasing competitive environment.

1.3 Objectives of this Study

1. To search and identify what factors affect customer satisfaction in automobile service industry in Shanghai China.

2. To analyze and examine whether each hypothetical factor respectively has a positive effect on customer satisfaction in automobile industry in Shanghai area.

1.4 Research Scope

This study focuses on to explore what factors affect customer satisfaction. And it is only on the stand of customers to examine whether every hypothetical factor has a positive effect on customer satisfaction in automobile service industry. The results will be achieved by using quantitative method to conduct an empirical investigation in Shanghai, China. Thus, the respondents in this study only are those people who have passenger cars in Shanghai city, China. Moreover, as the automotive service industry

chain is longer and far more complicated than other industries, the automobile service industry in this study is limited to sale service and after-sale service two fields.

1.5 Hypotheses

H1: Product attributes have a positive effect on customer satisfaction

H2: Service quality has a positive effect on customer satisfaction.

H3: Price fairness has a positive effect on customer satisfaction.

H4: CRM system has a positive effect on customer satisfaction.

H5: Convenience has a positive effect on customer satisfaction.

H6: Corporate image has a positive effect on customer satisfaction.

H7: Service recovery has a positive effect on customer satisfaction.

1.6 Conceptual Framework

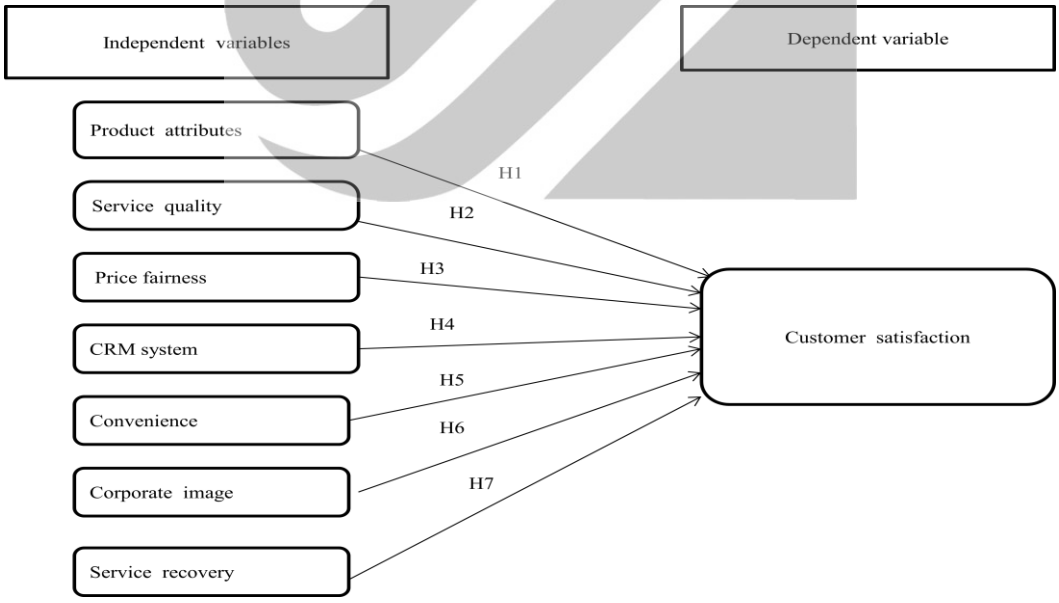

Figure1.2 Conceptual framework

1.7 Significance of the Research

1. To explore what factors affecting customer satisfaction in automobile service industry in Shanghai, China and how to affect it.

2. Research results will be as a reference on improving customer satisfaction and developing service operation strategy for automobile service corporations.

1.8 Definition of Terms

Customer: According to Tansuhaj, Randall and McCullough (1991), a customer, namely, a client, buyer, or purchaser, is the receiver of product and service offered by a seller, vendor, or supplier. In this study, the customer only refers to the passenger car owner whose car was bought in Chinese automobile market.

Service provider: Usually, sale service and customer service (or after-sale service) are offered by either manufacturers or authorized dealers, which depends on different car brands in China's car market. Besides, customers always regard manufacturers and authorized dealers as a whole. So the service providers include manufacturers and authorized dealers in this study. Similarly, the services that a customer received include sale service and after-sale service in this paper.

Customer satisfaction: Fornell (1992) defined customer satisfactions as an overall assessment of customers' experience on purchasing and consuming, which as a center where customers matched the perceived product or service performances with their pre-purchase expectations.

Expectations disconfirmation theory: (Or expectation confirmation theory) is a cognitive theory. It includes four variables: Expectations, performances (or customers' perceptions), disconfirmation, and satisfaction. The performance expectation matching relationship is evaluated negative disconfirmation when the performances of product or service are less than the users' original expectations, they may be dissatisfied, even outraged. It is positive disconfirmation when customers' perceptions are greater than their original expectations, they will be quite satisfied,

even delight. And it is a zero or simple confirmation when the comparison is equal, at this point the customer should be satisfied.

Product attributes: To be specific, product attributes involve product quality, design style, brand name, configuration, packaging, features, size, return policies, energy efficiency and other product -related attributes.

Service quality: Peter, K. (2008) defined that service quality was an achievement in customer service from the perspective business management. It can be reflect at each service touch point. The researchers (Cronin & Taylor, 1992; Lee et al., 2011) acknowledged that five- dimension of service quality included tangibility, reliability, responsiveness, assurance and empathy.

Price fairness: In terms of customer value perception, fairness price means product and service perceived are worth every penny. Generally, price fairness requests that a firm provides a product or service with the right quality at the right price. A favorable price-quality ratio would produce high customer value, which enhances customer satisfaction and repeat purchase.

CRM system: The customer relationship management (CRM) is about an organization using information technology system to capture and track its customers' needs and wants. According to Ernst, Hoyer, Krafft & Krieger (2011), CRM also was defined as an approach to collect customer information and utilize this information in building improved relationships with different customers.

Convenience: Berry, Seiders, & Grewal (2002) identified convenience in a service context as any form of convenience that could save consumers' time or reduce effort in service site, such as business hours, or available credit, all belong to the field of service convenience.

Corporate image (sometimes referred to as corporate brand image) was been described as the comprehensive impression that left on the minds of customers as a pattern and as an idiosyncratic cognitive configuration (Gray & Balmer, 1998).

Service recovery includes all the actions taken by a company to resolve a service

failure. It is an important solution that a firm manages keeping a customer to stay in not to exit the service organization after a service failure (Colgate & Norris, 2001).

The J.D. Power Asia Pacific China Customer Service Index (CSI) Study and China Sales Satisfaction Index (SSI) Study: J.D. Power Asia Pacific services both global and local enterprises in the automotive sector. So far, the China Customer Service Index (CSI) Study and the China Sales Satisfaction Index (SSI) Study have conducted for 14 years. The China Sales Satisfaction Index (SSI) Study, which measures satisfaction with the new-vehicle sales process, was released in late June. The China Customer Satisfaction Index (CSI) Study, which examines satisfaction with the after-sales service experience among vehicle owners between 12 and 24 months of ownership, will be released in late July.

CHAPTER 2

LITERATURE REVIEWS

The chapter is consisted of nine sections, as the following:

2.1 Customers, Customer Satisfaction and Expectations Disconfirmation Theory

2.2 Product Attributes and Customer Satisfaction

2.3 Service Quality and Customer Satisfaction

2.4 Price Fairness and Customer Satisfaction

2.5 CRM System and Customer Satisfaction

2.6 Convenience and Customer Satisfaction

2.7 Corporate Image and Customer Satisfaction

2.8 Service Recovery and Customer Satisfaction

2.9 Customer Satisfaction in Automobile Service Industry

2.1 Customers, Customer Satisfaction and Expectations Disconfirmation Theory

Lee & Ritzman (2005) firmly believed that customers played important parts in the organizational process under the background of operations management. The customers are always put on the No. one by managers of a company when they plan strategies and organizational projects. Some questions must be answered at the beginning of the phase of deploying strategy. Who will want to buy these products or services? Where can they be found? How much consumption can they need to? How to approach the buyers? And what project will afford customers' maximum satisfaction? After coming up with those solutions, products will be designed, markets will be segmented and a clear awareness will be created in the business decisions. These questions emphasize not only the value of customers in the business field but also the significance of satisfying them.

Fornell (1992) defined customer satisfactions as the overall assessment of

customers' experience on purchasing and consuming, which was a center where customers matched perceived product or service performances with their pre-purchase expectations. Anderson, Fornell & Lehmann (1994) and Wilson et al., (2008) all believed that customer satisfaction had become a key task of all companies and one of the crucial subjects in contemporary marketing literature. It has relations to repeat purchase, customer retention, customer loyalty, cross-buying intension, low price sensitivity, word of mouth (WOM), reducing complaints and gaining profit maximization.

That customer satisfaction was regarded as an outcome of purchase and use, which was arisen from the buyers' comparison of the value and expense of the purchase in relation to the anticipated consequences by Churchill and Surprenant (1982). Consistent with this view, customer satisfaction is seen as a response of mood that was caused from a cognitive process of assessing the received service against the charge of acquiring the service (Woodruff et al., 1991; Rust & Oliver, 1994). Robert, Graham, & Michael (2012) defined that satisfaction was the result of customers' comprehensive evaluation of the comparison between their perception of the product and service (e.g. the service process, their experiences and outcomes such as the quality of the products', the benefits obtained and perceived value for money) and their expectations.

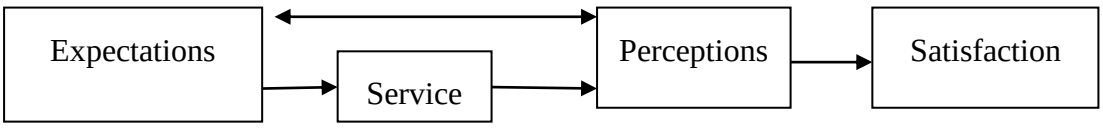

Figure 2.1 Customer satisfaction

Source: Robert, Graham, & Michael, 2012:102

These definitions derived from well-known expectation disconfirmation theory. The expectations disconfirmation model has been the dominant model in the field of satisfaction research. Expectation disconfirmation theory (or expectation confirmation theory) is a cognitive theory. The construction of the theory was formed in a series of two papers composed by Richard L. Oliver (1977 &1980). A lot of scholars had done

many researches to further improve this theory since then. Churchill and Surprenant (1982) and Oliver (1997) had a linking with related concepts and created a disconfirmation model which includes four variables: Expectations, performances (or customers' perceptions), disconfirmation, and satisfaction. Based on their paradigm of satisfaction, disconfirmation refers to the judgments or evaluations with respect to a product or service. It is made by a person and depends on the comparison between expectations and performances. It also is as a key intermediate variable and occupies a central position, and eventually to impact satisfaction. According to expectations disconfirmation theory, if the product or service performances a consumer experienced are better than his or her original expectations, it is regarded as positive disconfirmation. The equal between expectations and performances means confirmation. Or the perceptions on the quality and value of the product or service worse than the expected, and it is called negative disconfirmation. So, the more of the positive disconfirmations between customers' expectations and performances of products or service are occurred, the more of the customer's post-purchase satisfaction will be generated; and vice versa.

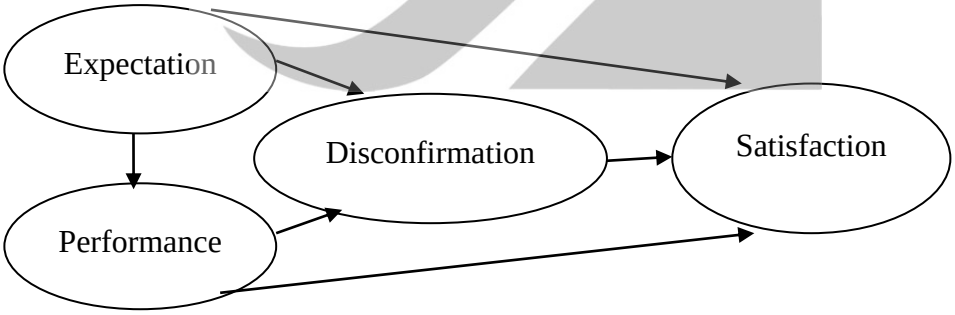

Figure 2.12 Expectation Disconfirmation Theory Model

Source: Oliver, 1997:120

2.2 Product Attributes and Customer Satisfaction

In marketing, a product is seen as anything what satisfies a consumer demands. It can be divided into tangible or intangible. Tangible products are those that have an independent physical existence which can be direct touched. Typical examples of car

industry, tangible objects are the car main body and the spare parts, while an intangible product is a product that can only be perceived indirectly such as an insurance policy which pay to an insurance company and warranty expense to manufacturers (e.g., extending guarantee period of a product quality).

In automobile industry the business service includes to offer physical products (finished automobile and spare parts) and delivery services (sale service, repair and maintain service) to the consumer. In this industry, the service demand is occurred due to the purchase of automotive products. Furthermore, many problems that lead to customers are not satisfied are generated because of the product itself as well as the process of providing products or service, so in terms of final or comprehensive customer satisfaction , product satisfaction is the first and the most important factor.

Product decision is the primary marketing strategy. The basic goal of marketing is to provide the company's products to meet consumers' demand. All of decisions are based on the expanded product decisions as a leader. Product decision determines the success or failure of the operating business in a great extent, and is embodied in the product market competition. Even that the consumer ultimately receives the satisfied feeling also comes from the product style and strength which are obtained through the consumption of products of an enterprise. It is not enough to persuade customers to consume only because the corporate advertisement is designed fashionably and uniquely.

To be specific, product decision based on product attributes which involve product quality, design style, brand name, configuration, packaging, features, sizes, guarantees, return policies, energy efficiency, and other product -relevant attributes. Hence, as main material of the marketing mix frame, product attributes play an important role in satisfying the needs and wants of consumers. If they are ignored, it will incur the closing business as well there will not be enough market shares for the product. Mascarenhas et al. (2006), Schewe and Hiam (1998), and Mittal and Kamakara (2001), all treated that product attributes play an important part in customer

satisfaction.

As the most important factor in product distributes, quality is a critical determinant of customer satisfaction whether the customer perceived the performance of the product to be competent or not during consumption (Blackwell, Miniard & Engel, 2004). A study done by Anderson & Sullivan (1993) revealed that those enterprises who offered a consistently excellent quality product should have highly satisfied customers and those customers would be more likely stayed within the company. A report from J.D. Power Asia Pacific (2013) SSI study pointed out that with the automotive industry in the midst of recovery and competition increasingly fierce, automakers are being challenged to design and produce models that sustain the high levels of initial quality which consumers have come to expect. In generally, a qualified product quality means that it is safe, firm and durable. Quality is decisive to the success of every brand and every vehicle model. Customers' expectations of vehicles quality are ever increasing, the automotive professionals should understand these product expectations from customer in order to continuously deliver satisfactory car model and improve product quality.

