

**EFFECT OF AFTER SALE SERVICES ON CUSTOMER SATISFACTION
AND LOYALTY IN AUTOMOTIVE INDUSTRY OF ETHIOPIA**

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**ADDIS ABABA UNIVERSITY
COLLEGE OF MANAGEMENT, INFORMATION AND ECONOMICS SCIENCE
MASTER OF BUSINESS ADMINISTRATION PROGRAM**

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**A Thesis Submitted to the School of Graduate Studies of Addis Ababa
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Master of Business Administration**

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Dedication

This paper is dedicated to my previous work.

“Sometimes in order to see the light, you have to risk the dark!!!”

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Abbreviations and Acronyms

CRM	Customer Relationship Management
ETB	Ethiopian Birr
ETC	Ethiopian Telecommunication Corporation
FDRE	Federal Democratic Republic of Ethiopia
IT	Information Technology
PLC	Private Limited Company
QFD	Quality Function Deployment
SERVQUAL	Service Quality
SPSS	Statistical Package for Social Science
TVET	Technical and Vocational Education Training
ANOVA	Analysis of Variance
JIT	Just In Time
PDI	Pre- Delivery Inspection

Abstract

To be successful, organizations must look into the needs and wants of their customers. Customer satisfaction is important because many researches have shown that customer satisfaction has a positive effect on organization's profitability. Not only the product they purchase can satisfy customers, but also by the service they got from the organization. The main objective of this study is to asses either after sale services that are offered to customers just after the sales stage have an effect on customer satisfaction and loyalty in the automotive industry.

Data was collected from 167 after sale service customers through questionnaire, 3 after sale service technician coordinators and 3 foremen at Holland Car PLC and MOENCO respectively, and 1 after sale service manager in each company through interview. The techniques of analysis used in this study are descriptive (frequency, percentage, and mean) and inferential analysis (regression correlation and Chi-square test). Customer satisfaction coefficient formulae were used to measure and quantify the relationships between customer satisfaction and customer requirements as depicted in Kano's model.

Results indicate that discovered after sale services (maintenance, spare parts supply, telephone service, warranty, car washing, , and documentation services) has effect on customer satisfaction and loyalty, and after sale service satisfaction and loyalty has positive relationship. In addition different companies provide same after sale service in different way, and the way their offer the service for their customer has a significant difference on the satisfaction of customers.

Key words: After sale service; Customer satisfaction; Customer loyalty; Kano model.

CHAPTER ONE: INTRODUCTION

1.1. Background

Customers play an important role in every business. The main purpose of every business is to satisfy its existing customers and to attract new customers. Satisfaction of customer is so basic that, it cannot be considered as a separate function in business.

According to Posselt and Eitan (2005), improved customer satisfaction will lead to improved customer loyalty, which will eventually improve profit. In order to satisfy our customers, we have to focus on effective customer services to meet their needs.

Customers satisfied by the product they purchased and by the service they got from sellers during and after they purchase the product. In Ethiopia, it is common to hear and read words like “sold goods could not be returned” from small shops and supermarkets to big companies. This shows that the relationship between buyers and sellers cease after the delivery of goods or services. As Kotler (2002) stated, selling process should go beyond the delivery of goods and services and there should be “follow – up” step that a company should apply to ensure customer satisfaction and repeat business to make sure that there was proper installation, instruction and service. However, what the principle says and the reality in Ethiopia differs except in very few electronics businesses, which has warranty as a part of after sale service, few automobile companies that has after-sales Service Station and Ethiopian Telecommunication Corporation (ETC), which has post sale service for mobile and fixed line telephone services.

While many companies in Ethiopia cease their relationship with their customers after they sold their products. Eventually, Federal Democratic Republic of Ethiopia (FDRE) (2010) has issued proclamation called “trade practice and consumers protection” under proclamation number 685/2010 in accordance with article 55(1) of FDRE constitution, which have been enter in to force starting from 16th of August, 2010.

According to the proclamation:

“Without prejudice to warranties on goods or legal or contractual provisions more advantageous to the consumer, where the consumer finds defect in the good, he may demand the replacement of the good or a refund within in fifteen days from the date of purchase of the goods.”

Many companies in Ethiopia have no after sale service and they do not understand benefit of giving after sale service. According to Ehinlanwo and Zairi (1996), delivery of after-sales service is becoming increasingly critical as businesses do everything in their power to be more cost-effective, boost profit margins, and meet customer demand for a product or service. In addition, Potluri and Hawariat (2010) shows that the offerings in product design, technology and price are becoming increasingly difficult to differentiate products as a result, companies have to provide after sale service for their customers. Among these automobile sellers provide after sale service for their customers as the nature of the product requires continuous follow up and inspection, because vehicles are vulnerable to technical and mechanical problems as a result of long time service.

As a result, automotive suppliers provides after sale services for their customers in order to satisfy those customers and to make them loyal. Since after sale service is not common in Ethiopia, as the researcher's knowledge is concerned, the researcher could get only one research conducted in after sale service behavior of telecom customers by Potluri and Hawariat (2010) using SERVQUAL model to measure the service quality and customer satisfaction. Hence, the researcher wants to assess the effect of automotive companies after sale services on the customer satisfaction and loyalty at Holland Car PLC and MOENCO using Kano model that is different from SERVQUAL. Because these companies have after sale service with different experience i.e MOENCO has 50 years of experience and Holland Car PLC has only 6 year experience. As a result, the researcher assessed the effect of after sale services on customer satisfaction and loyalty in those companies.

1.2. Statement of the Problem

According to Gandhi (n.d), „a customer is the most important visitor on our premises, he/she is not dependent on us, we are dependent on him/her. He/she is not an interruption in our works; he/she is the purpose of it. We are not doing him/her a favor by serving him/her; he/she is doing us a favor by giving us an opportunity to do so“. In addition, Kotler (2002) stated that, it is no longer enough to satisfy customers. We must delight them. As Smith (2007) shows customer satisfaction is critical to any product or service, because it is a strong predictor of customer retention, customer loyalty and product repurchase. On the other hand, according to Lin (2009), only 4 percent of dissatisfied customers complain, and eventually one dissatisfied customers tells nine other people about the problem.

Hence, customer satisfaction plays an important role for the success and continuous existence of the company. Ehinlanwo and Zairi (1996) shows that the offerings in product design, technology and price are becoming increasingly difficult to differentiate products. According to Foss and Stone (2001), increasing competition in the automotive market combined with rapid development of new customer service technologies has increased the focus on enhancing the customer relationship. As the nature of the products (vehicles) in the automotive industry is highly vulnerable to technical and mechanical problems, effective after sale service is very essential in order to attract new customers and retain existing customers.

As stated in the introduction part, after sale service is not familiar in Ethiopia and many companies that have after sale services did not conduct a research on after sale service and its effect on customer satisfaction, and the implication of not having after sale service was not investigated. Though Potluri and Hawariat (2010) conducted a study in the area after sale service in Ethiopia, the research was conducted in after sale service behavior of telecom customers using SERQUAL model, it is not enough to generalize the effect of after sale service on customer satisfaction. Thus, it was appropriate to study the effect of after sale service on customer satisfaction using another model like Kano model and in different organization. As a result, the researcher wants to assess the effect of after sale services on customer satisfaction and loyalty on the automotive industries in Holland Car PLC and MOENCO.

To achieve the intended purpose as well as the research problem stated above, the researcher has designed the following research questions.

- Does after sale services offered by automotive companies have an effect on customer satisfaction and loyalty?
- What are after sale services offered in the selected automotive industry?
- Does each after sale service offered by different companies have different effect on the satisfaction of customers?
- Does customer satisfaction have a relationship with customer loyalty in the after sale service of automotive industry?
- What challenges does the selected automotive companies faced in implementing after service?

1.3. Objective of the Study

The main objective of this two-phase, sequential exploratory mixed methods study is to assess either after sale services that are offered to customers just after the sales stage have an effect on the overall customer satisfaction and loyalty.