Customer satisfaction is fundamental for successful marketing (Oliver and swam, 1989). The perceived product attributes is the most important factor to determine customer satisfaction for automotive service industry. Therefore, in the context of the present automotive service environment, base on literature we hypothesize that:

H1: Product attributes have a positive effect on customer satisfaction.

2.3 Service Quality and Customer Satisfaction

Berry, Parasuraman and Zeithaml (1988) regarded service quality as an attitude of the consumer in connection with the results from the match relation between his predefined expectations of service and his perceptions of actual service performance. While Bitner and Hubbert (1994) described that satisfaction was a feeling or an attitude after a service had been used, and that service quality was the

customer's overall impression on good or bad performance of the organization and its services. Thus, quality refers to some attributes of what is offered, provided, produced, whereas satisfaction or dissatisfaction refers to a customer's reaction to that offer.

Peter, K. (2008) defined that service quality was an achievement in customer service from the perspective business management. It is reflected at each service touch point. It is generally believed that the better of service design and delivery be demonstrated; the higher levels of service quality will be achieved. For example, in service design, good changes can be derived from the design of services of products and facilities. On the other hand, in service delivery, improvements can be stemmed from the service delivery processes, the environment in which the service delivery occurs and advances in the interaction processes between customers and service providers.

The service characters contain (1) Perishability - refers to services are perishable and people cannot store them for future time. In some case, services can be stored for future on the back of tangible goods but not completely. (2) Intangibility - generally means to services are intangible and people cannot touch or taste them; but the physical structure and certain components of the maintenance and repair facilities and equipment in car service-center are tangible. (3) Inseparability - in the other words, the special feature of services is that production and consumption is inseparable. Also consumption and production of services have synchronization and, (4) Variability - shows services have deliberately varied postures to meet the specific needs of individual customers. It is impossible to keep zero defect service because of features of services. But keeping in mind, one negative service encounter or service has the potential to lower consumers' overall satisfaction permanently (Hocutt et al., 2006).

In general, Customers always have service expectations in their minds based on past experiences, WOM from social network and commercials, and they would be disappointed or delighted after they compare perceived service quality with expected ones. Customers always have the interest to achieve maximum satisfaction from the

products or services that they buy. Winning in today's marketplace involves the need to build customer relationship based on service concepts and not just building the products; building customer relationship means delivering top value or extra value over competitors to the target customers (Kotler et al., 2002). Service quality has been testified to be the optimal determiner of customer satisfaction when it comes to service context. Kotler & Keller (2009) found that the higher levels of service quality were input, the higher levels of customer satisfaction were output. And vice versa, if service quality is low, customer satisfaction will also be low (Söderlund & Rosengren, 2010). Thus, they believed that no matter what service quality an organization provides, it should depend on the customers' feedback on the satisfaction after they consuming the tangible or intangible goods.

Several scholars (Gronroos, 1990; Zeithaml et al., 1990) argued that service quality perception was thought to be based on several quality attributes and they developed a multi-item scale (SERVQUAL) where they had integrated the most important of the criteria that contribute to the formation of customer perceptions of service, and which as signal quality to the customer. They are: Reliability - reflecting the technical quality of the outcome of the service encounter, i.e. what is acquired by the customer; the other four are tangibles, responsiveness, assurance and empathy - reflecting the functional quality of the process itself, i.e. how the service is acquired. We can get clear quantitative information by measuring expectations and perceptions of service performance for each one of these dimensions (Cronin & Taylor, 1992; Parasuraman et al., 1991; Zeithaml et al., 1990). The five-dimension of SERVQUAL are displayed in table 2.1.

Table 2.1 Five-dimension of SERVQUAL

Dimensions	Explanations
Tangibility	Physical facilities, equipment, and appearance of personnel
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and Confidence
Empathy	Caring individualized attention the firm provides to its customers.

Source: Lee et al., 2011

Laroche et al. (2004) described that the summary of differences between perceptions and expectations from the five dimensions formulated the global perceive quality construct. Following this view, customers' expectations are met even are exceeded through the outcome dimension (reliability) and the means of the process dimension (tangibility, assurance, responsiveness, and empathy).

The five dimension of SERVQUAL model has been seen to be the main yardstick prevailed by most of the researchers (Wilson et al., 2008; Wang & Hing, 2002) in the evaluation of service quality. Now, people have confirmed the SERVQUAL model is the best model to measure service quality in service industries especially with the customer perspective.

In addition, it is demonstrated that there is a positive relationship between customer satisfaction and service quality by the researchers (Liang & Zhang, 2009; Ahmed et al., 2010). Therefore, we can state that service quality is the overall assessment of a service from the customers, and excellent service quality based on five dimensions is a part of customer satisfaction. So, based on literature we hypothesize that:

H2: Service quality has a positive effect with customer satisfaction.

2.4 Price Fairness and Customer Satisfaction

Generally speaking, according to basic economic theory, if prices increase, the

sales volume would fall as customers just altered their consumption or usage, and we can see a well-recognized downward-sloping demand curve. For goods, basically, a higher price means lower demand. When prices increase, the product or service might lose attractive to the consumer and sales might drop. Customers describe value of a product or service based on their perception of two factors: Perceived price and perceived quality. In short, it is the price-quality ratio. In many situations, a favorable price-quality ratio symbolizes high customer value which will enhance customer satisfaction and in turn loyalty. Hence the perceived price-quality ratio has a direct influence on price perceptions and, in turn, on price satisfaction. When the price-quality ratio is favorable, customers will be satisfied with the price. In a same way, if customers perceive the price of a product or service as fair, then they will increase their satisfaction with the deal (Yieh, Chiao & Chiu, 2007). Therefore, a company should provide a product with the right quality at the right price in an effort to make customers feel that the price is fair for the quality they received.

Customer satisfaction also relied in perceived value, where value may be viewed as that fairness of the level of economic benefits matched with usage in relation to the level of economic costs (Bolton & Lemon, 1999). If a customer perceives a deal price to be fair, it is positively correlated towards customer satisfaction (Martin, Molina & Esteban, 2007). Bolton & Lemon (1999) found that satisfaction with price had a positive impact on satisfaction with the service customer received in their studies. The higher satisfaction, subsequently, the more usage of the service is led over time.

Price can be measured by quantitative data like financial numbers or cash, but it can also bring a customer some qualitative change on emotional, mental and physical condition. Generally, fairness price indicates that product and service perceived are worth every penny. Thus, fairness price implies providing customer the product and service with reasonable and readily accepted value perception. When a firm delivers high value at high price, the perceived value may be low. When it delivers high value at low price, the perceived value may be high. The key to offer fairness price is to pay

attach to each of the customers' interests—to strengthen their confidence on what you are offering— to help them to solving problem, obtaining solution, getting results, and enjoying happy.

In automobile service industry, a customer experienced the process of fairness price begins from new car price-quality ratio since purchase, then to continue to after-sale service which dealers have promised and will offer, further to be subdivided into the price of changing spare parts and the service charge. Especially, in which the dispute between car owners and sale-service station about price matching quality is the main cause to conflict in China's automobile service market. Hence, based on literature we hypothesize that:

H3: Price Fairness has a positive effect on customer satisfaction.

2.5 CRM System and Customer Satisfaction

Nowadays there is an increasing awareness of the importance of customer relationships management and customer assets. Marketing has moved its focus from a brand-centered to a customer-centered.

The customer relationship management (CRM) is about an organization using information technology system to capture and track its customers' needs and wants. (Anderson & Kerr, 2002). Thus, Chen & Popovich (2003) found that some business executives and researchers described CRM as solely technology-based customer solutions.

The CRM facilitates the interaction with clients through the Internet which is the most efficient, the fastest and the most sophisticated channel of communication. It is a solution that concentrates on all of resources including people, processes and information. It aims to support its clients better and to increase the level of fidelity. The CRM system gets the maximum value out of customers by tightly integrating sales, marketing and support centre. Companies need a system that manages the entire customer life cycle: Acquisition, service and maintenance. Network ensemble CRM

offers all kind of opportunities for business organizations and customer to interactively communicate via all media or channels: Telephone, fax, Web, e-mail, video, and face-to-face. A good CRM system not only improves customer service quality continuously, but also is able to reduce service costs, to restrain wastage, and to decline complaints rate. Of course, it is possible at first customer complaint shows increasing state, simply because CRM system broadens the channel of complaints, and some things would have not stayed undiscovered until CRM system is started. CRM system enables firms to open their doors for communications with every customer, and gives operators direct and constant market reaction to their products and services. In practice, its performance is far better than any market survey. CRM was sought by industries began in the turn of the century. Subsequently, it was an initiative that has become an essential part of the marketing tool. According to the Economist Intelligence Unit (2007), there are more than eleven different indicators of CRM have successfully identified by this institute; in addition, it revealed that the top one most commonly used are customer satisfaction (49%).

CRM is a customer-focused business strategy designed to optimize revenue, profitability, and customer loyalty. It has been proven that when CRM consolidate both trust and commitment in the company, customers become more satisfied and high loyal (Palmatier, Jarvis, Bechkoff & Karded, 2009). Customer relationship management therefore becomes an integral part in the organization in ensuring that customers are satisfied and loyal towards the firm (Liou, 2008). The focus of relationship marketing is on the customer, and ensuring that the relationship with the customer is strengthened in an effort to extend trust and commitment from the side of the customer, which would promote customer loyalty and satisfaction (Brink & Berndt, 2009). Customer satisfaction is the result of effective and efficient customer relationship management. By establishing and maintaining long-term relationships with customers, customer satisfaction can be increased.

Researchers reminded the importance of CRM could not be contested, as the

critical benefits gained are customer satisfaction and loyalty (Krasnikov, Jayachandran & Kumar, 2009). CRM, as an important focus within relationship management, can be defined as an approach to collect customer information and utilize this information in building improved relationships with different customers (Ernst, Hoyer, Krafft & Krieger, 2011). Actually, CRM is an important integrated solution across all customer information systems. It timely provides a single and complete view of customers through data warehouses linking together the front and back offices in order to perform service better, and enables the service enterprise to react quickly to changes in competitive environment.

Bolton, Lemon, & Verhoef (2004) realized that customer satisfaction had significant suggestions for the economic performance of business organizations. For example, Fornell (1992) said that customer satisfaction could also reduce operation expenses which involve in warranties, complaints, defective goods as well as labor costs. Therefore, it is accepted that an effective and efficient CRM system has been found to have a negative impact on customer complaints and a positive impact on customer satisfaction and usage behavior.

Developing an e-commerce site with original content is one simple and popular way to satisfy and offer convenience for the audiences. An efficient and effective use of IT in CRM system will contribute continuous consumer contacts. In fact, CRM system is useful to track customer's satisfaction, to measure changes of attitude, to consider preferences which are related to product design, and to assess marketing effectiveness regularly in order to delight target consumers. For these reasons, it is worthwhile to be highly valued by both customers and the firm. For example, car detailer provides its customers with 24- hour helpline in various cities across nation. If a customer's car breaks down anywhere, he can call up a free mobile number for help. The hotline by fix phone or online answers queries, collects feedback and personal information of customers, and helps CRM system using the information gathered to building a database. CRM system conducts gradually telephone follow-up and network

questionnaires to the customers to ask for feedback regarding dealer service, presale service, after sales service, complaints etc. Dealers have a database starting from the point of sale, and then the data is transferred to the workshop. That the dealers keep track of the customers after the time of purchase is not only to check whether the customers are satisfied with the product or service, but also to look for possible references (prospective customers) from existing customers. Based on the above literature, we hypothesize that:

H4: CRM system has a positive effect on customer satisfaction.

2.6 Convenience and Customer Satisfaction

Various socio-economic trends and rapid technological advances prompt the consumers to desire and demand more conveniences in acquiring and consuming products and services.

A survey found that 52% of consumers intended to spend less time shopping to increase time for other uses. Adhering to the principle on "Location", service businesses such as banks, grocery stores, gas stations, express delivery, and fast-food restaurants are moving closer to residential neighborhood where they will be the chosen customers due to sheer proximity. Seemingly, these firms operate under the belief that customers may opt for a similar and close business place due to time constraints, not always deal with a businesses located farther away.

Some of researches done by Seiders et al. (2007) and Colwell et al. (2008) reported that service convenience had been hypothesized as having an influence on customer satisfaction and repeat buying from a service field. These research outcomes of service convenience can help companies offering various services in improving satisfaction levels of customers. A better fit would occur if customers are grouped based on their service convenience scores, thereby improving satisfaction and customer retention. By delivering on perceived service convenience on high level, retail outlets are able to differentiate their supplies to increase customer satisfaction

levels. Earlier 1970s, researchers had started to focus on investigating factors which lead to the demand for convenience.

In the past decades, Brown and Mcenally (1993) suggested a two-dimensional view of convenience. Namely, time and energy structured in acquisition, use and disposal phases and went on to define convenience as a reduction in the amount of consumer time and, or energy required to acquire, use and dispose of a product or service relative to the time and energy required by other offerings in the product or service class. Consumers try to catch an increase in time deficiency when finishing tasks related to the purchase and consumption of a service (Zeithaml & Bitner, 2000). Thus, we can say that performing convenience at service site can be regarded as a means of adding value to consumers, by declining the amount of time and effort which a consumer has to expend on the service.

Seiders, Berry, and Gresham (2000) argued that in a retailing context convenience had multidimensional features, and they designed a conceptual model with four dimensions for convenience retailing. They are access convenience, find convenience, acquisition convenience, and transaction convenience. Moreover, they identified convenience in a service setting would be as any form of convenience that could save consumers' time or reduce effort in service site, such as outlets coverage, business hours, or available credit all belong to the field of service convenience. According to Berry, Seiders, & Grewal (2002), more attributes like location, network coverage, time arrangement, payment style, employee service, system assistance, parking and service outlet access, all are affiliated with the framework of service convenience.

Consumers' perceptions of convenience are discovered to have a positive effect on their satisfaction with the service provided. Researchers (Berry, Seider, & Grewal, 2002; Seiders et al., 2005) agreed that convenience could decide consumer satisfaction to the product or service. The result is consistent with the statement by Souitaris and Balabanis (2007) that convenience offered by service providers increases consumer satisfaction through decreasing consumers' effort and saving time. Based on literature

we hypothesize that:

H5**:** Convenience has a positive impact on customer satisfaction.