The specific objectives of this study are:

1. To identify the components of after sale services offered in the selected automotive industry;
2. To compare the effect of the identified after sale services in the satisfaction of customers in the selected automotive industry;
3. To identify the relationship between customer satisfaction and customer loyalty in the after sale service of automotive industry;
4. To identify the challenges of implementing after sale services in the selected automotive industry;

1.4. Scope and Limitation of the Study

The study was conducted in Holland Car PLC, car assembly plant which is first of its kind in Ethiopia and in MOENCO which is first car supplier in Ethiopia. Furthermore, only Holland Car PLC and MOENCO after sale service employees and Holland Car PLC and MOENCO (Yaris car owner) after sale service customer who got after sale service more than once have been

incorporated in the study. The major limitation of the study was the failure to incorporate government and non-government organization customers of selected automotive companies and other brand owners of MOENCO. In addition, other variables such as new model vehicles, preference of brand (Abay, Awash, Tekeze and TOYOTA), and so on may affect customer satisfaction and loyalty in the automotive industry.

1.5. Significance of the Study

The subject matter of this proposed study can add value on the effect of after sale services on customer satisfaction and loyalty to the literature depending on Kano model and disconfirmation theory and to those researchers who would like to pursue their research on after sale service in Ethiopia, because the introduction of after sale service in Ethiopia is a recent phenomenon. In addition, the paper can benefit firms in the automotive industry. Moreover, it can benefit Holland Car PLC and MOENCO, because it draws attention where corrective action is necessary to satisfy and delight customers in after sale service and to make customers loyal.

1.6. Organization of the Paper

The study organized into five chapters. Chapter 1 provides a brief background to the study, discusses the research problem and significance of the study. Chapter 2 reviews previous research on after sale service, customer satisfaction, customer loyalty and their relationship. Chapter 3 presents the organizational background and methodology adopted in the study. Chapter 4 presents the result and discussion. Chapter 5 draws summary and conclusions and provides recommendations.

CHAPTER TWO: LITERATURE REVIEW

In Ethiopia, the history of vehicle traced back to the regime of emperor Minilik II. As the Ethiopian transport authority has shown, currently the total number of vehicles which had got codes in Ethiopia is 344,131.¹ Out of which 70 % of them are found in Addis Ababa town and the rest 30% are found out of Addis Ababa.

Eskinder (2007), on his study of the automotive industry and trend analysis in Ethiopia, stated Ethiopia's automotive industry as one of the major contributors to the national economy. In addition as he stated Ethiopia imports all of its automotive (vehicle) needs, it does not manufacture automotive. In Ethiopia the key suppliers of commercial trucks with respective mark of trucks are AMCE (IVECO), EIG (SCANIA), EBG (VOLVO), ORBIS (MERCEDES), Nyala Motors (Nissan Diesel), National Motors (ISUZU), Ethio Nippon (MITSUBISHI) , HAGBES (DAEWOO) and MOENCO. As shown in the figure below, the number of imported vehicles increases from 2007-2010.

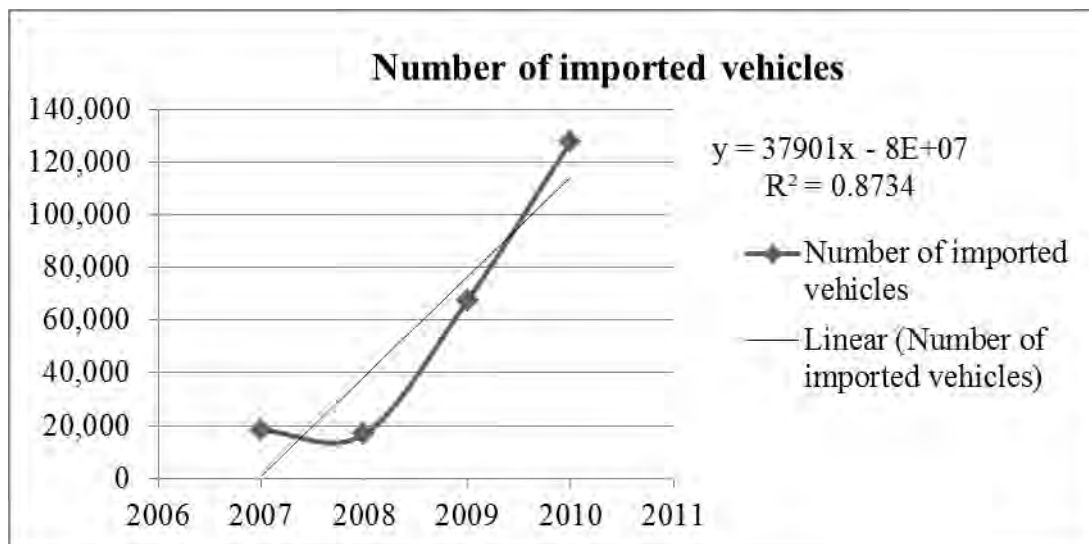


Figure 1: Number of imported vehicles 2007-2010

Source: Ethiopian Revenue and Custom Authority².

¹ Data collected on 22/07/2003 E.C

² Data collected on 1/08/ 2003 E.C

Recently some companies assemble and build bodies for buses and dry and wet cargoes. Companies like Holland Car PLC, Lifan Motors, Mesfin Industrial Engineering and Maru Metals PLC are automotive assemblers in Ethiopia. Currently in Ethiopia the competition between those companies is tough. According to Eskinder (2007), the competition is on many factors including price, dependability and performance, after sales service support, resale value and good will.

Ethiopia is characterized with low car penetration and old cars, new car market is estimated at less 4000 units of car penetration among the lowest in the world and the average age of the cars in the country is estimated at 15 years. In Ethiopia TOYOTA has large market share and clear leadership position (market share around 50%)³.

According to Foss and Stone (2010), increasing competition in the automotive market combined with rapid development of new customer service technologies has increased the focus on enhancing the customer relationship. In addition, as the nature of the products (vehicles) in the automotive industry is highly vulnerable to technical and mechanical problems, effective after sale service is very essential.

Customers are necessary for the continuous existence of an organization. Since the survival of any business is dependent on customer, the main purpose of every business should be satisfying its existing customers and attract a new customer. Hence, in order to be successful, organizations have to continuously measure satisfaction level of their customers in order to assure their existence in the market. Now a day's many organizations measure the satisfaction and loyalty of their customer on service they offer after they sold the product.

In light of the above induction, the aim of this chapter is to review literature on after sale service, customer satisfaction, customer loyalty and their relationship. Accordingly, the review literature will help to establish the conceptual framework for the proposed study and highlights previous studies on effect of after sale service on customer satisfaction and loyalty. The review has six sections. The first section presents the literature about after sale service, while the second and third section deals with customer satisfaction and customer loyalty respectively. The fourth section presents the theory of after subservice and customer satisfaction. Finally, the conclusion

³ <http://www.moencoethiopia.com>

and knowledge gaps have shown next to empirical studies on after sale service and customer satisfaction.

2.1. After Sale Service

2.1.1. Definition of after sale service

According to Adrian, et al. (1995) in today's marketing environment, an increasingly important source of competitive advantage is the way we serve customers. In recent years, more and more organizations focus their attention on retaining existing customers rather than attracting new ones. According to Kotler (2002), attracting a new customer is five times greater than the cost to keep a current customer happy. Gaiardelli, et al. (2007) define after sale service as those activities taking place after the purchase of the product and devoted to supporting customers in the usage and disposal of the goods to make them loyal. While according to Rigopoulou, et al. (2008) after-sales services are often referred to as "product support activities", meaning all activities that support the product-centric transaction. Furthermore, as stated in Potluri and Hawariat (2010) the term "after-sales services" has been approached in the literature under two broad perspectives. When referring to service providing companies, after-sales services are being treated as one among several supplementary service elements provided. On the other hand, when referring to tangible goods, they are mostly seen as operative activities of some or all members of the distribution chain.

2.1.2. Objectives of after sale service

According to Loomba (1998), the main objective of the after-sales is to keep the customer satisfied through trust, credibility and sense of security conveyed by the organization, and building lasting relationships that contribute to increased performance for sustainable results. Forooz and Rostami (2006) have shown after sale service advantages like:-

- Competitive advantage
- Customer satisfaction
- Long- term customer relationship , customer retention and loyalty
- New product success and development
- High profit

- Differentiation
- Branding

Gaiardelli, et al. (2007) said an effective after-sales service protocol is essential to streamline service management and meet customer's expectations, it can let you experience customer delight, while also saving on your bottom-line and it generates profit. Henley center headlight vision (Anon., 2007) shows more than 1,800 customers who had purchased all the automotive brands sold in the U.S, Excellent service not only reinforces relationships with customers who already feel loyal to a brand. It can also defuse ill will that causes disaffected customers to bad-mouth the brand. According to Potluri and Hawariat (2010), delivery of after-sales service is becoming increasingly critical as businesses do everything in their power to be more cost-effective, boost profit margins, and meet customer demand for a product or service.

However, most of the business organizations are not aware about the after-sales service factors and its impact towards the customer satisfaction. Failing to realize the importance of the factors can lead to a disastrous and threatening business relationship. This may lead dissatisfied customers switch to a competitor or the company lose potential for new customers due to negative word-of-mouth effect. Hence, every business should know the objective and importance of having after sale service and implement it to satisfy customers and make them loyal.

2.1.3. Components of after sales service

Goffin (1999) explains seven elements of after sale support which must be provided to customers over the working lifetime of product as follows.

- ❖ **Installation:** - for many products the first element of product support following the sale is installation. This is usually performed for complex product or where personnel from the manufacturing company or their representatives involve safety issues.
- ❖ **User training:** - the complexity of some type equipment necessitates that manufacturers provide good training for users. Many computers based and complex products include functions that help users learn to use them more efficiently.
- ❖ **Documentation:** - most products have some form of documentation and industries such as medical electronics plays key role. Typical form of documentation covers equipment operation, installation, maintenance, and repair. Good documentation can lead to lower support cost.

- ❖ **Maintenance and repair:** - maintenance and repair are an important element of product support, which has required companies to invest significant resource. Preventive maintenance is undertaken to clean, refurbish or replace parts of equipment which otherwise would be liable to fail. Mechanical parts, for example, normally require regular maintenance as in the case of cars.
- ❖ **Online support:** - telephone advice on product is a major element of customer support in many industries. Product experts give online consulting to customers to help them use products more or, sometimes to trace the cause of fault (troubleshooting).
- ❖ **Warranties:** - manufacturers of most products offer warranty and, in some markets such as automobiles. Manufacturers try to gain a competitive advantage by offering longer warranty periods. Warranty reduces the financial risk of owning products and therefore it is an important element of customer support.
- ❖ **Upgrades:** - offering customer the chance to enhance the performance of the existing products can be an important aspect of support. For example, computer manufacturers offer upgrades, because they increase the working lifetime of products and can be a significant source of revenue. Original equipment manufacturers have a competitive advantage in this because they normally have records of where equipment has been sold which could benefit from upgrading.

According to Potluri and Hawariat (2010), the major tasks related to after-sales services of fixed lines in ETC are: -

- **Provision of information.** Customer may require information about products and services, availability, delivery dates, and prices. They may require information on progress, e.g. what is happening with their order or fault.
- **Service delivery.** It is required that the service provider to undertake a series of tasks which may vary from product to product and from service to service. Delivery is the setting up, by the service provider, of all the components required for the operation and maintenance of a service as defined in the service specification and to be used by the customers.
- **Maintenance and repair service.** This service function includes all activities associated with repair from the instant a service does not offer one or more of the specified features to the instant these features are restored for use by the customer. The process must also be

consistent from the customer's perspective, irrespective of which product or service is being repaired.

- **Billing service.** Billing is common to almost all services that are not provided free of charge. Inaccurate, illegible, or incompatible bills disappoint customers. Customers usually expect bills to be clear, informative, itemized in ways that make it clear how the total was computed.
- **Customer complaints handling.** Complaint is the result of an organization's service failures that occurs for many reasons. Any type of service failures bring about negative feelings and responses from customers. Complaining customers need quick responses. Thus, if an organization welcomes and encourages complaints, it must be prepared to act on them quickly.

As shown above, Goffin (1999) stated installation, user training, documentation, maintenance and repair, online support, warranty and upgrades as an element of after sale service. Potluri and Hawariat (2010) classify the major tasks related to after sale services of fixed line in ETC as provision of information, service delivery, maintenance and repair service, billing service and customer complaint handling. Most companies incorporate maintenance, repair, online service, warranty, training etc... as an element of after sale service. Though those researchers have investigated the stated after sale service elements, the researcher also investigated maintenance, spare parts supply, online (telephone) service, warranty, training (driving orientation), towing service, annual vehicle inspection service and documentation services as the types of after sale services offered in the automotive industry.

2.1.4. Challenges of After Sale Service

According to Gaiardelli, et al. (2007) the challenge of after sale service exists when the company gives after sale service to the third party by outsourcing.

- **Increased chances of pilferage-** While outsourcing your after-sales may help you reduce the operational issues relating to managing the service centers; it also increases the chances of pilferage on the flip side.

- **Risk of non-compliance of regulatory terms and conditions-** Since the service centers work on their own models and regulations, it may be difficult to streamline your business processes with theirs.
- **Discontent with the automation solution used by your service partner-** Some service providers use a service management solution that may not offer the results that you seek from your after-sales process; while some service providers may not use any automation technique at all.

As Yazijian (ca. 2009) shows, the challenges of implementing after sale service mostly happens if services deals with dried lubricant found in movement , possible dirt and dust in watch, normal wear & tear, possible damage from previous repair, spare part quality control , staff training. Foss and Stone (2010) shows the following challenges faced in implementing after sale service.

Identifying today's customers and prospects

There is great scope for improving data usage. The key variables automotive suppliers need to include and have data on, to understand when customers are likely to buy, include not only data on the car owned, but also the current state of and changes in income and wealth and occupation.

Using today's data more effectively

The automotive industry is a massive investor in IT, including systems for sales and marketing. It is also a massive investor in market research, and a principal source of income for leading market research companies throughout the world. Typical source of information include;- new car buyer studies , new vehicle registrations, customer satisfaction indices (product, service, finance), measurements of car age and condition, warranty claims. Very little of those information have a customer's name attached to it, even if the customer would have been willing to have it attached.

Data quality and management

In all industries trying to improve how they manage relationships with customers, one of the first problems faced is the generally very poor quality of customer data. In general, the less frequent the interaction between supplier and customer (this includes billing and payment as well as marketing and service actions), the greater the problem.

As it has shown Gaiardelli, et al. (2007) stated the challenges that a company will face by outsourcing after sale service to the third party and Yazijian (ca. 2009) stated challenges of after sale service related with documentation. The researcher investigated lack of huge workshop and having separate garage, few customers lack understanding of warranty statement, nervous customers, and shortage of few brand spare parts, shortage of parking, cheating of few customers as challenges that automotive companies faced in implementing after sale service.

2.2. Customer Satisfaction

2.2.1. Definition of Customer Satisfaction

Customer satisfaction can be experienced in a variety of definitions and connected to both goods and services. Mathe and Shapiro (1990) define customer satisfaction as a short-term emotional reaction to a specific service performance. Customers may be satisfied with a product or service, an experience, a purchase decision, a salesperson, store, service provider, or an attribute or any of these. Kotler (2002) defined satisfaction as: „a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations“. Neal (1998 cited in center for the study of social science (Anon., 2007) defines customer satisfaction as the attitude resulting from what customers think should happen (expectations) interacting with what customers think did happen (performance perceptions). According to Rigopoulou, et al. (2008) customer satisfaction is the state of mind that customers have about a company when their expectations have been met or exceeded over the lifetime of the product or service.

2.2.2. Customer Satisfaction Measures

Customer satisfaction measurement involves the collection of data that provides information about how satisfied or dissatisfied customers are with a service. This information can be collected and analyzed in many different ways. Many organizations regularly check the levels of customer satisfaction to monitor performance over time and measure the impact of service improvement.

Henley center headlight vision (Anon., 2007) states the research carried out in the UK with public sector organizations suggests that there are five themes that are likely to be relevant to all organizations in measuring customer satisfaction.

- ❖ **Delivery of the service** (how problems were handled, reliability, outcome etc...)
- ❖ **Timeliness** (waiting times, number of times contacted)
- ❖ **Information** (accuracy, enough information, kept informed)
- ❖ **Professionalism** (competent staff, fair treatment)
- ❖ **Staff attitude** (friendly, polite, sympathetic)

According to Rizaimy et al. (2009), customer satisfaction measures should depend on the five following parameters.