2.7 Corporate Image and Customer Satisfaction

Corporate image (sometimes referred to as corporate brand image) has been described as the comprehensive impression which left on the minds of customers, as a pattern and as an idiosyncratic cognitive configuration (Gray & Balmer, 1998). Although dynamically interrelated with corporate reputation (Gotsi & Wilson, 2001), corporate image is dependent upon a person's beliefs, feelings, ideas, and impressions, and is aided by the information provided by the interactive communications, as well as managerial attitudes, behavior, and philosophy. Abratt & Mofokeng (2001) described that the image was built up over time, translated from the company's identity (what the organization is), and firmly bounded the firm's reputation.

Previous studies done by (e.g., Gronholdt et al., 2000; Kristensen et al., 2000) and the European Customer Satisfaction Index (ECSI) framework have showed that the corporate image had a positive impact on the perceived value, customer satisfaction level and customer loyalty. In fact, the concept of image or corporate image has also been extensively portrayed in the literature on customer relationships. Grönroos (1982) argued that image was of extreme importance to service firms and was to a great extent determined by customers' assessment of the services they receive. Selnes (1993) showed that the company's overall reputation was highly influential on customer satisfaction and loyalty when managing services or product-service industries. Each service encounter provided the customer with the basis to develop a cumulative image of the firm, and the perceptual corporate image should affect behavioral intentions such as customer satisfaction and loyalty (Cöner & Güngör, 2002).

Thus, corporate image is the overall concept of society towards the corporation or service provider. For its evaluation, users identify the stability, innovation and

image in the society of the operator. Commonly speaking, corporate image refers to the brand name and the kind of associations that customers get from it. Keller, K.L. (1993) said that having a positive image represents an asset to the service firm.

Drawing on the conceptualization, we define corporate image as a perceived representation of the firm's overall attractiveness when it is compared with other rivals. This means that image is a kind of market-validated perception and that a firm will only have a good image if it deserves one. It helps buyers to evaluate the quality of products and service, especially when they are unable to judge a product's characteristics and performance of service before pay for it. A positive image might serve as a proxy for the level of service quality and product features. It also helps reduce a buyer's perceived risk of purchase. When customers regard whether a company have a good image as their preference to perceive higher value in the products and services among alternatives, it may lead to a higher customer satisfaction level and repurchase from the favorable company. Jakrapan, Karin, & Bal (2002) thought that fierce competition between products in automobile market had regularly strengthened the importance of the perceived image of car brand. Thus, corporate image is expected to have a positive impact on perceived value, customer satisfaction level. As such, a positive image might lead the customer to summaries received benefits that are comparatively good, therefore improving customer satisfaction. Based on literature we hypothesize that:

H6: Corporate image has a positive impact on customer satisfaction.

2.8 Service Recovery and Customer Satisfaction

If a service provider is unable to meet the customer expectations, then there is a mismatch between what the customer wanted and what he got and therefore, the resultant is customer dissatisfaction. When this mismatch happens, which implies service failure occurs, the consumer reacts more emotionally. Service failures are common in the service industry, and it is difficult to prevent them completely (Choi &

Mattila, 2008).

When service failure encounters service recovery, it represents important moments of truth in a service provider's relationship with its customers (Smith & Bolton 1998). When customers encounter a service failure, they can choose one of the two alternatives either to complain which gives the service provider an opportunity to correct the problem or to directly switch the service provider without any complaint at all (Colgate & Norris, 2001). In fact, most of the dissatisfied customers do not complain, some of those dissatisfied customers quickly move away but never said a word. Only 5% to 10% of the customers who are dissatisfied complain. An increasing number of complaints make the customer more probability to abandon the firm. So the objective of complaint handling is to transform a dissatisfied customer into a satisfied and loyal one (Fornell, 1992).

It is an important solution that a firm manages keeping a customer to stay in not to exit the service organization after a service failure (Colgate & Norris, 2001). Service recovery is defined as "the actions of a service provider to mitigate and repair the damage to a customer that results from the providers' failure to deliver a service as designed" (Hoffman and Kelley, 2000:418-432). Service failure recoveries play an important role in the service process; its intents to return the customers back to the situation of satisfaction (Sparks & Kennedy, 2001). Repeat customers are the most important asset for a service company. Chung and Hoffman (1998) highlighted that a 5% decrease in defection rates could increase customer value by 125%. N'Goala (2007) believed that a proper recovery generated customer-switching resistance. That is, recovery is crucial in preventing customers who perceive a service failure from switching services.

Miller, Craighead, and Karwan (2000) further differentiated two forms of service recovery measurements: psychological and tangible. Psychological recovery is a recovery base on mentally, it means to offer an apology or show empathy for the customer's suffering from injustice (Johnston & Fern, 1999; Miller et al., 2000).

Tangible recovery requests on materially to conduct service again, or change product, or provide a refund and, or in-kind compensation following a failure (Lewis & McCann, 2004; Miller et al., 2000).

A good service recovery program requires a solution based approach centered on service recovery variables like explanation, atonement, empathetic behavior, prompt complaint handling (Bell, 1994; &Liao, 2007). Most customers really expect that service failure will be recovered immediately before they leave the service spot and do not need to complain with dissatisfied emotion (Michel, 2001) or when they make complaints to the service providers (Sundaram et al., 1997). A consumer can be recovered if some actions are taken by the service supplier. With the help of strategies like refunds, price discounts, upgraded services, free products or services, and apologies, he or she will get back in satisfaction even after they have experienced a loss (Hess et al., 2003; Michel, 2001). Past researches indicate that the level of satisfaction a customer gains following a service recovery impacts overall satisfaction and outweighs the negative effects of service failure (Andreassen & Lindestad, 1998).

Boshoff (1999) proposed a dimension based model to evaluate service recovery (RECOVSAT). RECOVSAT was suggested to service firms by Boshoff & Staude (2003) such as to break customer silence communicate effectively with the aggrieved customer, to listen closely for complaints he empathetic, to provide feedback, to offer an explanation of what went wrong, to train employees fulfilling service process better, to empower the front line employees who receive complaints to solve the problem that the customer complained about, and to anticipate needs for recovery in ensuring a successful service recovery. Moreover, the actions should be fast to ensure minimizing the service failure effect on customer. Based on literature we hypothesize that:

H7: Service recovery has a positive impact on customer satisfaction.

2.9 Customer Satisfaction in Automobile Service Industry

Automotive Services need to serve two objects: Car and customer. Therefore, it

has requirements not only upon the automotive service technology, new car quality, spare parts quality, price of repair and maintenance, service time, but also for polite and warm service attitude, excellent service skills, comfortable rest place, and satisfactory manner of waiting for to car owners. That service companies obtain customer satisfaction is built upon providing customers with services activities (e.g. selling or maintaining car) related to tangible goods and delivery of intangible products (e.g. knowledge and information), which means that not only the most basic expectations of customers (e.g. product quality is reliable, price is fair, and after-sale service is available) need to be meet, but also service companies should create friendly atmosphere and offer added value to satisfy and delight customer. Added value is derived from that customer experienced other service features (e.g. diversified product, personalized service, immediately interactive communication, convenience with saving time and effort, active solutions to service fail, and good brand image) on contact points in various service channels (e.g. face to face, telephone, website). In short, customer satisfaction means that it is necessary for automotive companies to ensure the car running in good condition, and to meet or exceed the customer's expectation.

Automobile industry has experienced raising and falling for more than one hundred years, and went along with social and economic rapid changes, globalization issues, information technology booms, market recession and fierce competition. All of the above issues have made companies and their owners to become attended to find out where they can capture more benefits and keep sustainable development. One of the ways that has been adopted and proved is to improve customer satisfaction by offering more and better product and service for customers around the world.

CHAPTER 3

RESEARCH METHODOLOGY

The information to confirm the factors affecting customer satisfaction in automobile service industry in Shanghai, China will be obtained by using the quantitative research methodology. This chapter explains the research method for "The factors affecting customer satisfaction in automobile service industry in Shanghai China" and the procedures are as follow:

3.1 Quantitative Research Methodology

3.2 Population and Sample

3.3 Research Instrument

3.4 Pre-testing of Validity and Reliability

3.5 Data Collection

3.6 Data Analysis

3.1 Quantitative Research Methodology

Quantitative methodology is the systematic scientific investigation employed to measure the emotion and thought of human, and actions of the way and why thing can be done. Quantitative research emphasize on objective measurements and numerical analysis of data collected by using polls, questionnaires or surveys. According to Zikmund (2000), the advantage of surveys is to offer quick, inexpensive, efficient, and accurate approaches of evaluating information about a population. Quantitative analytical intentions are to quantify variation, predict causal relationships and describe characteristics of a population.

The purpose of this research is to identify the factors affecting customer satisfaction in automobile service industry in Shanghai, China. In order to achieve the goal, this study be designed as a survey using a self-administered questionnaire to

collect statistical data from respondents who are living in Shanghai area and at least have a car. Data analysis will use Data Analysis Program as analysis tool such as descriptive statistics including frequency, percentage, mean, standard deviation (SD), and inferential statistics containing Pearson correlation coefficient and linear regression. These measured results can reflect what findings the study would have achieved.

3.2 Population and Sample

For the quantitative data, the subject is the automobile service companies in shanghai City, China, and involves in automobiles including import brand, joint venture brand and domestic brand. The respondents are those people who have or drive a car in Shanghai city. The questionnaire will designed and distributed to conduct a survey via email, internet phone in Shanghai, China. Also, a part of questionnaires will be sent to Shanghai tourists who are visiting Bangkok during the survey.

As to how many sample sizes is adequate, they were determined by Shanghai's population at approximate 24,151,500 (Shanghai Statistical Bulletin in 2013). The sample size is calculated based on simple random sampling from Taro Yamane (1967) as below:

$n=N/ (1+Ne^{2})$

when： **n** is sample size

N is population size

e is the incorrect level at 0.05

Sample sizes = $24151500 / (1+24151500*0.05^{2}) =399.99$

The result of calculation is 399.99, so at least of sample amount is 400. The target population be studied in this research are four hundred Chinese car owners who live in Shanghai, China.

3.3 Research Instrument

The study adopts questionnaire as research instrument to collect primary data via a survey. There are at least 400 questionnaires will be sent to target population in Shanghai area in order to gather accurate information about the factors affecting customer satisfaction in automobile service industry in Shanghai, China. The questionnaire was divided into 2 parts as follow:

Part 1: General information of the respondent

Part 2: The respondents' attitude towards "the factors affecting customer satisfaction in automobile service industry in Shanghai, China"

The questionnaire employed rating scale question which is measured by using five-level Likert scale. Considering some respondents may not give an accurate evaluation for every item, the designer of questionnaire add a "0"option as the response of "I don't know" for each item. The"0" as a missing value and will be replaced by series mean in the SPSS analysis process. The selected categories scale 5 levels as follow:

Table 3.1 Selected category scale 5- level

Level of Affection	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	I don't know
Score	1	2	3	4	5	0

In this study, the researcher used a classification method to analyze the data by using this formula:

$$\text{Class intervals} = \frac{\text{highest data value} - \text{lowest data value}}{\text{number of classes}}$$

$$= \frac{5-1}{5}$$

$$= 0.8$$

The interpretations of average mean score of each item are as follows:

Table 3.2 Average mean scores of each item

Level of Respondents Opinion	Numerical Rating
Very low	1.00-1.80
Low	1.81-2.60
Medium	2.61-3.40
High	3.41-4.20
Very high	4.21-5.00

3.4 Pre-Testing of Validity and Reliability

A designed questionnaire needs to be tested for validity and reliability before implementing a formal survey to target respondents. The goal of conducting a validity and reliability testing is to ensure that the questionnaire as a research instrument can tap into the measuring concept. According to Zikmund, Babin, Carr & Griffin (2010), the basic requirement to design a questionnaire is to make sure relevancy and accuracy. For relevancy, the question should be specific and have a rationale connection for each item, and should not be made needlessly long; on the other hand, that some important question should not be omitted. In terms of accuracy, it requires the response from a questionnaire is reliable and valid. A questionnaire should use simple, understandable, unbiased, unambiguous, and nonirritating words. Questions should be written in a conversation style and use easy to understand response categories. In order to avoid problems like that most respondents misunderstand a question, skip a series of questions, or misinterpret the instructions for completing the questionnaire, the screening procedure or pre-test need to be utilized in this study.

Before conducting a formal survey, a pre-test has been sent to 30 respondents test reliability of the initial questionnaire design. The 30 tested questionnaires were been written in two languages, English for international students including Thai students who have car and Chinese language for Chinese students and tourists. The pre-test

process in this study as below:

a) Beginning with a draft questionnaire based on theoretical framework.

b) Screening the questionnaire with research advisor.

c) Correcting and improving the questionnaire until it reaches the requirement.

d) Applying reliability analysis. Cronbach's Alpha is served to measure the reliability of the questionnaire. If the result of the reliability test of the pre-test data is higher than 0.6, it indicates that the questionnaire is reliable enough to be used for survey conduction.

e) Refining and screening the questionnaire times before it is implemented a survey to the target group.

The results of pre-testing showed each question had a value more than 0.6 which is at least acceptable value for reliability.

Table 3.3 The Cronbach's Alpha coefficient of each question for pre-testing

Variables	Cronbach's Alpha	Number of items
Product attributes	0.809	5
Service quality	0.775	5
Price fairness	0.751	3
CRM system	0.733	3
Convenience	0.802	3
Corporate image	0.714	3
Service recovery	0.760	3
Customer satisfaction	0.813	7

3.5 Data Collection

Data collection for "the study of the factors affecting customer satisfaction in automobile service industry in Shanghai China" uses two approaches as following:

1. Primary data collection

It is necessary to collect a sufficient research data in order to match with the

scope of research study. The first-hand data will be gathered by using an empirical investigation in Shanghai area. Since the minimum of sample size needs to meet 400, the researcher should ensure to get at least 400 valid feedbacks. It is necessary to add extra 10% of its amounts into original sample sizes in case some questionnaires could not go back to the researcher. Thus, the total of 440 questionnaires will be planed to distribute to respondents to execute a survey via email or Internet link or other approaches. The questionnaire consisted of 2 parts as follows:

Part 1: General information of the respondents

Part 2: The respondents' attitude towards "the factors affecting customer satisfaction in automobile service industry in Shanghai, China".