1. **Quality:** - If defects are detected during the warranty period, the customer is happy. However, what is important is whether the defects fall into an acceptable range. Sometimes, customers specify what an acceptable defect is.
2. **On-time delivery:** - Nothing is more frustrating than not receiving a delivery on an agreed-upon day. This frustration may be eased if somebody calls to tell you that the delivery is going to be delayed, but the frustration is there just the same.
3. **Money:** - Obviously, no vendor can bill the customer for an amount that was not agreed to by the customer that is if the vendor expects his invoice to be respected in full and without issue. Whenever the customer has to pay more than the purchase order value, the customer is dissatisfied.
4. **Issue factor:** - Issues crop up during project execution mainly because of unclear specifications or a lack of understanding the specs. Issues may also occur because of a conflict or an error in the requirements. When the vendor raises an issue whose origin is attributable to the customer, the customer's satisfaction is not usually affected. However, the customer's satisfaction does become affected if the issues raised are due to the vendor's improper understanding of the requirements.
5. **Accommodation and cooperation:** - Most projects would not be complete without a few change requests from the customer software maintenance projects run on these. But since change requests are commonly implemented before delivery and it cause additional work for the vendor. Customer will be happy when change requests are accepted without impacting the price or the delivery schedule, but it is rare to happen.

As shown above, Henley center headlight vision (Anon., 2007) the staff attitude, professionalism, information, timeliness and delivery of service can be used to measure customer satisfaction for each service. While according to Rizaimy, et al. (2009), stated customer satisfaction measures should depend on parameters like quality, time of delivery, money customers pay, issue factor and accommodation and corporation. Depending on those customer satisfaction measurement parameters the researcher measured the satisfaction level of after sale service customers of Holland Car PLC and MOENCO using quality, time of delivery and money the customers pay for specific and overall satisfaction of customers on the after sale services.

2.2.3. Customer satisfaction models

There are different customer satisfaction measurement models which are used as a classical tool to identify and focus on customer satisfaction. This includes the following models:

1. Quality Function Deployment (QFD)

According to Yang (2005), Yoji Akao in Japan developed Quality Function Deployment in 1966. By 1972, the power of the approach had been well demonstrated at the Mitsubishi Heavy Industries Kobe Shipyard (Sullivan, 1986). In Akao's words, QFD "is a method for developing a design quality aimed at satisfying the consumer and then translating the consumer's demand into design targets and major quality assurance points to be used throughout the production phase. It is a way to assure the design quality while the product is still in the design stage.

2. Benchmarking

According to Rizaimy, et al. (2009), benchmarking simply means looking outside a particular business to analyse others performance levels and how they achieve it. Benchmarking is the process of ascertaining the best in the business that set standards. Benchmarking helps by providing an idea about where one stands in relation to a particular standard. This can be done within an organization and in other industries. Not only must an organization know its own performance, but it must also have an estimate of where its competitors stand. Benchmarking helps the organization to identify areas that compel a performance improvement. Usually benchmarking involves a specific performance indicator such as defects per unit measure or mean time between failures, etc.

3. Kano model

According to Lin (2009) Kano model is a theory of product development and customer satisfaction developed in the 1980s by Dr. Noriaki Kano. Dr Noriyaki Kano, a Japanese professor and international consultant who received an individual Deming prize in 1997. According to Mamunur (2010), Kano analysis can be termed as a tool to measure quality, which is used to determine the importance of each requirement of a customer. The Kano model categorizes product development according to customer satisfaction into five categories:

- **Attractive quality:** Attractive quality attributes are the attributes that are not necessarily expressed. It is an attractive quality that makes the product more attractive, however it was not asked for. If these are present, they are a source of satisfaction. However, in their absence there is no dissatisfaction.
- **One - Dimensional quality:** Unlike the previous point, one - dimensional quality attributes usually satisfy the customer when they are present, and are a source of dissatisfaction when absent.
- **Must - Be quality:** Must - be quality attributes may not result in greater customer satisfaction when fulfilled, however if left unfulfilled they could be a cause for customer dissatisfaction.
- **Indifferent quality:** As the name suggests, indifferent quality refers to certain attributes that can be categorized neither as good nor bad. Thus, they may not result in either customer satisfaction or dissatisfaction.
- **Reverse quality:** This refers to attributes that are of superior quality but end up resulting in dissatisfaction, or vice versa. For instance, some people may prefer to purchase products which are advanced and high-tech, whereas others may find it easier when using products which are basic. The latter group of people may be dissatisfied or find it inconvenient if the product consists of a number of additional features.

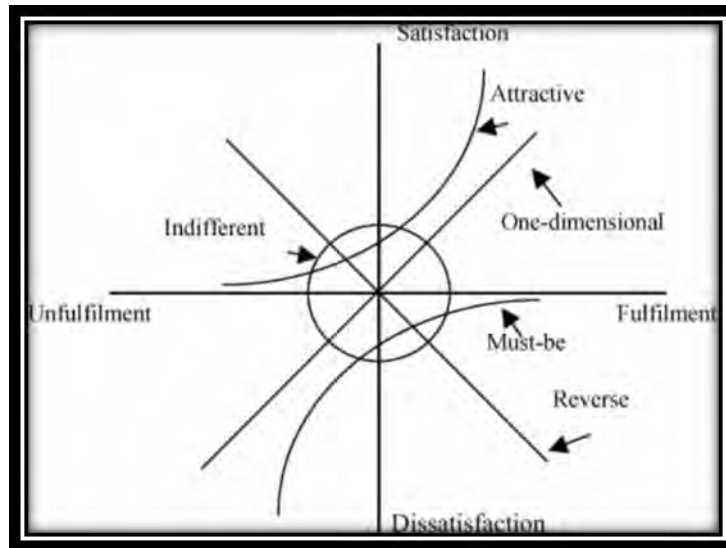


Figure 2: Kano model customer requirement graph

Source: Mamunur, 2010

Application of the Kano Model Analysis

An easy method of applying the Kano Model Analysis is to ask the customer two questions for each of the attributes mentioned above:

- The functional question "How do you feel if this feature is present?" and
- Dysfunctional question "How do you feel if this feature is not present?"
- Following which, the customer is to be asked to answer the questions with any of these replies:
 - ✓ I like it
 - ✓ I expect it
 - ✓ I'm neutral
 - ✓ I can tolerate it
 - ✓ I dislike it

It is noted that customers often give the "Neutral" response for the first question, and the "I dislike it" response for the second question when asked about basic attributes. Thus, indicating that the absence of these attributes in a product could affect its saleability.

Among those models the researcher have chosen Kano model as a customer satisfaction measurement model to know the effect of after sale service on customer satisfaction and loyalty, because Kano model has the following advantages over the other models.

1. It is important tool to measure customer satisfaction on a specific service as well as the importance level of that service for customers.
2. It is used to measure customer satisfaction with disconfirmation theory to be used in my research.
3. It is mostly used by many researchers

2.3. Customer Behavior and Customer Satisfaction

According to Singh (2006), customer satisfaction does have a positive effect on an organization's profitability. The consequences of not satisfying customers can be severe. Dissatisfied consumers can decide to discontinue purchasing the good or service and complain to the company or to a third party and perhaps return the item, or engage in negative word-of-mouth communication. On the other hand, Potluri and Hawariat (2010) stated as customer satisfaction is a direct determining factor in customer loyalty, which, in turn results; -

- + Increased purchases of the existing product
- + Cross-purchase of your other products
- + Price premium due to appreciation of your added-value services
- + Reduced operating cost because of familiarity with your service system.
- + Positive word-of-mouth in terms of referring other customers to your company.

2.4. Customer Loyalty

According to Anderson and Jacobsen (2000 cited in Singh, 2006), customer loyalty is the result of an organization creating a benefit for a customer so that they will maintain or increase their purchases. According to Seyed (2007), customer loyalty has been described as customer's willingness to continue patronizing a firm over the long term, purchasing and using its goods and services on a repeated and preferably exclusive basis, and voluntarily recommending it to friends and associates.

Lin (2009) stated that customer satisfaction has measurable impact on customer loyalty in that when satisfaction reaches a certain level; on the high side, loyalty increases dramatically; at the same time, when satisfaction falls to a certain point, loyalty reduces equally dramatically. Lin (2009) proposed that link between satisfaction and loyalty can be classified into four different groups:-

1. Loyalist/apostle (high satisfaction, high loyalty)
2. Defector/ terrorist (low satisfaction, low loyalty)
3. Mercenary (high satisfaction, low loyalty), and
4. Hostage (low satisfaction, high loyalty).

As Sudharshan (2010) found, there is a positive relationship between customer satisfaction and customer loyalty but this connection is not always a linear relation. This relationship depends on factors such as market regulation, switching costs, brand equity, existence of loyalty programs, proprietary technology, and product differentiation at the industry level.