2. Secondary data collection

Another source of data collection is second-hand information, which has already been collected to support the ideas, concepts, assumptions and information for this study. Secondary data are available or could been found from previous researches and online databases such as newspaper, magazines, internet websites, academic journal, other MBA and PhD theses. Of course, books in school library and textbooks also are useful second resources.

3.6 Data Analysis

After conducting a random sampling, the feedback information from 440 questionnaires will be coded, calculated, analyzed and interpreted by using SPSS software includes the frequency, percentage, mean, SD (standard deviation), Pearson correlation coefficient, and multiple regression.

1. Descriptive statistics

Descriptive statistics are commonly used to describe the degree of dispersion and concentration of a dataset. Measures of central tendency include the mean, median and mode, while measures of dispersion include the standard deviation or variance, the minimum and maximum values of the variables, kurtosis and skewness. Moreover,

frequency and percentage are served to describe the frequency distribution. The formula of these statistics would be :(Zikmund.2000)

$$\text{Percentage} = \frac{\text{Number of collected of data}*100\%}{\text{sampling size}}$$

$$\text{Mean} = \frac{\text{Sum of number of collected data}}{\text{sampling size}}$$

$$\text{SD} = \sqrt{\frac{\sum(Xi-\bar{X})^2}{n-1}}$$

2. Inferential statistics

Zikmund (2000) explanted that inferential statistics was as a tool to make judgments or decision for the target population by using selected samples. In this study, Pearson correlation coefficient will be use to examine the relevant relationship between variables. And multiple regressions will be served to test the interdependence between independent variables and dependent variable. Pearson correlation coefficient measures how strong the relationship between variables (seven effect factors and customer satisfaction) is. It tells us whether the variables are related or not. Linear regression examines how changes in one variable vary with changes in another. It shows us what the precise form of the relationship between each of effect factors (seven independents variables) and customer satisfaction (dependent variable) is. Common requirements for usage of correlation analysis and regression analysis include normality, linearity, independence, and homoscedasticity.

Hypothesis test will use Pearson correlation coefficient with the significant level at 0.01(2 tailed) and linear regression with the significant level at 0.05 or can call 5% level. A significance level is a critical probability associated with a statistical hypothesis test that indicates how likely it is that an inference supporting a difference between an observed value and some statistical expectations is true. If a p-value is lower than the researcher’s acceptable significance level (a), then the null hypothesis is

usually rejected and the expected hypothesis is supported.

Pearson correlation coefficient (r) is very clear for relationship analysis. The technique proves a correlation between two variables and indicates how strongly and what direction they are associated. The raw data must be in ratio or interval for accuracy. The correlation coefficient results are figured between -1 and +1. If **r**=0, it means the two variables have no linear correlation; **r**=1 means complete positive correlation; **r**=-1 means complete negative correlation. The more the value of **r** approaches 1 or -1, the stronger correlation they have; the more the value of **r** approaches 0, the less correlation they have. If the ***p*** value less than 0.01(2 tailed), it means reaching a significance level.

The formula for this Pearson correlation coefficient is

$$\mathbf{r} = \frac{\mathbf{1}}{\boldsymbol{n-1}} \sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} \left(\frac{\mathbf{X_i - X}}{\boldsymbol{S_x}}\right)\left(\frac{\boldsymbol{Y_i - Y}}{\boldsymbol{S_y}}\right)$$

Where:

r= Pearson correlation coefficient

n=Number of observation

$\boldsymbol{X_i}$=Dependent variable

X= mean of selected dependent variable

$\boldsymbol{Y_i}$= Independent variable

Y=Mean of independent variable

$\boldsymbol{S_x}$=Standard deviation of selected dependent variable

$\boldsymbol{S_y}$=Standard deviation of selected independent variable

Linear Regression is a statistical technique for exploring how one variable, the outcome (usually denoted Y), is numerically related to predictor variables (usually denoted X, or $X_1, X_2 \ldots X_k$) (Zikmund, Babin, Carr, & Griffin 2010). Linear regression can be used to fit a straight line to these data.

The simplest type of regression equation: **Y = a + bx**

b is the gradient, slope or regression coefficient

a is y-intercept in an (x, y) coordinate system or regression constant

Y is a value for the outcome

x is a value for the predictor

Multiple linear regressions: When there is still one dependent variable but many predictor variables, the fitting technique is called multiple linear regressions. The multiple linear regressions equation as follow:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k$

This statistical method is used to examine the relationship between one dependent variable *Y* and two or more independent variables X_i. The regression parameters or coefficients b_i in the regression equation are estimated using the method of least squares. In this method, the sum of squared residuals between the regression plane and the observed values of the dependent variable are minimized. The regression equation represents a (hyper) plane in a $k+1$ dimensional space in which k is the number of independent variables $X_1, X_2, X_3, \ldots X_k$, plus one dimension for the dependent variable *Y*.

For this study, the multiple regressions are served to investigate the one to seven hypotheses whether every independent variable in assumptive effect factors has a significant influence on the dependent variable (customer satisfaction).

CHAPTER 4

RESEARCH FINDING

This chapter will present the data analysis of the factors affecting customer satisfaction. The researcher has sent a total of 440 questionnaires which were written in Chinese language to respondents in order to collect statistical information. Among them, 420 samples were valid. To be specific, 300 were submitted via e-mail and website links by respondents in Shanghai metropolitan; another 120 were distributed in Bangkok to Chinese students and tourists who came from Shanghai, China. The process of data analysis as follow:

4.1 Descriptive analysis of demographic characteristics of respondents

4.2 Descriptive analysis of the factors affecting customer satisfaction

4.3 Inference analyses: Correlation analysis and Linear Regressions

4.1 Descriptive Analysis of Demographic Characteristics of Respondents

Analysis of demographic data, general information of the respondents were classified into gender, age, occupation, monthly income, car brand, years of buying car, the use of car, and service times car owner received in a year, to describe the characteristics by using frequency and percentage distribution.

Table 4.1 Frequency distribution–gender of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	261	62.1	62.1	62.1
	Female	159	37.9	37.9	100.0
	Total	420	100.0	100.0	

Table 4.1 shows that there were 420 respondents in this survey and in which 62.1% were male while 37.9% were female. Thus the majority of responders were male.

Table 4.2 Frequency distribution–age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years old	195	46.4	46.4	46.4
	31-40 years old	149	35.5	35.5	81.9
	41-50 years old	56	13.3	13.3	95.2
	More than 50 years old	20	4.8	4.8	100.0
	Total	420	100.0	100.0	

For the age range of the respondents, 195 respondents or 46.4% were between 18-30 years old,149 respondents or 35.5 % were between 31-40 years old, 56 respondents or 13.3% were between 41-50 years old, and 20 respondents or 4.8% were over 50-year old which is the smallest group in the sample. It indicates that most of the respondents were young adults whose ages were distributed between 18-30 years old.

Table 4.3 Frequency distribution–occupation of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Official	47	11.2	11.2	11.2
	Business owner	74	17.6	17.6	28.8
	Employee	132	31.4	31.4	60.2
	Freelancer	81	19.3	19.3	79.5
	Student	57	13.6	13.6	93.1
	Other	29	6.9	6.9	100.0
	Total	420	100.0	100.0	

For the range of the occupation of the respondents, 47 respondents or 11.2% were officials, 74 respondents or 17.6% were business owners, 132 respondents or 31.4% were employees, 81 respondents or 19.3% were freelancers, 57 respondents or 13.6 % were Students, 29 respondents or 6.9% were other occupation. The results showed that the most of the respondents were employees and the smallest group was other occupation.

Table 4.4 Frequency distribution–monthly income of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 50,000 baht	207	49.3	49.3	49.3
	50,001 - 100,000 baht	119	28.3	28.3	77.6
	100,001 - 150,000 baht	63	15.0	15.0	92.6
	More than 150,000 baht	31	7.4	7.4	100.0
	Total	420	100.0	100.0	

For the range of the monthly income of the respondents, 207 respondents or 49.3% were 50,000 baht or below, 119 respondents or 28.3% were between 50,001 baht - 100,000 baht, 63 respondents or 15.0% were between 100,001 baht - 150,000 baht, 31 respondents or 7.4% were more than 150,000 baht. The results show that the most of the respondents were people whose monthly income was less than 50,000 baht and the fewest of respondents group whose monthly income was more than 150,000 baht.

Table 4.5 Frequency distribution–the car brand of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Import brand	78	18.6	18.6	18.6
	Joint venture brand	202	48.1	48.1	66.7
	Domestic brand	140	33.3	33.3	100.0
	Total	420	100.0	100.0	

For t the car brand of respondents, 78 respondents or 18.6% were driving cars which belong import brand, 202 respondents or 48.1% were driving cars which belong joint venture brand, 140 respondents or 33.3% were driving cars which belong domestic brand. The results show that the most of the respondents were people whose cars come from joint venture brand and the smallest group was import car brand.

Table 4.6 Frequency distribution–the years of buying car of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2years	141	33.6	33.6	33.6
	3-4years	128	30.5	30.5	64.0
	5-6years	90	21.4	21.4	85.5
	More than 6 years	61	14.5	14.5	100.0
	Total	420	100.0	100.0	

For the years of buying car of respondents, 141 respondents or 33.6% have driven car for 0-2 year, 128 respondents or 30.5% have driven car for 3-4years, 90 respondents or 21.4% have driven car for 5-6 years, 61 respondents or 14.5% have driven car more than 6 years. The results show that the most of the respondents were people who have driven car for 0-2 years and the smallest group was more than 6 years.

Table 4.7 Frequency distribution–the use of car of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Family	170	40.5	40.5	40.5
	Job	142	33.8	33.8	74.3
	Business	68	16.2	16.2	90.5
	Others	40	9.5	9.5	100.0
	Total	420	100.0	100.0	

For the use of car of respondents, 170 respondents or 40.5% use car for family, 142 respondents or 33.8% use car for job, 68 respondents or 16.2% use car for doing business, 40 respondents or 9.5% use car for doing other things. The results show that the most of the respondents were people who use car for family and the smallest group was doing other things.

Table 4.8 Frequency distribution–the service times respondents received last year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Only one	66	15.7	15.7	15.7
	2- 5 times	266	63.3	63.3	79.0
	6-10 times	67	16.0	16.0	95.0
	More than 10 times	21	5.0	5.0	100.0
	Total	420	100.0	100.0	

For the service times respondents received last year, 66 respondents or 15.7% received one time in a year, 266 respondents or 63.3% received 2-5 times in a year, 67 respondents or 16.0% received 6-10 times in a year, 21 respondents or 5.0% received service more than 10 times in a year. The results show that the most of the respondents were people who received service 2-5 times in a year and the smallest group was more than 10 times in a year.

4.2 Descriptive Analysis of the Factors Affecting Customer Satisfaction

This section explores the factors that affect customer satisfaction in automobile service industry in Shanghai, China. In terms of the opinion of the respondents, the standard five-point Liket scale was applied to measure the extent of the importance of each factor. These factors are product attributes, service quality, fairness price, CRM system, convenience, corporate image, and service recovery. The gathered data in this section is presented in mean ($\bar{x}$), standard deviation (*SD*), and level of agreement followed by brief explanations of the findings. The mean scores were interpreted based on the mean range indicated by using five-point Likert scale. The standard deviation (*SD*) pointed out the variation in the distribution of the data. The results of the factors affecting customer satisfaction in automobile service industry in Shanghai, China are shown in tables.

Table 4.9 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of product attributes factor affecting customer satisfaction in automobile service industry in Shanghai China.

Product attributes	$\bar{x}$	**SD**	**Level of respondents' opinion**
Quality of replacement	4.22	0.8297	High
Reliability of replacement	3.89	0.8735	High
Fuel consumption	3.46	0.9846	High
Internal configuration	3.67	0.8888	High
Appearance design style	3.56	0.9860	High
Total	3.76	0.9125	High

The table 4.9 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.76 and standard deviation (*SD*) is 0.9125. In addition, all the results in each category range are a high level, which means all factors of product attributes are important to customer satisfaction. For "new car quality", the result of mean ($\bar{x}$) is 4.22 and standard deviation (*SD*) is 0.8297. For" reliability of replacement parts", the result of mean ($\bar{x}$) is 3.89 and standard deviation (*SD*) is 0.8735. For "the fuel consumption", the result of mean ($\bar{x}$) is 3.46 and standard deviation (*SD*) is 0.9846. For "internal configuration", the result of mean ($\bar{x}$) is 3.67 and standard deviation (*SD*) is 0.8888. For "appearance design style", the result of mean ($\bar{x}$) is 3.56 and standard deviation (*SD*) is 0.9860.

Table 4.10 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of service quality factor affecting customer satisfaction in automobile service industry in Shanghai China

Service quality	$\bar{x}$	SD	Level of respondents' opinion
Physical facilities	3.69	1.0028	High
Skill level of technicians	4.10	0.8764	High
Service speed	3.52	0.9020	High
Responsibility of service staff	3.96	0.9077	High
Caring about customer's personalized needs	3.50	0.9807	High
Total	3.75	0.9339	High

The table 4.10 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.75 and standard deviation (*SD*) is 0.9339. In addition, all the results in each category range are a high level, which means all factors of service quality are important to customer satisfaction. For "physical facilities", the result of mean ($\bar{x}$) is 3.69 and standard deviation (*SD*) is 1.0028. For "maintenance and repair workers' skills", the result of mean ($\bar{x}$) is 4.10 and standard deviation (*SD*) is 0.8764. For "service speed", the result of mean ($\bar{x}$) is 3.52 and standard deviation (*SD*) is 0.9020. For "responsibility of service staff", the result of mean ($\bar{x}$) is 3.96 and standard deviation (*SD*) is 0.9077. For "caring about customer's personalized needs", the result of mean ($\bar{x}$) is 3.50 and standard deviation (*SD*) is 0.9807.

Table 4.11 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of price fairness factor affecting customer satisfaction in automobile service industry in Shanghai China

Price fairness	$\bar{x}$	SD	**Level of respondents' opinion**
Performance-price ratio of new car	3.84	0.8189	High
Services charge	3.66	0.8125	High
Price of spare parts	3.60	0.8671	High
Total	3.70	0.8328	High

The table 4.11 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.70 and standard deviation (*SD*) is 0.8328. In addition, all the results in each category range are a high level, which means all factors of price fairness are important to customer satisfaction. For "new car performance-price ratio", the result of mean ($\bar{x}$) is 3.84 and standard deviation (*SD*) is 0.8189. For "the services charge", the result of mean ($\bar{x}$) is 3.66 and standard deviation (*SD*) is 0.8125. For "price of spare parts", the result of mean ($\bar{x}$) is 3.60 and standard deviation (*SD*) is 0.8671.