Anderson and Jacobsen (2000 cited in Singh, 2006), Seyed (2007) and Lin (2009) shows that customer loyalty is the result of customer satisfaction on the service offered by the company, in addition Sudharshan (2010) found out that there is a positive relationship between customer satisfaction and customer loyalty but their connection is not always a linear relation. Sudharshan (2010) has shown different factors that affect the connection between customer satisfaction and loyalty.



Figure 3: Modified conceptual framework for proposed study

Source: Attafar, 2011

This paper proves the positive relationship between customer satisfaction and loyalty. According to the research customer satisfaction in the after sale service has a low and positive relationship with customer loyalty.

2.5. After Sale Service and Customer Satisfaction Theory

According to Sattari (2007), in order to study customer satisfaction on services the following theories are applicable.

1. The Disconfirmation of Expectations theory

The disconfirmation or expectations theory holds that satisfaction/dissatisfaction responses arise from a cognitive evaluation process in which pre-purchase "expectations" or prior beliefs about the likelihood of product-related experiences or outcomes are retrieved from memory and compared to cognitions about the product-related experiences or outcomes actually realized in the consumption of the product. The result of this comparison is expectancy disconfirmation, which ranges from negative (expectations exceed realized outcomes) through zero (expectations just equal realized outcomes) to positive (realized outcomes exceed expectations).

2. The Value-Percept Disparity theory

This theory asserts that satisfaction/dissatisfaction is an emotional response triggered by a cognitive-evaluative process in which the perceptions of (or beliefs about) an object, action, or condition are compared to one's values (or needs, wants, desires). Since it is the attainment of values that consumers seek, rather than the confirmation of their expectations, it is posited that perceptions of products, institutions, or marketplace actions are simply tested against the extent to which they meet the consumer's values. While products may provide more of an attribute or outcome than what is desired, this has no impact on satisfaction unless this aspect causes a blockage in the attainment of another value.

3. Regret theory

This theory was developed by Taylor (1997) theory proposes a richer notion of satisfaction that included expectations about un-chosen option. This theory retains the basic expectancy – disconfirmation paradigm as a bases foe regret theory approach. Regret directly influences the

consumers' decision to purchase again. Marketers try to diminish negative feelings about the product or service by reducing post decision dissonance and regret.

4. Disconfirmation theory

According to Sattari (2007), the disconfirmation theory states that overall customer satisfaction is the difference between customer desire and expectation and the actual performance the particular good or service.

Though these theories are used to know customer satisfaction, the researcher used disconfirmation theory because this theory considers factors like expectation, desire and actual performance on the product or service are clearly used to know the satisfaction of customers that has been stated in the rest theories.

2.6. Empirical Studies on After Sale Service and Customer Satisfaction

As shown in Ehinlanwo and Zairi (1996) a survey carried out by Autohaus in 1993, approximately 59 per cent of a car dealer's yearly profits come from the after-sales service. The after-sales market, apart from being profitable, is also less subject to economic cyclic ups and downs.

According to Ehinlanwo and Zairi (1996) Toyota describes its after sales objectives as customer satisfaction, customer retention, efficiency in work and job flow, both for the distributor and dealer, and high service absorption for dealers, while Ford describes its after-sales objectives as to make Ford the number one aftermarket operation by providing owners of Ford vehicles with an ownership experience. The after sale services given by those companies include: Maintenance service, original spare parts, warranties, washing, key-care service and training program.

There was a research conducted by Lin (2009) on electric power customer satisfaction using Kano model to evaluate the customer satisfaction, depending on the customers' satisfaction degree and importance degree corresponding to each service item during the statistical work. on the other hand, Potluri and Hawariat (2010) conducted a study on assessment of after-sales service behaviors of Ethiopia Telecom customers to assess and review fixed-line telecom customers' perception of the quality of after-sales services provided by Ethiopian Telecom. It

was conducted on 450 telecom customers who are in Addis Ababa using self-administered questionnaires. They use SERVQUAL measures in order to assess after sale service behavior Ethiopia telecom customers. Finally they get service provider is the most determinant for customer satisfaction and on an average 61.86 percent of customers responded positively to the after-sales service offered by the Ethiopian Telecom employees" on the dimensions of on responsiveness, reliability, assurance, empathy, and tangibility or appearance. Though the research was conducted in after sale service behavior of Ethiopia telecom customers using SERVEQUAL, the researcher doesn't see the effect using another model to prove the relationship.

Finally the researcher got Kano model is best if applied to identify customer needs, and calculate customer satisfaction coefficient that helps the manager to trade-off which is the most important quality for increasing satisfaction. The researcher believes the research conducted by Lin (2009) is appropriate to measure customer satisfaction in after sale service. Because Kano model clearly measures the customer satisfaction depending on their desire in to two opposite forms i.e. measure customer satisfaction in a given service attribute is offered and also measure customer satisfaction in a given service attribute is not offered. In addition, the research was done with customers in china customers who are familiar with after sale service and in electronic power company. Hence, the researcher conducted a research on Ethiopian after sale service customers to understand the effect of after sale service on customer satisfaction and loyalty in Holland Car PLC using Kano model and disconfirmation theory.

2.7. Conclusion and Knowledge Gap

As per the researcher's knowledge, there seems no comprehensive study on effect of after sale service on customer satisfaction in Ethiopia except a research conducted by Potluri and Hawariat (2010) in Ethiopia telecom customers using SERVQUAL. Thus, this gap lead the researcher to conduct a research and a need to study on effect of after sale service on customer satisfaction and loyalty in Holland Car PLC and MOENCO using Kano model and disconfirmation theory.

CHAPTER THREE: METHODOLOGY OF THE STUDY

3.1. Organization Background

3.1.1. Holland Car PLC

Holland Car PLC is a joint venture company established in 2005 by Engineer Tadesse Tessema an Ethiopian national and owner of the Ethiopian company Ethio-Holland PLC from Addis Ababa, and a Dutch company Trento BV Engineering from Sittard. Initial capital of the company was 11,000,000.00 (Eleven Million) Birr, which is equally shared between the two partners, which is the first of its kind in Ethiopia. The company's show rooms are found in Bole sub city at TK international building ground floor in front of Africa China square and Getu commercial building ground floor on Bole road in front of New York café⁴.

The land in which the factory was constructed is located in Oromia region on 20,000.00 sq.mts of land near Mojo town about 70 km south of Addis Ababa on the main road to Djibouti. The factory encompasses assembly, painting, spare parts warehouse, and customs bonded warehouse. It has adequate space for loading finished cars and unloading spare parts. There are three modern painting ovens and an assembly line with highly qualified employees. There is a separate section for filling air conditioner gas for newly assembled cars and maintenance as well as offices cafeteria, shower and locker rooms for the employees. At the initial stage, the factory was able to assemble only one car per day. Now due to additional investment and facility improvements, the company can assemble up to six cars per day. Their future goal is to be able to assemble ten cars per day. Currently the company has its own after sale service and assembly plant and Lifan Motors work separately.

The company after sales service station is located at Wolo sefer near Norila Construction, with skilled and experienced service men and state of the art equipment. Holland Car PLC offers for the customers a range of service to keep their cars running like new. The company is proud to say that still provide all the necessary parts and service for their earliest models. The names of the car assembled by the company are Naomi, Imay, Tekeze, Shebelle, Awash executive, Abay, Abay executive and Ahadu (trailer bus).

⁴ <http://www.holland-car.com/>

Organization objective

The main objective of the organization is to assemble Cars for local (Ethiopian) and export markets that are environmentally friendly, fit for the local conditions of the country.

Organization employment opportunity

One of the major contributions of investment is providing employment opportunities for the fellow citizens to reduce poverty. In line with this, Holland Car PLC has employed permanently over 250 people. The majority of employees are diploma graduates in automotive technology from different Universities, Colleges and Technical and Vocational education training (TVET). Employees are given on job training and gained technical knowledge from the expatriates the company employed when the company was established. To support the factory and to lead the company as a whole, at the head office level, the company is sub divided into five functional areas sales and marketing, finance, administration operation, after sales, and research and development.

3.1.2. MOENCO

In the heart of Addis Ababa, around the area commonly known as Mexico, a small garage with a capital of 200, 000 Birr was founded by Lappine .A 50 years ago in a small rented house.

Nine years later, MOENCO took over the TOYOTA franchise business for Ethiopia when a London based international organization, became a major shareholder and injected a considerable amount of capital. This was a milestone moment in the firm’s journey to become the MOENCO of today. In addition to the TOYOTA business, at different times MOENCO used to represent General Motors for various types of American vehicles and trucks; Ingersoll-Rand; WABCO, Pettibow; Universal; Dupont; General Tire; Frigidaire; Zanussi; and Thomas De La Rue & Co. of England.

All the experience the company gained from working with its partners, has allowed MOENCO to focus on people, service and innovation over the past five decades. The strength the company has acquired in these years has also endowed MOENCO with the resilience to survive during the many difficult times.

In 2009, MOENCO was the largest automotive company in the country, representing over 20 brands. MOENCO has grown both in terms of size and in terms of the modernization of its service shops and parts distribution centers, which display a passion for creating the ultimate customer experience.

Today, MOENCO has four operational sites: two in Addis Ababa; one in Awassa, which opened in 1998; and one in Bahir Dar that opened in 2004. Additional outlets are planned to open soon in Nazret and Kaliti. The company network includes 13 dealers across the country.

Company objective

The objective of the company is to deliver the right quality at the right time and at the right place. In MOENCO By “the right quality” means providing genuine parts for trouble free performance, long life and safe environment, by “At the right time” mean an optimum availability of parts, insuring continuous supply based on customer demand. A fully computerized sales, stock control and electronic parts catalogue system has enabled the company to achieve a very high suppliability of parts resulting in remarkable customer satisfaction. And “the right place” is referring to company’s dealers in different parts of the country and its branches in Awassa and Bahirdar. The company parts operation is one of ts primary value chain systems. It is based on “JIT” operation system (Just in time) which in turn is based on “sell one buy one” philosophy.

Employment opportunity

The company employs more than 580 employees and its service centers have 2 working staffs for PDI, 89 working Staffs for service and 56 working staffs for Body & Paint Repair. For efficient service the working stalls are equipped with Auto-Lifts and Pneumatic Tools.⁵

⁵ <http://moencoethiopia.com>

3.2. Methodology of the Study

3.2.1. Introduction

This chapter discusses aspects of the research methodology including research design, data collection and data analysis methods. The objectives of this chapter are:

1. To justify the study's research methodology,
2. To explain the research methodology used in the study and
3. To demonstrate how data collection and analysis is utilized in this study to answer the research questions and to meet objectives outlined in chapter one.

3.2.2. Research methodology

According to Dawson (2002), there are three types of research design: quantitative, qualitative and mixed method. Mixed methods research is an approach that combines or associates both quantitative and qualitative forms. Depending on aspects like timing, weighting, mixing and theorizing mixed method led writers to develop procedures like sequential, Concurrent and transformative procedure are stated in the work of Creswell (2009, pp. 206). In this research paper, the researcher have used a sequential exploratory procedure (qualitative – quantitative), because the researcher used the result of qualitative response from after sale service manager and after sale service technician coordinators to gather quantitative data from customers.

In the first phase of the study, interview was conducted to identify after sale services offered, to understand how it is offered and to identify challenges in implementing after sale service in selected automotive industry. In the second phase, results from the interview have been used further to explore the level of customer satisfaction in each after sale service. The connection or mixing has occurred between qualitative data analysis and the data collection of quantitative data.

3.2.3. Data sources

The data that have been employed includes detailed information on after sale service components and satisfaction and loyalty of customers in the automotive industry using both primary and secondary sources. The primary source of data was collected from sample respondents relating to the components of after sale services, how after sale service is offered, challenges faced in implementing after sale service, and the satisfaction of customers in the after sale services. The

secondary source of data has collected from literatures found related to the topic and from both company profiles and documents.

3.2.4. Sampling technique

Study population

To study the effect of after sale services on customer satisfaction and loyalty the study population units constituted 1100 Holland Car PLC after sale service customers who got after sale service more than one time and 10000 MOENCO TOYOTA Yaris car owners, all after sale service technicians and the after sale service manager of both companies.

Sample population

For qualitative and quantitative data collection, sampling was executed using the nonprobability sampling technique. For qualitative data purposive sampling was used, so that 3 after sale service technician coordinators from Holland Car PLC and also three foremen were selected from MOENCO divisions (express maintenance, maintenance and repair) and the after sale service managers are purposely selected because they are experienced with after sale services.

Judgment (purposive sampling) was also selected for quantitative data, because it enabled the researcher to select the sample based on his own judgment about some characteristics required from the sample element (for example a respondent should be a customer who have got after sale service more than once and available at the company after sale service station in Addis Ababa and also the customers of MOENCO should be TOYOTA Yaris car owners because these vehicles are recent and mostly used for personal passengers like Holland car vehicles and the comparison of services and satisfaction of customers could be appropriate). This was because as Fogli (2006) shows one limitation of customer satisfaction questionnaires and interviews is analyzing customer views depending on one specific service employees while they interact with more than one employee. Hence taking customer who got service more than one time is more appropriate to measure customer satisfaction.

Depending on Raosoft sample size calculator for normal distribution by using 6 % margin of error (the amount of error that the researcher can tolerate), 90 % confidence level (tells how sure the researcher can be) from 10000 population (after sale service customers who got after sale service more than one time), and 20% response distribution for each question, what the

researcher expects the result will be). Therefore, 120 customers from MOENCO and 60 customers from Holland car PLC were purposefully selected.

3.2.5. Data collection procedures

Qualitative data relevant for the identification of after sale services, the study employed structured interview with after sale service managers of both company and after sale service technician coordinators and foremen from Holland Car PLC and MOENCO respectively to investigate the challenges faced in implementing after sale service and how they offer after sale services.

On the other hand, quantitative data about the level of customer satisfaction in each after sale service have been collected from sample customers through close-ended questionnaires prepared in English and Amharic languages. The questionnaires had been developed from comprehensive literature review related to effect of after sale service on customer satisfaction and loyalty applying Kano model and disconfirmation theory using Likert scale rated from 1 to 5 (very satisfied to very dissatisfied) and from (I like it to I dislike it). Based on Rizaimy, et al. (2009) customer satisfaction measure parameters like quality, delivery time and money customers pay has been incorporated according to the nature of after sale services in the questionnaires.

3.2.6. Data analysis

The analysis of qualitative data collected from sample respondents using structured interview has been noticed in descriptive analysis. The analysis of quantitative data collected from sample customers was computed from the result of Statistical Package for Social Sciences (SPSS) version 19 software. To describe the sample characteristics in the data analysis report, respondent's profile such as age, gender, educational background and income has been analyzed in the form of table. The techniques of analysis used in this study are descriptive (percentage, frequency and mean), for the comparison of the two companies inferential statistics (chi-square test with significant level), to understand the relationship between the dependent variable (customer satisfaction and loyalty) and independent variable (after sale services offered by Holland Car PLC and MOENCO) inferential analysis (regression and correlation analysis) were used. All the study variable scales are ranked in 5 Likert scales and Rizamy (2009) customer satisfaction measurement parameters like quality, time and price were computed. The analysis was also done using Kano model requirement analysis.

Validity: customers in pre-test of the questionnaires checked the validity of questionnaires. In addition marketing experts has checked the validity of questionnaires. This study also addresses content validity through the review of literature and adapting instruments used in Kano model.

Reliability: Reliability is defined as the proportion of the variability in the responses to the survey that is the result of differences in the respondents. That is, answers to a reliable survey will differ because respondents have different opinions, not because the survey is confusing or has multiple interpretations. To check the reliability of variables used in the study, the researcher employed reliability analysis on SPSS version 19. In addition, the reliability statistics result of maintenance, spare part supply, warranty, online (telephone service), documentation service and driving orientation is 0.79, 0.813, 0.78, 0.72, 0.813, and 0.810 respectively, which indicates a high level of internal consistency for the scale in the sample.

Operational Definitions

After sale service: - is all the service offered by Holland Car PLC and MOENCO after the customer had bought the vehicle and started using it.

Customer satisfaction: - is the psychological feeling of after sale service customers from their experience on the after sale service offered by Holland Car PLC and MOENCO, which is the difference between the actual performance of the after sale service and the desire and expectation of customers on the after sale service.

Customer loyalty: - is the behavioral response of customers as a result of their satisfaction on the after sale service offered by the Holland Car PLC and MOENCO, which leads to repeat purchase (buy another vehicle) from Holland car PLC and MOENCO.

Effect: - is the psychological pressure that made customers to feel very satisfied, satisfied, indifference, dissatisfied or very dissatisfied as a result of after sale services offered by Holland Car PLC and MOENCO.