Table 4.12 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of CRM system factor affecting customer satisfaction in automobile service industry in Shanghai China

CRM system	$\bar{x}$	**SD**	**Level of respondents' opinion**
Website information resources	3.59	0.8393	High
24-hour helpline	3.82	0.8207	High
Private information of customers	3.88	0.8848	High
Total	3.76	0.8483	High

The table 4.12 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.76 and standard deviation (*SD*) is 0.8483. In addition, all the results in each category range are a high level, which means all factors of CRM system are important to customer satisfaction. For "website information resources", the result of mean ($\bar{x}$) is 3.59 and standard deviation (*SD*) is 0.8393. For "24-hour helpline", the result of mean ($\bar{x}$) is 3.82 and standard deviation (*SD*) is 0.8207. For the "private information of customer", the result of mean ($\bar{x}$) is 3.88 and standard deviation (*SD*) is 0.8848.

Table 4.13 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of convenience factor affecting customer satisfaction in automobile service industry in Shanghai China

Convenience	$\bar{x}$	**SD**	**Level of respondents' opinion**
Coverage of service outlets	3.68	0.9217	High
Business hours	3.77	0.8650	High
Providing financial credits	3.79	0.9204	High
Total	3.75	0.9024	High

The table 4.13 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.75 and standard deviation (*SD*) is 0.9024. In addition, all the results in each category range are a high level, which means all factors of convenience are important to customer satisfaction. For "coverage of service outlets", the result of mean ($\bar{x}$) is 3.68 and standard deviation (*SD*) is 0.9217. For "business hours", the result of mean ($\bar{x}$) is 3.77 and standard deviation (*SD*) is 0.8650. For "providing financial credits", the result of mean ($\bar{x}$) is 3.79and standard deviation (*SD*) is 0.9204.

Table 4.14 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of corporate image factor affecting customer satisfaction in automobile service industry in Shanghai China

Corporate image	$\bar{x}$	**SD**	**Level of respondents' opinion**
Service concept	3.70	0.8909	High
Fulfilling warranty commitments	3.95	0.8925	High
Concerning about public affairs	3.47	0.8920	High
Total	3.70	0.8918	High

The table 4.14 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.70 and standard deviation (*SD*) is 0.8918. In addition, all the results in each category range are a high level, which means all factors of corporate image are important to customer satisfaction. For "service concept", the

result of mean ($\bar{x}$) is 3.70 and standard deviation (*SD*) is 0.8909. For "fulfilling warranty commitments", the result of mean ($\bar{x}$) is 3.95 and standard deviation (*SD*) is 0.8925. For "concerning about public affairs", the result of mean ($\bar{x}$) is 3.47 and standard deviation (*SD*) is 0.8920.

Table 4.15 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of service recovery factor affecting customer satisfaction in automobile service industry in Shanghai China

Service recovery	$\bar{x}$	**SD**	**Level of respondents' opinion**
Free replacement product or service	3.70	0.8670	High
Apology	3.73	0.9683	High
Financial compensation	3.56	0.9232	High
Total	3.66	0.9195	High

The table 4.15 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.66 and standard deviation (*SD*) is 0.9195. In addition, all the results in each category range are a high level, which means all factors of service recovery are important to customer satisfaction. For "free replacement product or service", the result of mean ($\bar{x}$) is 3.70 and standard deviation (*SD*) is 0.8670. For "apology", the result of mean ($\bar{x}$) is 3.73 and standard deviation (*SD*) is 0.9683. For "financial compensation", the result of mean ($\bar{x}$) is 3.56 and standard deviation (*SD*) is 0.9232.

Table 4.16 Mean ($\bar{x}$), standard deviation (*SD*) and level of agreement of respondents about the factors affecting overall customer satisfaction in automobile service industry in Shanghai China

Customer satisfaction	$\bar{x}$	**SD**	**Level of respondents' opinion**
Overall, production attributes influence my satisfaction	3.84	0.9126	High
Overall, service quality influences my satisfaction	3.69	0.9826	High
Overall, price fairness influences my satisfaction	3.74	0.8749	High
Overall, CRM system influences my satisfaction	3.81	0.8501	High
Overall, convenience influences my satisfaction	3.82	0.9298	High
Overall, corporate image influences my satisfaction	3.63	0.7901	High
Overall, service recovery influences my satisfaction	3.83	0.6857	High
Total	3.77	0.8608	High

The table 4.16 shows the average level of respondents' opinion is high, and the result of average mean ($\bar{x}$) is 3.77 and standard deviation (*SD*) is 0.8608. In addition, all the results in each category range are a high level, which means all reasons of customer satisfaction are agreed by respondents. For "overall, production attributes influence my satisfaction", the result of mean ($\bar{x}$) is 3.84 and standard deviation (*SD*) is 0.9126. For "overall, service quality influences my satisfaction", the result of mean ($\bar{x}$) is 3.69 and standard deviation (*SD*) is 0.9826. For "overall, price fairness influences my satisfaction", the result of mean ($\bar{x}$) is 3.74 and standard deviation (*SD*) is 0.8749. For "overall, CRM system influences my satisfaction", the result of mean ($\bar{x}$) is 3.81 and standard deviation (*SD*) is 0.8501. For "overall, convenience influences my satisfaction", the result of mean ($\bar{x}$) is 3.82 and standard deviation (*SD*) is 0.9298. For "overall, corporate image influences my satisfaction", the result of mean ($\bar{x}$) is 3.63 and standard deviation (*SD*) is 0.7901. For "overall, service recovery influences my satisfaction", the result of mean ($\bar{x}$) is 3.83 and standard deviation (*SD*) is 0.6857.

4.3 Inferential Statistics: Correlation Analysis and Linear Regressions

Inferential statistics aims to make inferences or judgments about a population on the basis of a sample (Malhotra and Birks, 2003). In this study, the researcher applied Pearson correlation coefficient and linear regression to analyze and verify hypotheses statements in the population.

Test hypotheses

$H1_o$: Product attributes have no positive effect on customer satisfaction.

$H1_a$: Product attributes have a positive effect on customer satisfaction

$H2_o$: Service quality has no positive effect on customer satisfaction.

$H2_a$: Service quality has a positive effect on customer satisfaction.

$H3_o$: Price fairness has no positive effect on customer satisfaction.

$H3_a$: Price fairness has a positive effect on customer satisfaction.

$H4_o$: Efficient CRM system has no positive effect on customer satisfaction.

$H4_a$: Efficient CRM system has a positive effect on customer satisfaction.

$H5_o$: Convenience has no positive effect on customer satisfaction.

$H5_a$: Convenience has a positive effect on customer satisfaction.

$H6_o$: Corporate image has no positive effect on customer satisfaction.

$H6_a$: Corporate image has a positive effect on customer satisfaction.

$H7_o$: Service recovery has no positive effect on customer satisfaction.

$H7_a$: Service recovery has a positive effect on customer satisfaction.

1. **Pearson Correlation Coefficient**

Table 4.17 Pearson correlation coefficient: Positive relationships between customer satisfaction and the effect factors.

		Product attributes	Service quality	Price fairness	CRM system	Convenience	Corporate image	Service recovery
Customer satisfaction	Pearson Correlation	.917**	.907**	.728**	.887**	.831**	.754**	.725**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	420	420	420	420	420	420	420

** correlation is significant at the 0.01 level (2-tailed)

The Table 4.17 shows that the correlation coefficient between product attributes and customer satisfaction is 0.917and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strongly positive relationship between product attributes and customer satisfaction

The Table 4.17 shows that the correlation coefficient between service quality and customer satisfaction is 0.907and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strongly positive relationship between service quality and customer satisfaction

The Table 4.17 shows that the correlation coefficient between price fairness and customer satisfaction is 0.728 and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strongly positive relationship between price fairness and customer satisfaction

The Table 4.17 shows that the correlation coefficient between CRM system and customer satisfaction is 0.887and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strongly positive relationship between CRM system and customer satisfaction

The Table 4.17 shows that the correlation coefficient between convenience and customer satisfaction is 0.831 and the Sig. (p-value) is 0.000 which is less than 0.01

(0.000<0.01). The result of the test indicates that there is a strongly positive relationship between convenience and customer satisfaction

The Table 4.17 shows that the correlation coefficient between corporate image and customer satisfaction is 0.754 and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strongly positive relationship between corporate image and customer satisfaction

The Table 4.17 shows that the correlation coefficient between service recovery and customer satisfaction is 0.725 and the Sig. (p-value) is 0.000 which is less than 0.01 (0.000<0.01). The result of the test indicates that there is a strong and positive relationship between service recovery and customer satisfaction

2. Regression analysis

In general, when the SPSS software analyzes the multiple regression tests, it will output at least 4 tables per time. They are: variables entered or removed table, model summary table, ANOVE table, and coefficient table. The variables entered or removed table shows which independent variables were selected into the regression model. In this study, the outputs displays every item was included itself regression model via the approach of stepwise entrance. The model summary table contains the R, R-squared and adjusted R-squared for the model, and the standard error of the estimate. In a simple model, the R-squared can be used to explain how many the changes of dependent variable came from the changes of independent variable. But if a model in which included one dependent variable and two or more than two independent variables, the interpretation should use the adjusted R-squared. The ANOVE table shows the results of F-test and describes how good the model as a whole is. And the coefficients table displays the results of t-test and points out how statistically significant each independent variable is. We can use the un-standardized coefficients to build a predictive model, and utilize standardized coefficients to compare the influences that each item produced toward dependent variable. The 95% confidence interval means a range that we can be 95 percent confident that the parameter falls

within.

Table 4.18 Regression analysis of product attributes factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.919	.844	.842

Table 4.19 Regression analysis of product attributes factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
447.817	.000

Table 4.20 Regression analysis of product attributes factor affecting customer satisfaction in automobile service industry (Coefficient)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	.247		3.255	.001		
New car quality	.213	.287	12.119	.000	.673	1.485
Reliability of replacement parts	.196	.279	12.031	.000	.700	1.428
Fuel consumption	.159	.256	12.262	.000	.867	1.153
Configuration	.178	.260	12.086	.000	.817	1.223
Appearance design style	.182	.293	13.630	.000	.819	1.221

In the model summary table, the adjusted R^2=.842 shows that the factor of product attributes can account for 84.2% of the variation of customer satisfaction. In the ANOVA table, F=447.817 and Sig.(P-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the five independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the five independent variables. The analysis shows

that “new car quality”, “reliability of replacement parts”, “fuel consumption”, “configuration”, and “appearance design style”, each of them has respectively a Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which shows that the regression coefficients are statistically significant. Therefore, the $H1_0$ should be rejected. Namely, the result supports that product attributes have a positive effect on customer satisfaction. Among the five independent variables, the three of them “new car quality” (Beta=0.287), “reliability of replacement parts” (Beta=0.279), and “appearance design style” (Beta=0.293) have more influence than the other two.

Table 4.21 Regression analysis of service quality factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.908	.824	.822

Table 4.22 Regression analysis of service quality factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
388.719	.000

Table 4.23 Regression analysis of service quality factor affecting customer satisfaction in automobile service industry (Coefficient)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	.385		4.843	.000		
Physical facilities	.176	.287	12.261	.000	.775	1.291
Skill level of technicians	.171	.244	9.906	.000	.701	1.428
Service speed	.182	.267	11.930	.000	.847	1.180
Responsibility of service staff	.173	.256	10.347	.000	.694	1.441
Caring about customers’ personalized needs	.203	.324	14.353	.000	.830	1.205

In the model summary table, the adjusted R^2=.822 shows that the factor of service

quality can account for 82.2% of the variation of customer satisfaction. In the ANOVA table, F=388.719 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the five independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the five independent variables. The analysis shows that "physical facilities", "skill level of technicians", "service speed", "responsibility of service staff", and "caring about customers' personalized needs", each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 (p=0.000<0.05). Therefore, the $H2_0$ should be rejected. Namely, the result supports that service quality has a positive effect on customer satisfaction. Among the five independent variables, the two of them "physical facilities" (Beta=0.287) and "caring about customers' personalized needs" (Beta=0.324) have more influence than the other three.

Table 4.24 Regression analysis of price fairness factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.730	.533	.529

Table 4.25 Regression analysis of price fairness factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
158.114	.000

Table 4.26 Regression analysis of price fairness factor affecting customer satisfaction in automobile service industry (Coefficients)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.025		8.024	.000		
Performance-price ration of new car	.288	.385	10.817	.000	.887	1.127
Service charge	.211	.279	7.554	.000	.824	1.214
Price of spare parts	.240	.339	9.416	.000	.865	1.157

In the model summary table, the adjusted R^2=.529shows that the factor of price fairness can describe 52.9% of the variation of customer satisfaction. In the ANOVA table, F=158.114 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the three independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the three independent variables. The analysis shows that "performance-price of new car", "service charge", and "price of spare parts", each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 (p=0.000<0.05). Therefore, the $H3_0$ should be rejected. Namely, the result supports that price fairness has a positive effect on customer satisfaction. Among three independent variables, the two of them "performance-price of new car" (Beta=0.385) and "price of spare parts" (Beta=0.339) have more influence than "service charge" (Beta=0.279).

Table 4.27 Regression analysis of CRM system factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.888	.789	.787

Table 4.28 Regression analysis of CRM system factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
517.489	.000

Table 4.29 Regression analysis of CRM system factor affecting customer satisfaction in automobile service industry (Coefficients)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	.690		8.666	.000		
Website information resources	.294	.401	15.585	.000	.768	1.303
24-hour helpline	.233	.312	11.600	.000	.701	1.426
Private information of customers.	.291	.419	16.183	.000	.757	1.320

In the model summary table, the adjusted R^2=.787 shows that the factor of CRM system can describe 78.7% of the variation of customer satisfaction. In the ANOVA table, F=517.489 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the three independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the three independent variables. The analysis shows that “website information resources”, “24-hour helpline”, and “private customers’ information”, each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 (p=0.000<0.05).Therefore, the $H4_0$ should be rejected. Namely, the result supports that CRM system has a positive effect on customer satisfaction. Among three independent variables, the two of them “website information resources” (Beta=0.401) and “private customer’ information” (Beta=0.419) have more influence than “24-hour helpline” (Beta=0.312).

Table 4.30 Regression analysis of convenience factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.831	.691	.689

Table 4.31 Regression analysis of convenience factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
310.626	.000

Table 4.32 Regression analysis of convenience factor affecting customer satisfaction in automobile service industry (Coefficients)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	.926		9.793	.000		
Coverage of service outlets	.249	.374	12.100	.000	.776	1.289
Business hours	.243	.343	10.669	.000	.717	1.394
Providing financial credits	.265	.398	13.713	.000	.882	1.134

In the model summary table, the adjusted R^2=.689 shows that convenience can describe 68.9% of the variation of customer satisfaction. In the ANOVA table, F=310.626 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the three independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the three independent variables. The analysis shows that “coverage of service outlets”, “business hours”, and “providing financial credits”, each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 (p=0.000<0.05). Therefore, the $H5_0$ should be rejected. Namely, the result supports that convenience has a positive effect on customer satisfaction. Among three

independent variables, the two of them “coverage of service outlets” (Beta=0.374) and “providing financial credits” (Beta=0.398) have more influence than “business hours” (Beta=.343).

Table 4.33 Regression analysis of corporate image factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.826	.683	.680

Table 4.34 Regression analysis of corporate image factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
298.191	.000

Table 4.35 Regression analysis of corporate image factor affecting customer satisfaction in automobile service industry (Coefficients)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	.947		9.773	.000		
Service concept	.245	.356	11.185	.000	.755	1.324
Fulfill warranty commitments	.215	.313	10.215	.000	.810	1.234
Concerning about public affairs	.306	.446	15.172	.000	.885	1.130

In the model summary table, the adjusted R^2=.680 shows that corporate image can describe 68% of the variation of customer satisfaction. In the ANOVA table, F=298.191 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the three independent variables and dependent variable at least are significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the five independent variables. The

analysis shows that “service concept”, “fulfilling warranty commitments”, and “concerning about public affairs”, each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 (p=0.000<0.05). Therefore, the $H6_0$ should be rejected. Namely, the result supports that corporate image has a positive effect on customer satisfaction. Among three independent variables, “fulfilling warranty commitments” (Beta=0.313) has less influence than “service concept” (Beta=0.356) and “concerning about public affairs (Beta=.446)”.

Table 4.36 Regression analysis of service recovery factor affecting customer satisfaction in automobile service industry (Model summary)

Model Summary		
R	R Square	Adjusted R Square
.736	.542	.538

Table 4.37 Regression analysis of service recovery factor affecting customer satisfaction in automobile service industry (ANOVA)

ANOVA	
F	Sig.
163.883	.000

Table 4.38 Regression analysis of service recovery factor affecting customer satisfaction in automobile service industry (Coefficients)

Coefficients						
Independent variables	B	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.342		11.834	.000		
Free replacement product or service	.305	.431	10.819	.000	.694	1.441
Apology	.197	.276	7.076	.000	.724	1.381
Financial compensation	.146	.220	6.062	.000	.834	1.199

In the model summary table, the adjusted R^2=.538 shows that the factor of service recovery can describe 53.8% of the variation of customer satisfaction. In the ANOVA table, F=163.883 and Sig.(p-value) at 0.000 which is less than 0.05 (p=0.000<0.05), which indicates that the three independent variables and dependent variable at least are

significantly different from each other, and that the regression model is good to test.

According to the coefficients table, the researcher has tested the principle agreement of the relationship. The tolerance >0.3 and VIF<10 in this table mean that there is no multicollinearity problem between the three independent variables. The analysis shows that “free replacement product or service”, “apology”, and “financial compensation”, each of them has respectively a Sig. (p-value) at 0.000 which is less than 0.05 ($p=0.000<0.05$). Therefore, the $H7_0$ should be rejected. Namely, the result supports that service recovery has a positive effect on customer satisfaction. Among three independent variables, “free replacement product or service” (Beta=0.431) has more influence than “apology” (Beta=0.276) and “financial compensation” (Beta=.220).

3. Results of hypothesis testing

Table 4.39 Results of hypothesis testing

	Hypotheses Statement	Test Results
H1	$H1_o$: Product attributes have no positive effect on customer satisfaction	Rejected $H1_0$
	$H1_a$: Product attributes have a positive effect on customer satisfaction	
H2	$H2_o$: Service quality has no positive effect on customer satisfaction	Rejected $H2_0$
	$H2_a$: Service quality has a positive effect on customer satisfaction	
H3	$H3_o$: Price fairness has no positive effect on customer satisfaction	Rejected $H3_0$
	$H3_a$: Price fairness has a positive effect on customer satisfaction.	
H4	$H4_o$: CRM system has no positive effect on customer satisfaction	Rejected $H4_0$
	$H4_a$: CRM system has a positive effect on customer satisfaction	
H5	$H5_o$: Convenience has no positive effect on customer satisfaction	Rejected $H5_0$
	$H5_a$: Convenience has a positive effect on customer satisfaction	
H6	$H6_o$: Corporate image has no positive effect on customer satisfaction	Rejected $H6_0$
	$H6_a$: Corporate image has a positive effect on customer satisfaction	
H7	$H7_o$: Service recovery has no positive effect on customer satisfaction	Rejected $H7_0$
	$H7_a$: Service recovery has a positive effect on customer satisfaction	

CHAPTER 5

SUMMARY CONCLUSION AND RECOMMENDATIONS

In this chapter, the researcher will assess the results of study findings. This is the concluding chapter of the research project. It will bring the purpose of writing this research into specific context. It will also provide the limitations, recommendations, and suggestions for future studies. The steps as follows:

5.1 Summary

5.2 Discussion of Major Findings

5.3 Limitation of the Study

5.4 Recommendations

5.5 Future Research

5.1 Summary

This study aimed to investigate what factors affect customer satisfaction in automobile service industry in Shanghai, China. In this process, the first step was to screen effect factors based on the three sources including the subject of customer satisfaction in service industry from previous research, several main concerns from China's car owners, and theoretical knowledge in marketing and service management. Then the study assumed each factor has a positive effect on customer satisfaction. The seven assumptive effect factors are: product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery. Lastly, the study applied inferential analysis ─correction analysis and linear regression to explore the probability that the research hypotheses to be supported. Survey questionnaires were used as a research instrument to collect variables data from 420 car owners. The respondents who have cars in Shanghai City, China were chosen as a convenient sample. The demographic profile and the opinions of respondents were analyzed by

using descriptive statistics such as frequency, percentage, mean, and SD. In addition, Pearson correlation coefficient and multiple-regression analysis were employed to test the hypotheses. The results were compiled and presented as follows:

Section 1 was for the general information of the respondents, categorized by gender, age, occupation, monthly income, brand of car, use of car, and service times received from 420 respondents. The researcher found that that the gender of the respondents in this research composed of 62.1% males and 37.9% females. The highest percentage of respondents' age is in the 21-30years old (46.4%). The highest percentage of respondents' occupation belongs to employees (31.4%). The highest percentage of respondents' monthly income is less than 50,000 baht (49.3%). The majority of car brands come from joint venture brand (48.1%). The main use of car is for family (40.5%). In terms of years of buying car, the highest percentage is the group who has bought car for 0-2 years (40.5%). In terms of times of service, the highest percentage is the group who has received service 2-5times last year (63.3%).

Section 2 focused on the factors affecting customer satisfaction of car owners from 420 respondents. The researcher found that the majority of the respondents' opinions were in the high level. It means that each item in questionnaire is important for customer satisfaction. There are eight variables in this study. They are: Product attributes, service quality, price fairness, CRM system, convenience, corporate image, service recovery, and customer satisfaction. Their average mean scores were kept in 3.66 - 3.77 level (e.g., 3.76, 3.75, 3.70, 3.76, 3.75, 3.70, 3.66, and 3.77) and S.D. in 0.8328-0.9339 (e.g., .9125, .9339, .8328, .8483, .9024, .8918, .9195, and .8608).

Section 3 was the hypothesis testing of the factors affect customer satisfaction in automobile service industry in Shanghai, China.

Pearson correlation analysis showed there was a strong and positive relationship between customer satisfaction with the rest of seven variables including product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery because their correlations were kept in 0.725-0.917 level

(e.g., .917, .907, .728, .887, .831, .754, and .725), and p-values (p=0.000) at significant level which were less than 0.01(2-tailed).

In addition, when multiple regressions were used to test whether the seven independent variables (product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery) have positive influence on customer satisfaction (dependent variable) or not, the results offered positive answers. The model summary tables indicated these regression equations have quite high goodness-of-fit with the tested data. Moreover, the F test and t test showed the P-values always were less than 0.05 of significant level (p=0.000<0.05) during seven times regression tests, which meant that under 95% confidence interval, the models were good to test and regression coefficients had statistical significance.

Thus the results indicate that all of null hypotheses should be rejected and the research hypotheses should be supported. Namely, the hypothetical factors including product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery, each of them directly and positively affects customer satisfaction in automobile service industry in Shanghai, China.

5.2 Discussion of Major Findings

This study aimed to investigate what factors affect customer satisfaction in automobile service industry in Shanghai, China. In this study, the outputs of SPSS analysis showed that every hypothetical factor was accepted. So the results of research are consistent with the research hypotheses that were presented in literature review of chapter two. The seven outstanding factors were product attributes, service quality, price fairness, CRM system, convenience, corporate image, and service recovery. They appear to be leading factors to affect the satisfaction of potential buyers and existing customers.

1. Discussion of product attributes

That H1, product attributes have a positive influence on customer satisfaction is

supported. The correlation of two variables has reached 0.917. The factor of product attributes can account for 84.2% variance of customer satisfaction. In addition, the five subdivided factors “new car quality”, “reliability of replacement parts”, “fuel consumption”, “internal configuration”, and “appearance design style” all got much attention from respondents (the average mean scores is 3.76). The study result reflects that customer not only concerned about product basic attributes but also driving experiences. If an automobile company offers car products with high quality, reliable spare parts, attractive design style, comfortable configuration, and lower consumable need to its users, customers would significantly increase their satisfaction.

2. Discussion of service quality

That H2, service quality has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.907. The factor of service quality can account for 82.2% variance of customer satisfaction. In addition, the five subdivided factors “Physical facilities”, “skill level of technicians”, “service speed, “responsibility of service staff”, and “caring about customer’s personalized needs” all got much attention from respondents (the average mean scores is 3.75). The study result reflects that customer highly concerned about tangibility, reliability, responsiveness, assurance, and empathy of service quality. As we know, competition is increasing in tandem with market growth. Increasing competition would decrease the profits on products. For dealerships, customer satisfaction is particularly important because after-sales service is a significant profit center. It accounts for about 50% of overall dealer profit. If automobile companies want to seek more profits, they must pay more attention to improving service quality for customer satisfaction, instead of only focusing on sale performance.

3. Discussion of price fairness

That H3, price fairness has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.728. The factor of price

fairness can account for 52.9% variance of customer satisfaction. In addition, the three subdivided factors “performance-price ratio of new car”, “service charge”, and “price of spare parts” all got much attention from respondents (the average mean scores is 3.70). The fairness price implies that automakers and dealers need to provide product and service customers with reasonable and readily accepted value perception. If a firm delivers high value at a fair price, the perceived value may be high, in turn, customer satisfaction may increase.

4. Discussion of CRM system

That H4, CRM system has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.887. The factor of CRM system can account for 78.7% variance of customer satisfaction. In addition, the three subdivided factors “website information resources”, “24-hour helpline”, and “private information of customers” all got much attention from respondents (the average mean scores is 3.76). CRM System integrates the many communication channels between an organization’s units and customers. If customer perceived that the website information resources are useful and adequate, the 24-hour helpline is efficient and effective, and their private information is protected, they would like to communicate with service center through CRM System, further to trust and rely on it. Therefore, customer satisfaction will be high.

5. Discussion of convenience

That H5, convenience has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.831. The factor of convenience can account for 68.9% variance of customer satisfaction. In addition, the three subdivided factors “coverage of service outlets in the city”, “business hours”, and “providing financial credits” all got much attention from respondents(the average mean scores is 3.75). The modern life of a big city is full of pressure and fast pace, thus people have more needs to various convenience such as convenient time, convenient place, convenient acquisition, and convenience payment. If car owners

experienced that service place and time is convenience, and even that they do not worry about buying car without enough money on hands, their satisfactions certainly are high.

6. Discussion of corporate image

That H6, corporate image has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.754. The factor of corporate image can account for 68% variance of customer satisfaction. In addition, the three subdivided factors "service concept", "fulfilling warranty commitments", and "concerning about public affairs" all got high attention from respondents (the average mean scores is 3.70). A positive corporate image might serve as a proxy for the level of service quality or products feature. The good corporate image represents the organization having good social reputation and strong brand appeal. If car owners perceived positive signals from a firm like highly valuing customers' interests, keeping promise to users, and participating public activity, they will be proud of their car brands. So the satisfactions level will be high.

7. Discussion of service recovery

That H7, service recovery has a positive influence on customer satisfaction is supported. The correlation of two variables has reached 0.725. The factor of service recovery can account for 53.8% variance of customer satisfaction. In addition, the three subdivided factors "free replacement product or service", "apology", and "financial compensation" all got much attention from respondents (the average mean scores is 3.66). Service recovery includes all the actions taken by a company to resolve a service failure. If the company is ready to offer free product or service to a customer for service fail, the customer may feel respected and accept the service recovery happily. If the firm sincerely apologize to customer for unpleasant communication, or provide financial compensation to resolve complaints, these solutions may defuse anger of customers, or manage differences between two sides, or make up the loss of customers. In these ways, customer may feel moved or satisfied. Then, they may stay

in or come back the organization.

5.3 Limitation of the Study

There are many limitations for this study. Firstly, the respondents were only passenger car owners in Shanghai City, China. Therefore, the research finding may not be generalized for other geographical areas that are located on the outside Shanghai areas or, even in other countries. Furthermore, this research was conducted in a specific and limited time period. Thus its finding may be applicable for only a certain specific period of time. In addition, the researcher only selected seven factors on the stand of customer to research these effects on customer satisfaction in automobile service industry. In fact, there are other factors that also directly influence customer satisfaction in some different dimensions. Lastly, some respondents might not have always filled out the questionnaires truthfully due to anonymity.

5.4 Implication and Recommendation

Although development of vehicle production and sale in Chinese automobile market is rapidly rising, automobiles service cannot keep up with the speed of production and sale. Automakers and authorized dealers value production and sale, but ignore service and customer satisfaction, which cause the decrease of customer satisfaction scores and the increase of complaint. Therefore, in nowadays the increasing complexity and competition business environment, the car manufacturers and authorized dealers should attach great importance to improving customer satisfaction and service operations management.