CHAPTER FOUR: RESULTS AND DISCUSSION

This chapter presents characteristics of the studied population, analysis and interpretation of the data collected. Among 1100 after sale service customers of Holland Car PLC the number of sample respondents were 60, out of whom 57 (95 %) , and from 10000 after sale service customers of MOENCO (Toyota Yaris car owners) the number of sample respondents were 120, out of whom only 110 (91%) respondents have returned and responded full data.

4.1. Respondents' Profile

Before going directly to discussion of the result, it would be better to introduce the respondents, because having an understanding about the respondents may help to estimate the accuracy of the information provided by them. In addition, it may give an idea about how many respondents abled to answer the questions forwarded with the acceptable degree of reliability and it helps for all other decisions related to customers.

Table 4.1: Profile of respondents (n = 167)

Profile of respondents		Name of the company			
		Holland Car PLC		MOENCO	
		Frequency	Percent	Frequency	Percent
Gender	Female	11	19.3	17	15.4
	Male	46	80.7	93	84.6
	Total	57	100	110	100
Age	Under 25 years	1	1.8	14	12.7
	26-40 years	28	49	50	45.5
	41-60 years	22	38	37	33.6
	Over 60 years	6	10.5	9	8.2
	Total	57	100	110	100
Educational level	Below secondary school	0	0	10	9.1
	12 grade complete	2	3.5	21	19.1
	Diploma	20	35.1	25	22.7
	Bachelor degree	26	45.6	38	34.4
	Master degree and above	9	15.8	16	14.6
	Total	57	100	110	100
Mean average monthly income in Birr		3544.83		3372	

Source: Own survey, 2011

As shown in Table 4.1, 19% of Holland Car PLC after sale service sample customer are females and 81% of them are males, while 15% of MOENCO after sale service sample customers are females and 85% are males.

Looking in to the age of respondents, only 2% of Holland Car PLC sample customers are below 25 years, while 13% of MOENCO sample customers are below the age 25 years. 49% of Holland Car PLC sample respondents are between the ages 25- 40 years and 38 % are between the ages 40 - 60 years. On the other hand, 45% of MOENCO sample customers are between the ages 25-40 years and 34% are between 40 – 60 years. 10% and 8% accounts for the sample customer of Holland Car PLC and MOENCO who are above the age of 60 years.

From Table 4.1, it is also possible to understand that none of the sample Holland Car PLC after sale service customers is below secondary school and 9% of sample respondents of MOENCO are below secondary school. 35%, 46%, 16%, and 3% accounts for sample respondents of Holland Car PLC who have diploma, bachelor degree, master's degree and above, and who have completed grade 12 respectively. On the other hand 19%, 23%, 34%, and 15% represents the number of sample respondents of MOENCO who have completed grade 12, and who are diploma, bachelor degree, and master's degree and above holders.

Moreover, the mean average monthly income of respondents show that sample respondents of Holland Car PLC have 3,544 Birr monthly income, and MOENCO sample respondents earn an average of 3,372 Birr per month.

As Fogli (2006) noted, one limitation of customer satisfaction questionnaires and interviews is that analyzing customer views depending on one specific service occasion or employees, while they interact with more than one employee of the organization. Hence, taking customer who got service more than one time is more appropriate to measure customer satisfaction.

Table 4.2: Frequency of customer visit (n = 167)

Frequency	Name of the company			
	Holland Car PLC		MOENCO	
	Frequency	Percent	Frequency	Percent
2	0	0	13	11.8
3	3	5.3	10	9.1
4	6	10.5	21	19.4
5	13	22.8	29	26.4
6	27	47.4	34	30.9
7	6	10.5	3	2.4
8	1	1.8	0	0
11	1	1.8	0	0
Total	57	100	110	100

Source: Own survey, 2011

As shown in Table 4.2 above, all respondents have got after sale service more than once. When the researcher analyzes the frequency that the customers got after sale service from Holland Car PLC and MOENCO, none of Holland Car PLC sample customers has got after sale service for less than 2 times, but 12% of MOENCO sample customers has got after sale service for less than two times. In addition, 86% of both Holland car PLC and MOENCO sample customers has got their vehicles serviced from 3-6 times. 10% and 2% of Holland Car PLC and MOENCO sample customers has got after sale service for more than 7 times. Moreover, 4% of Holland Car PLC sample customers has got their vehicles serviced from the company for 8 and 11 times, while none of the sample respondents of MOENCO has got after sale service for more than 7 times. As a result, measuring the satisfaction of customers is possible and the result of the research is appropriate according to Fogli (2006). It is also possible to see that Holland car PLC customers has visited the after sale service station to get their vehicles serviced more than MOENCO customers.

4.2. Application of Kano Model

According to Mamunur (2010), Kano questionnaires include two types of questions for every feature or group of features:

1. The functional question "How do you feel if this feature is present?" and
2. Dysfunctional question "How do you feel if this feature is not present?"

The customer has to choose one of the five possible options for the answers:

- ✓ I like it
- ✓ I expect it
- ✓ I'm neutral
- ✓ I can tolerate it
- ✓ I dislike it

Asking both functional and dysfunctional questions helps to go beyond the simple "priorities". For example, if the potential user expects some feature to be present, but can live without the feature, it is not really a mandatory feature. The quickest way to assess the questionnaires is to map the customer's requirement as shown in Table 4.3.

Table 4.3: Kano evaluation

Customer's requirement		Dysfunctional question				
		I like it	I expect it	I'm neutral	I can tolerate it	I dislike it
Functional question	I like it	Q	A	A	A	O
	I expect it	R	I	I	I	M
	I'm neutral	R	I	I	I	M
	I can tolerate it	R	I	I	I	M
	I dislike it	R	R	R	R	Q

Source: Bilgili, 2008

Where customer requirement is:

M = Must-Be quality

O = One - Dimensional quality

A = Attractive quality

R = Reverse quality i.e. wrong features, that would make the user experience worse

Q = Questionable i.e. the potential user answers are inconsistent

I = Indifferent quality i.e. the potential user doesn't really care about the feature

Variables of the study

As shown in the literature, Goffin (1999), Beauvillard, et al. (2009) and Potluri and Hawariat (2010) have identified components of after sale service. The researcher has identified the following after sale service components that could be applied to the automotive industry depending on the finding of stated researchers. These are after sale service components in which the researcher used to categorize each service in Kano classification.

1. Maintenance service
2. Spare parts supply
3. On line service(telephone) service
4. Car washing
5. Inspection
6. Warranty
7. Training (driving orientation)
8. Documentation

A frequency analysis has been done to find out in which requirements group of the after sale service customer's requirements take places.

Table 4.4: The classification of Holland Car PLC sample population requirements according to Kano model (n = 57)

After sale services		Customers requirement and frequency ⁶						Total
		A	O	M	I	R	Q	
1	Maintenance	8	25	6	17	1	0	57
2	Spare parts supply	9	34	3	11	0	0	57
3	On line (Telephone) service	15	12	4	25	1	0	57
4	Car washing	8	12	3	34	0	0	57
5	Inspection	3	19	16	18	1	0	57
6	Warranty	8	15	21	13	0	0	57
7	Training (driving orientation)	1	12	11	11	19	3	57
8	Documentation	4	9	4	30	10	0	57

Source: Own survey, 2011

⁶ The detail calculations shown in appendix IV

According to the results of the customer requirement analysis depending on the most frequent responses of Holland car PLC after sale service customers, maintenance, spare part supply and inspection are one dimensional requirement, while online (telephone) service, car washing and documentation services are indifferent requirements. In addition, warranty is must be requirement. Moreover training (driving orientation) is reverse requirement for Holland Car PLC customers. (See Table 4.4)

Table 4.5: The classification of MOENCO sample population requirements according to Kano model (n = 110)

After sale services		Customers requirement and frequency ⁷						Total
		A	O	M	I	R	Q	
1	Maintenance	20	50	3	37	0	0	110
2	Spare parts supply	25	56	10	19	0	0	110
3	On line (telephone) service	21	23	13	53	0	0	110
4	Car washing	47	27	6	30	0	0	110
5	Inspection	6	41	37	26	0	0	110
6	Warranty	14	30	43	23	0	0	110
7	Training (driving orientation)	2	8	28	23	37	12	110
8	Documentation	10	13	12	70	5	0	110

Source: Own survey, 2011

According to the results of the customer requirement analysis depending on the most frequent responses, car washing is attractive requirement. While maintenance service, spare part supply service and inspection services are one-dimensional requirements. In addition online (telephone) service, and documentation services are indifferent requirements. Moreover training (driving orientation) is reverse requirement for MOENCO after sale service customers. (See Table 4.5)

From the result of the analysis depending on the most frequent responses of both companies after sale service customers it is possible to infer that, maintenance service, spare part supply service, and inspection are one dimensional requirements in the industry, while online (telephone) service

⁷ The detail calculations shown in appendix IV

and documentation service are indifferent attributes. And training (driving orientation) is categorized as reverse requirement in the automotive industry. Moreover, warranty service is categorized as must be requirement in the industry. While there is different feeling of customer in the two companies in categorizing car washing service. (See Table 4.4 and 4.5)

After the first classification according to the most frequently used answers, customer's satisfaction coefficients have been calculated in order to find out the indifferent variables that are closer to one-dimensional requirements, attractive requirements and must be requirements. As Bilgili (2008) shows in addition to the most frequently used answer, the following formulae are used to calculate the customer satisfaction coefficients.