1. Regarding product attributes

The study result of product attributes and customer satisfaction reveals that the former has a positive effect on the later. The basic goal of marketing is to provide the company's products to meet consumers' demand. Thus, the researcher suggests that automobile companies need to pay more attention to product attributes, such as the

product quality, reliability of spare parts, fuel consumption, configuration, and appearance design style because they have considerable influence to customer satisfaction. That the relevant solutions to enhance product attributes may be continuous improving the quality and reliability of product, reducing the fuel consumption, adding more comfort and functions to internal configurations, and providing new style car models.

2. Regarding service quality

The study result of service quality and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that automobile companies should do their best to identify customers' needs and expectations and to create excellent experiences of service quality for potential buyers and existing users. For example, to provide customer with modernized physical equipments and facilities at service area; to train technicians operation skill to enable it meets the professional and experienced level; to optimize service process making the delivery service to be quicker; and to manage to let customer perceived that the staff is responsibility for their duties and is willing to caring about customers' personalized needs.

3. Regarding price fairness

The study result of price fairness and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that manufacturers and authorized dealers should continuously enhance customer satisfaction of price. For example, to tell customer that his or her new car was worth every penny, and to let users know that the services charge and expense of spare parts were considerably reasonable through the price comparing in similar car models between several rivals. Competitive pricing always is attractiveness for customers.

4. Regarding CRM system

The study result of CRM system and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that manufacturers and authorized dealers should continuously enhance customer satisfaction of the

operational efficiency of CRM system. For example, to make firms' website information resources to be rich, attractive, and easy to find; to keep the 24-hour helpline for communication and feedback to be smooth without any block; and to take seriously to private information of customers.

5. Regarding convenience

The study result of convenience and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that manufacturers and authorized dealers should pay more attention to offer a wide range of convenience for customers. For example, to expand service conveniences in various aspects such as location, network coverage, operation hours, and financial credit in order to reduce the amount of time and energy which a consumer has to spend on the service.

6. Regarding corporate image

The study result of corporate image and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that manufacturers and authorized dealers should focus on adding a high value for customer satisfaction through corporate image. For example, to show a service concept with customer-orientation; to be honest to fulfill after-sale warranty commitments; to keep promise for users, and to take on social responsibility such as emission reduction, charitable donation, and other public affairs.

7. Regarding service recovery

The study result of service recovery and customer satisfaction reveals that the former has a positive effect on the later. Thus, the researcher suggests that automakers and authorized dealers should search diversified solutions to enhance customer satisfaction of service recovery. When a service failure and complaint were occurred, they need to take actions immediately to make up the customers' loss both of finance and emotion. For example, to recall cars which had unsafe or emission-related or other defects; to offer free replacement product or service for customer who encountered service failure; to sincerely apologize to customer who received unfriendly services;

and to give refund or price discount or other compensations to handle customer complaint.

8. Conclusion

Robert, Graham, & Michael (2012) stated that satisfaction derived from customers' overall evaluation of the comparison between their perceptions of the product and service with their expectations. It has relations to repeat purchase, customer retention, WOM, customer loyalty, cross-buying intension, low price sensitivity, and gaining profit maximization. Therefore, automobile service corporations should continuously enhance the quality of product and service, provide attractive car models with fair prices, build smooth communication system, offer more conveniences for customer, demonstrate good corporate image, restore broken customer relation, and search the diversified solutions of service recovery, further to create extra value for customer, to satisfy or delight both old and new customers. As long as the manufacturers and dealers in Shanghai, China highly value the above seven effect factors, the customer satisfaction in automobile industry can be significantly improved.

5.5 Suggestions for Further Research

Suggestions for future research are proposed as follows:

a) A study to have lager sample size than 420 or collect data in a wider range not only in Shanghai City in order to interpret research results more accurately.

b) A study to explore more factors that directly affect customer satisfaction in automobile service industry in Shanghai China, such as competitiveness, customer preference, and regional difference.

c) A study to find the changes of customer satisfaction in automobile service industry in Shanghai, China by direct comparing the gathered data that are related to customer satisfaction in several different time periods.

d) A study to comprehensively use quantitative and qualitative research methodologies to investigate customer satisfaction in automobile service industry. In addition, the research should learn more the previous studies related to the subject, and conduct a survey or interview for a longer time in order to research customer satisfaction in automobile service industry in deeply.

REFERENCES

Abratt, R., & Mofokeng, T. N. (2001). Development and management of corporate image in South Africa. *European Journal of Marketing, 35(3/4),* 368–386.

Ahmed, I., Nawaz, MM., Usman, A., Shaukat, MZ., Ahmed, N., & Wasin-ul- R. (2010). Does service quality affect students' performance? Evidence from institutes of higher learning, *African Journal of Business Management, 4 (16).*

Aksoy, L., Cooil, B., Groening, C., Keiningham, T.L. & Yalçin, A. (2008). The Long-Term, Stock Market Valuation of Customer Satisfaction. *Journal of Marketing*, vol. 72, 105-122.

Anderson, E. & Sullivan, M. (1993). The Antecedents and Consequences of Customer Satisfaction For Firms. *Marketing Science, 12,* (2).

Anderson, K., & Kerr, C. (2002) . *Customer Relationship Management.* McGraw-Hill ,New York, P.2.

Andreassen, T. W. & Lindestad, B. (1998), "Customer Loyalty and Complex Services: The Impact of Corporate Image on Quality, Customer Satisfaction and Loyalty For Customers With Varying Degrees of Service Expertise", *Intemational Journal of Service Industry Management,* Vol. 9, No. 1, pp. 7-23

Bell, C. R. (1994), "Tuming Disappointment into Customer Delight [Article]". *Editor and Publisher*, Vol. 127, No. 32, p. 48.

Berry, L., Seiders, K., & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing* 66(July): pp.1– 17.

Bitner, M. J. & Hubbert. (1994). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing, 56,* 57-71.

REFERENCES (Cont.)

Blackwell, R.D., Miniard, P.W. & Engel , J.F. (2004). *Consumer Behavior*, Ninth Edition, South Western Thomson Learning, Ohio, USA

Bolton, R. N., & Lemon. (1999). A dynamic model of customer's usage of services: Usage as an antecedent and consequence of satisfaction. *Marketing Res.*

Bolton, K. N., Lemon, & Verhoef, P. C. (2004), "The Theoretical Underpinnings of Customer Asset Management: A Framework and Propositions for Future Research," *Journal of the Academy of Marketing Science, 32 (July)*, 271–92.

Boshoff, C. (1999). "RECOVSAT: An Instrument to Measure Satisfaction With Transaction-Specific Service Recovery. [Article]", *Journal of Service Research*, Vol. 1, No. 3, p. 236.

Boshoff, C. & Staude, G. (2003). "Satisfaction with Service Recovery: Its Measurement and Its Outcomes. [Article]", *South African Journal of Business Management*, Vol. 34, No. 3, pp. 9-16.

Brink, A., & Berndt, A. (2009). *Relationship Marketing and Customer Relationship Management*, Lansdowne: Juta and Co. Ltd.

Brown, L. G., & Mcenally, M. R. (1993). "Convenience: Definition, Structure and Application," *The Journal Of Marketing Management, 2(2)*, 47-56.

Chen, I.J. & Popovich, K. (2003). Understanding customer relationship management (CRM): People, process and technology. *Business Process Management Journal, 9(5)*, 672–688.

Chinese Association of Automobile Manufacturers statistics (2014), the statistical analysis report in China Association of Automobile Industry, 2014. Retrieved on 18 March, 2014 from http://www.auto-stats.org.cn/

Chinese Automobile Quality Network (2014). The complaints analysis summary report in 2013. Retrieved on 20 March, 2014 from http://www.12365auto.com

REFERENCES (Cont.)

Choi, S., & Mattila, A.S. (2008). Perceived controllability and service expectation: Influences on customer reactions following service. *Journal of Business Research.*

Colgate, M., & Norris, M. (2001) Developing a Comprehensive Picture of Service Failure. *International Journal of Service*

Colwell, S.R., Aung, M., Kanetkar, V., Holden, &Alison, L. (2008). "Toward a Measure of Service Convenience: Multiple-Item Scale Development and Empirical Test," *Journal of Services Marketing, 22(2),* 160-169.

Cöner, A., & Güngör, M.O. (2002). Factors affecting customer loyalty in the competitive Turkish metropolitan retail markets. *Journal of American Academy of Business, Cambridge, 2(1),* 189–195.

Cronin, Jr., & Taylor, S. S. (1992), An Investigation into the Determinants of Customer Satisfaction. *Journal of Marketing Research,* 19- 491.

Economist Intelligence Unit. (2007). CRM Worldwide. www.eiu.com.Erffmeyer, R .C. and Johnson, D.A. 2001. An Exploratory Study of Sales Force Automation Practices: Expectations and Realities, *Journal of Personal Selling and Sales Management, 21 (2),* 167–175.

Ernst, H., Hoyer, W.D., Krafft, M., & Krieger, K. (2011). "Customer relationship management and company performance – the mediating role of new product performance," *Journal of the Academy of Marketing Science,* vol. 39, p. 290–306.

Fornell, C. (1992). A National Customer Satisfaction Barometer: The Swedish Experience. *Journal of Marketing,* Vol. 56, 6-21

Fornell, C. (1992). "A National Customer Satisfaction Barometer: The Swedish Experience," *Journal of Marketing, 56 (January),* 6–22.

REFERENCES (Cont.)

Chung ,B., & Hoffmann K. D. (1998). "Critical Incidents: Service Failures that Matter Most", *Comell Hotel and Restaurant Administration Quarterly*, Vol. 39, No. 3, pp. 66-71

Gotsi, M., & Wilson, A.M. (2001). Corporate reputation: seeking a definition. *Corporate Communications*, *6*(1), 24–30

Gray, E.R., & Balmer, J. T. (1998). Managing corporate image and corporate reputation. *Long Range Planning*, *31*(5), 695–702.

Grönroos, C. (1989). Defining marketing: A market-oriented approach. *European Journal of Marketing*, *23*(1), 52–60

Gronroos, C. (1990). *Service Management and Marketing*, Lexington

Hess J. L., Ganesan, S., & Klein, N. M. (2003). "Service Failure and Recovery: The Impact of Relationship Factors on Customer Satisfaction. [Article] ". *Journal of the Academy of Marketing Science*, Vol. 31, No. 2, pp. 127-14

Hoffman, K.D. & Kelley, S.W. (2000). "Perceived Justice Needs and Recovery Evaluation:A contingency approach". *European Journal of Marketing*, 34:3/4, 418-432

Jakrapan, A., Karin, N., & Bal, C. (2002). Consumer Behaviour of Luxury Automobile: A Comparative Study between Thai and UK Customers' Perceptions, p.1. Retrieved on 8 November, 2014, from http://www.economicswebinstitute.org/essays/carthai.pdf

J.D. Power Asia Pacific, (2009-2013). China Sales Satisfaction Index (CSI) Study. Retrieved on 20 April, 2014 from http://china.jdpower.com/en/news

J.D. Power Asia Pacific (2012, 2013) China Customer Satisfaction Index (SSI) Study. Retrieved on 20 April, 2014 from http://china.jdpower.com/en/news/

REFERENCES (Cont.)

Johnston, R. & Fern, A. (1999). Service recovery strategies for single and double deviation scenarios. *The Service Industries Journal*, *19(2)*, 69–82.

Keller, K.L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1–22.

Kotler, P., & Keller, K. L. (2009). *Marketing management* (13th end). New Jersey: Pearson Education Inc, Upper Saddle River.

Krasnikov, A., Jayachandran, S., & Kumar, V. (2009) "The Impact of Customer Relationship Management Implementation on Cost and Profit Efficiencies: Evidence from the U.S. Commercial Banking Industry," *Journal of Marketing*, vol. 73, p. 61–76.

Lee, J. K. & Ritzman, L. P. (2005). *Operations Management; Process and value Chains.* (7th edition) New Jersey: Person education

Lee,J., Kim, H., Ko,Y.L. & Sagas, M. (2011). The influence of service quality on satisfaction and intention: a gender segmentation strategy. *Sport Management Review*, Vol. 14, pp. 54-63.

Levene, H. (1960). *Rubust tests for equality of variance*, in Contributions to Probability and Statistics, ed. I. Olkin, Palo Alto, CA: Stanford Univ. Press

Lewis, B.R., & McCann, P. (2004). Service failure and recovery: Evidence for the hotel industry. *International Journal of Contemporary Hospitality Management*, 6(1), 6–17.

Liang, X. & Zhang, S. (2009). Investigation of customer satisfaction in student food service: An example of student cafeteria in NHH. *International Journal of Quality and service Sciences, 1(1)*, 113-124

REFERENCES (Cont.)

Liao, H. (2007). "Do it Right This Time: The Role of Employee Service RecoveryPerformance In Customer-perceived Justice and Customer Loyalty after Service Failures". *Journal of Applied Psychology,* Vol. 92, No. 2, pp. 475-489

Liou, J. H. (2008). "A novel decision rules approach for customer relationship management of the airline market". *Expert System with Application,* vol. 36(3), p. 4374–4381.

Malhotra and Birks, (2003). *"Marketing research: An Applied Approach".* Second Edition, Pearson Prentice-Hall

Martin C. D., Molina, A., & Esteban, A. (2007). "An integrated model of price, satisfaction and loyalty: an empirical analysis in the service sector". *Journal of Product & Brand Management,* vol. 16(7), p. 459-468.

Mascarenhas, O. A., Kesavan, R., & Bernacchi, M. (2006). Lasting customer loyalty: a total customer experience approach. *Journal of Consumer Marketing, 23*(7), 397-405.

Michel, S. (2001). "Analyzing Service Failures and Recoveries: A Process Approach". *International Journal of Service Industry Management,* Vol. 12, No. 1, pp. 20-33

Miller, J.L., Craighead, C.W., & Karwan, K.R. (2000). Service recovery: A framework and empirical investigation. *Journal of Operations Management, 18(4),* 387–400.

N'Goala, G. (2007). Customer switching resistance-the effect of perceived equity, trust and relationship commitment. *International Journal of Service Industry Management, 18(5),* 510–533.

REFERENCES (Cont.)

Oliver R. L. (1977). Effect of Expectation and Disconfirmation on Post exposure Product Evaluations - an Alternative Interpretation. *Journal of Applied Psychology*, 62(4), p. 480. Retrieved on 25 April, 2014 from http://en.wikipedia.org/wiki/Expectation_confirmation_theory

Oliver, R L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 460-469. Retrieved on 22 April, 2014 from http://en.wikipedia.org/wiki/Expectation_confirmation_theory

Oliver, R. L. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach. *Journal of Marketing, 53*, 21-35.

Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer.* New York, NY: McGraw-Hill.

Palmatier, R.W., Jarvis, C.B., Bechkoff, J.R ., & Kardes, F.R. (2009). The Role of Customer Gratitude in Relationship Marketing. *Journal of Marketing*, vol. 73(5), p. 1–18.

Parasuraman, et al.(1988). SERVQUAL; A Multiple Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, Vol.64, No.1, (Spring), 12-40.

Peter, K. (2008). *Kundenbindung* German, 3. Auflage, Berlin: Cornelsen Verlag Skriptor GmbH & Co KG 2008. Retrieved on 10 July, 2014 from http://en.wikipedia.org/wiki/Service_quality

Rust, R., & Oliver L. R. (1994). Service Quality: Insights and Managerial Implications from the Frontier. *Sage Publications*, p. 1-2.

REFERENCES (Cont.)

Robert, J., Graham, C., & Michael, S. (2012). *Service operations management improving service delivery, (fourth edition).* p.102. Pearson Education Limited Edinburgh Gate Harlow Essex CM20 2JE England.

Seiders, K., Berry, L., & Gresham, L. (2000). Attention retailers! How convenient is your convenience strategy? *Sloan Management Review 41(3)*:79–89.

Seiders, K., Voss, G. B., Grewal, D., & Godfrey, A. L. (2005). Do satisfied customers buy more? Examining moderating influence in a retailing context. *Journal of Marketing, 69,* 26–43.

Seiders, K., Voss, G. B., Godfrey, A. L., & Grewal, D. (2007). "*SERVCON*: Developing and Validation of a Multidimensional Service Convenience Scale," *Journal of the Academy of Marketing Science, 35(1),* 144-156.

Selnes, F. (1993). An examination of the effect of product performance on brand reputation, satisfaction and loyalty. *European Journal of Marketing, 27*(9), 19–35.

Shanghai Academy of Social Sciences, (2012). 2012 Shanghai Automobile Industrial Development. Retrieved on 28 March, 2014 from http://www.shanghai.gov.cn/shanghai/node2314/node2315/node4411/u21ai657760.html

Shanghai International Automobile Industry Exhibition, (2013). Retrieved on 2 May, 2014 from http://www.autoshanghai.org/Zh/Index.aspx

Shanghai Statistical Bulletin. (2013). Shanghai City Statistical Bulletin of the Development of National Economy and Society in year 2013. Retrieved on 21 May, 2014 from http://www.stats-sh.gov.cn/sjfb/201402/267416.html

REFERENCES (Cont.)

Smith, A.K. & Bolton, R.N. (1998) "An Experimental Investigation of Customer Reactions to Service Failure and Recovery Encounter: Paradox or peril?" *Journal of Service Research, 1:1,* 65-81.

Söderlund, M. & Rosengren, S. (2010). "The happy versus unhappy service worker in the service encounter: Assessing the impact on customer satisfaction". *Journal of Retailing and Consumer Services*, vol. 17, p. 161–169.

Souitaris,V., & Balabanis,G. (2007).Tailoring online retail strategies to increase customer satisfaction and loyalty. Long Range Planning, 40, 244–261.

Sparks, B.A. & McColl-Kennedy, J.R. (2001) "Justice Strategy Options for Increased Customer Satisfaction in a Services Recovery Setting", *Journal of Business Research, 54:3,* 209-218.

Sundaram D. S., Jurowski, C., & Webster, C. (1997). "Service Failure Recovery Efforts in Restaurant Dining: The Role of Criticality of Service Consumption", *Hospitality Research Joumai* Vol. 20, No. 3, pp. 137-149

Tansuhaj, P., Randall, D., McCullough, J. (1991). "Applying the Internal Marketing Concept Within Large Organizations: As Applied to a Credit Union". *Journal of Professional Services Marketing* (*Taylor & Francis) 6 (2)*: 193–202. doi:10.1300/J090v06n02_14. Retrieved from http://en.wikipedia.org/wiki/Customer

Wang Y. & Hing-Po L. (2002.) Service quality, customer satisfaction and behavior intentions: *Evidence from China's telecommunication industry, 4*(6), 50-60.

Taro Yamane (1967). *Statistics: An Introductory Analysis, 2nd Ed*. New York: Harper and Row. Retrieved from http://edis.ifas.ufl.edu/pdffiles/pd/pd00600.pdf

Wilson A., Zeithaml V.A., Bitner M.J., & Gremler D.D. (2008) *Services Marketing*, McGraw-Hill Education

REFERENCES (Cont.)

Woodruff, R., Scott, C., Schumann, D., Gardinal, S. & Bums, M. (1991).The Standards Issues in CS/D Research: A Historical Perspective. *Joumal of Consumer Satisfaction and Dissatisfaction and Complaining Behavior,* Vol. 4.

Yieh, K., Chiao, Y. & Chui, Y. (2007). Understanding the Antecedents to Customer Loyalty by Applying Structural Equation Modeling. *Total Quality Management*, vol. 18(3), p. 267–284.

Zeithaml, V. A. & Bitner, M. J. (2000). *Services Marketing: Integrating Customers Focus Across the Firm*, Second Edition, Boston, MA.: McGraw-Hill.

Zeithaml, V.A., Parasuraman, A. & Berry, L.L. (1990). Delivering Quality Service - Balancing Customer Perceptions and Expectations. *The Free Press*, New York, NY.

Zikmund,W.G.(2000). *Business Research Methods (6th edition)*.USA: Harcout

Zikmund, W.G., Babin, J. B., Carr, C. C., & Griffin, M. (2010). *Business Research Methods* (*8th Edition)*, p.336-339. U.S, South-Western Cengage Learning.

APPENDIX A

SURVEY QUESTIONNAIRE

(ENGLISH VERSION)

QUESTIONNAIRE

I am a student from Stamford International University MBA (International). At first, I very appreciate you for filling out this questionnaire. It is a part of my academic research in order to complete MBA programs. All feedback information from this questionnaire will be treated with high confidentiality and only used for education purpose. Please complete all questions truthfully by marking"√" in □ or filling in the space given below. The following questions are separated into 2 parts:

Part A: General information

1. Gender:

   □ Male □ Female

2. Age:

   □ 18-30 years old □ 31-40 years old

   □ 41-50 years old □ More than 50 years old

3. Occupation:

   □ Official □ Business owner □ Employee

   □ Freelancer □ Student □ Other

4. Monthly income:

   □ Less than 50,001 baht □ 50,001 baht - 100,000 baht

   □ 100,001 baht - 150,000 baht □ More than 150,000 baht

5. Your car brand comes from:

   □ Import brand □ Joint venture brand □ Domestic brand

6. The years you bought your car are:

   □0-2years □ 3-4years □ 5-6years □ More than 6 years

7. The use of your car is for:

   □ Family □ Job □ Business □ Others

8. The times of automobile service you received in the past year.

□ Only one □ 2- 5 times □ 6-10 times □ More than 10 times

Part B: The respondents' attitude towards "the factors affecting customer satisfaction in automobile service industry in Shanghai, China".

Please rate your opinions toward the following factors that affect customer satisfaction in China's automobile service industry. Please choose only one that is the best description of your feelings from per question. (Consider **1** as the most disagreement, **5** as the most agreement, and **0** as "I don't know")

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	I don't know
1	**2**	**3**	**4**	**5**	**0**

Product Attributes	**1**	**2**	**3**	**4**	**5**	**0**
New car quality influences my satisfaction						
Reliability of replacement parts influences my satisfaction						
Fuel consumption influences my satisfaction						
Internal configuration influences my satisfaction						
Appearance design style influences my satisfaction						
Service Quality (tangibility, reliability, responsiveness, assurance, empathy)	**1**	**2**	**3**	**4**	**5**	**0**
Physical facilities at service centre influence my satisfaction						
Skill level of technicians influences my satisfaction						
Service speed of car repair and maintenance influences my satisfaction						
Responsibility that service staff showed influences my satisfaction						
Whether service staff care about customer's personalized needs influences my satisfaction						
Price Fairness	**1**	**2**	**3**	**4**	**5**	**0**
Performance-price ratio of new car influences my satisfaction						
Services charge influences my satisfaction						
Price of spare parts influences my satisfaction						

Customer Relationship Management (CRM) System	**1**	**2**	**3**	**4**	**5**	**0**
Website information resources of service company influences my satisfaction						
Efficiency of 24-hour helpline for intercommunication influences my satisfaction						
The approach that service centre handle private information of customers influences my satisfaction						
Convenience	**1**	**2**	**3**	**4**	**5**	**0**
Coverage of service outlets in the city influences my satisfaction						
Business hours offered by service centre influences my satisfaction						
Availability of financial credits for buyers influences my satisfaction						
Corporate Image	**1**	**2**	**3**	**4**	**5**	**0**
Whether the service company demonstrates a service concept with customer-orientation influences my satisfaction						
Whether the authorized dealer is honest to fulfill warranty commitments influences my satisfaction						
Whether the manufacturer concern about public affairs influences my satisfaction						
Service Recovery	**1**	**2**	**3**	**4**	**5**	**0**
Whether the manufacturer offers free replacement product or performing service to resolve fail influences my satisfaction						
Whether service center apologizes to customer who received unfriendly services influences my satisfaction						
Whether service center gives financial compensation to handle customer complaint influences my satisfaction						
Customer satisfaction	**1**	**2**	**3**	**4**	**5**	**0**
Overall, production attributes influence my satisfaction						
Overall, service quality influences my satisfaction						
Overall, price fairness influences my satisfaction						
Overall, customer relationship management (CRM) system influences my satisfaction						
Overall, convenience influences my satisfaction						
Overall, corporate image influences my satisfaction						
Overall, service recovery influences my satisfaction						

Thank you for your cooperation. Have a pleasant driving experience

APPENDIX B

SURVEY QUESTIONNAIRE

(CHINESE VERSION)

调查问卷

我是一名斯坦福国际大学的学生。首先非常感谢您能填写这份问卷，这是我的商务管理课程所需的学术研究的一个项目。所有的反馈信息都会被视为是高度机密的且仅用于学校教育。请在方框内打勾或在空格内标记。以下问题分为两个部分。

第一部分：基本信息

1. 性别:

   □男　　□ 女

2. 年龄:

   □ 18-30 岁　　□ 31-40 岁

   □ 41-50 岁　　□50 岁以上

3. 职业:

   □ 公务员　　□ 企业主

   □ 员工　　□ 自由职业者

   □ 学生　　□ 其他

4. 月收入:

   □ 10,000 元及以下　　□ 10,001 元 - 20,000 元

   □ 20,001 元 - 30,000 元　　□ 超过 30,000 元

5. 您的爱车的品牌是属于:

   □ 进口品牌　　□ 合资品牌　　□ 国产品牌

6. 您买汽车的年数是:

   □ 0-2 年　　□ 3-4 年　　□ 5-6 年　　□ 超过 6 年

7. 您的汽车用途是:

   □ 家用　　□ 上下班　　□ 公务　　□ 其他

8. 去年您的车子接受服务的次数.

□ 仅一次 □ 2- 5 次 □ 6-10 次 □ 超过 10 次

第二部分：受访者关于“上海汽车服务行业顾客满意度的影响因素”的态度反应

请您评价以下几个影响上海汽车服务行业客户满意度的因素。请您为每个问题选择一个最接近您的态度的描述。（**5** 代表强烈同意，**1** 代表强烈不同意，**0** 表示 “我不知道”。）

强烈不同意	不同意	不同意也不反对	同意	强烈同意	我不知道
1	**2**	**3**	**4**	**5**	**0**

产品属性	**1**	**2**	**3**	**4**	**5**	**0**
新车质量会影响我的满意度						
零部件的可靠性会影响我的满意度						
耗油量会影响我的满意度						
车内配置会影响我的满意度						
车型设计风格会影响我的满意度						
服务质量 (有形性，可靠性，响应性，保证性，移情性)	**1**	**2**	**3**	**4**	**5**	**0**
服务中心的有形设施会影响我的满意度						
技工的技能水准会影响我的满意度						
维修中心的服务速度会影响我的满意度						
服务员工的敬业精神会影响我的满意度						
服务中心是否注重顾客的个性化需求会影响我的满意度						
价格公平性	**1**	**2**	**3**	**4**	**5**	**0**

新车的性价比会影响我的满意度						
服务收费会影响我的满意度						
零配件的价格会影响我的满意度						
客户关系管理系统	**1**	**2**	**3**	**4**	**5**	**0**
汽车公司的网站信息资源会影响我的满意度						
24 小时客服电话的工作效率会影响我的满意度						
服务中心能否慎重对待顾客的个人信息会影响我的满意度						
便利性	**1**	**2**	**3**	**4**	**5**	**0**
汽车特约服务网点在本市的覆盖率会影响我的满意度						
服务中心的营业时间会影响我的满意度						
汽车制造商能否为买车者提供便利的金融贷款会影响我的满意度						
公司形象	**1**	**2**	**3**	**4**	**5**	**0**
授权经销商的服务理念是否以客户为导向会影响我的满意度						
授权经销商是否认真履行合同上的售后质保承诺会影响我的满意度						
制造商是否关注公益事业会影响我的满意度						
服务补救	**1**	**2**	**3**	**4**	**5**	**0**
制造商是否为遭遇服务失败的车主提供免费的替换品或服务会影响我的满意度						
服务中心是否愿意为不友好的服务而向顾客道歉会影响我的满意度						
服务中心是否为投诉的顾客提供经济补偿会影响我的满意度						

客户满意度	**1**	**2**	**3**	**4**	**5**	**0**
全面的产品属性会影响我的满意度						
全面的服务质量会影响我的满意度						
全面的价格公平性会影响我的满意度						
全面的客户关系管理系统会影响我的满意度						
全面的便利性会影响我的满意度						
全面的企业形象会影响我的满意度						
全面的服务补救会影响我的满意度						

感谢您的合作，祝您一路平安，驾驶愉快！

BIOGRAPHY

NAME Miss Yueqin Yu

DATE OF BIRHT 20 April, 1972

EDUCATION

BACHELOR DEGREE Bachelor of Business Administration
East China University of Political Science and Law

MASTER DEGREE Master of Business Administration
Stamford International University

NATIONALITY China

HOME ADDRESS: Room 106, Building 6, Lane 165, Changningzhi Road, Shanghai City, China

EMAIL ADDRESS yueqin.y@stamford.edu
2531224346@qq.com