Equation 1: Customer satisfaction coefficients

$$\begin{aligned} \text{Customer's Satisfaction} &= \frac{A + O}{A + O + I + M} \\ \text{Customer's Dissatisfaction} &= \frac{O + M}{(-1) * (A + O + I + M)} \\ \text{Total Customer Satisfaction} &= \frac{A + O}{A + O + I + M} + \frac{O + M}{(-1) * (A + O + I + M)} = \frac{A - M}{(A + O + I + M)} \end{aligned}$$

Source: Bilgili, 2008

By calculating the Holland Car PLC customer satisfaction coefficients the variables have been identified in Table 4.6 as those requirements which are closer to one - dimensional requirements.

Table 4.6: Holland Car PLC customer requirements which are closer to the classification of one - dimensional requirements (n = 57)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
1	Maintenance	O (25)	0.59	- 0.55	0.04
2	Spare parts supply	O (34)	0.75	- 0.65	0.01
3	Online (telephone) service	I (25)	0.48	- 0.38	0.10
4	Car washing	I (34)	0.357	- 0.25	0.107
5	Inspection	O (19)	0.39	- 0.51	-0.12

Source: Own survey, 2011

After the calculation of Holland Car PLC customer satisfaction coefficients, maintenance service, spare parts supply service, Online (telephone) service, car washing service, and inspection services are categorized as one dimensional requirement for Holland Car PLC after sale service customers. (See Table 4.6)

As a result, Holland Car PLC customer satisfaction increases when the company offers those services and vice versa.

Table 4.7: Holland Car PLC customer requirements which are closer to the classification of must- be requirements (n = 57)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
6	Warranty	M (21)	0.40	- 0.63	- 0.23
8	Documentation	I (30)	0.22	- 0.44	- 0.22

Source: Own survey, 2011

After the calculation of Holland Car PLC customers' satisfaction coefficients, warranty service, and documentation services are categorized as must be requirement for Holland Car PLC after sale service customers. (See Table 4.7)

Therefore, Holland Car PLC customers fell noting for the existence of warranty service and documentation service in the company, but they will be dissatisfied if those services are not offered to them.

Table 4.8: Holland Car PLC customer requirements which are closer to the classification of reverse requirements (n = 57)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
7	Training (driving orientation)	R (37)	0.15	- 0.46	- 0.31

Source: Own survey, 2011

As shown in table 4.8, Holland Car PLC customers have categorized training (driving orientation) as a reverse requirement. From the result, it is possible to infer that Holland Car PLC after sale service customers could be dissatisfied when the company provides training (driving orientation) and vice versa.

Table 4.9: MOENCO customer requirements which are closer to the classification of one - dimensional requirements (n = 110)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
1	Maintenance	O (52)	0.654	- 0.48	0.174
2	Spare parts supply	O (56)	0.73	- 0.6	0.13
3	Online (telephone) service	I (53)	0.4	- 0.32	- 0.08
5	Inspection	O (41)	0.42	- 0.70	- 0.18
8	Documentation	I (70)	0.18	- 0.22	- 0.04

Source: Own survey, 2011

After the calculation of MOENCO customer satisfaction coefficients, maintenance service, spare parts supply service, online (telephone) service, documentation service and inspection services are categorized as one dimensional requirement for MOENCO after sale service customers. (See Table 4.9)

Table 4.10: MOENCO customer requirements which are closer to the classification of must- be requirements (n = 110)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
6	Warranty	M (43)	0.4	- 0.66	- 0.26

Source: Own survey, 2011

Table 4.11: MOENCO customer requirements which are closer to the classification of reverse requirement (n = 110)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
7	Training (driving orientation)	R (37)	0.09	- 0.42	- 0.33

Source: Own survey, 2011

Table 4.12: MOENCO customer requirements which are closer to the classification of attractive requirement (n = 110)

	After sale services	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer's Satisfaction
4	Car washing	A (47)	0.672	- 0.3	0.342

Source: Own survey, 2011

From Table 4.10, 4.11, and 4.12 it is possible to infer that MOENCO after sale service customers have categorized warranty service as must be requirement, Training (driving orientation) service as reverse requirement and Car washing service as attractive requirement.

4.3. Effect of After Sale Services on Customer Satisfaction in the selected automotive companies

The sample population of after sale service customers are questioned either after sale services has an effect on customer satisfaction and loyalty or not, as shown in Table 4.13 below, 82.5 % of Holland Car PLC and 90% of MOENCO after sale service customers who have got after sale services more than once respond as after sale service has an effect on customer satisfaction and loyalty. While few customers accounting 17.5 % of the Holland car PLC and 10% of MOENCO sample respondents respond as after sale service has no effect on customer satisfaction on loyalty. The responses of majority respondents give an impression that after sale service has an effect on customer satisfaction and loyalty.

Table 4.13: Customers response for the effect of after sale service on customer satisfaction (n = 167)

		Name of the company			
		Holland Car PLC		MOENCO	
		Frequency	Percent	Frequency	Percent
Do you think after sale service has an effect on customer satisfaction and loyalty	No	10	17.5	11	10
	Yes	47	82.5	99	90
	Total	57	100	110	100

Source: Own survey, 2011

In addition, selected after sale service technician coordinators and after sale service manager of Holland Car PLC and foreman of MOENCO told the researcher as after sale service has an effect on customer satisfaction and loyalty. As all interviewees from both company stated, in the automotive industry unless the customer are satisfied in the after sale service they could not buy another vehicle from the company even if they are satisfied with the vehicles. Moreover, one after sale service technician coordinator from Holland car PLC said after sale service is very essential for owners of vehicles as the nature of vehicles require continuous follow-up. From the response of interviewee, it is also possible to see the effect that after sale services can have on customer satisfaction and loyalty. In order to know either after sale service components has an effect on overall satisfaction of customers the stepwise regression analysis was also computed and the result is as shown below.

Equation 2 : Regression equation for after sale service satiasafction

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k + e_i$$

Where,

β_0 = Point of intercept
 Y = Overall satisfaction of customers in the after sale services
 X_k = After sale service components
 β_k = Slope of the line
 e_i = Error term associated with the i^{th} observation

Table 4.14: regression analysis model summery (n= 167)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
5	.864 ^e	.746	.738	.449
e. Predictors: (Constant), Car washing service, Telephone service, Maintenance service, Spare part supply service, Warranty service				

Source: Own survey, 2011

As the above table shows, the value of R= 0.864 indicates a strong relationship between after sale service components and overall satisfaction of customers in the after sale service.

The value of $R^2 = 0.746$ explains that 74.6 % of the variation in satisfaction is explained, while 25.4 % remain unexplained by the after sale service components. Thus, the predictive ability of the model is high.

Table 4.15: Regression analysis ANOVA results

ANOVA ^f						
Model		Sum of Squares	Df	Mean Square	F	Sig.
5	Regression	95.253	5	19.051	94.422	.000 ^e
	Residual	32.483	161	.202		
	Total	127.737	166			
e. Predictors: (Constant), Car washing service, Telephone service, Maintenance service, Spare part supply service, Warranty service						
f. Dependent Variable: After sale service satisfaction						

Source: Own survey, 2011

The ANOVA output table describes the overall variance accounted for in the model. The F value (94.42) and the small significance value level (0.000) indicate that the predictor variables are not contributing equally to the overall satisfaction of after sale service customers. Moreover, the significance level (0.000) is less than 0.05. Thus the stated after sale service components has an effect on customer satisfaction, as is indicated by the F statistics.

Table 4.16: Regression analysis coefficients for overall after sale service satisfaction in the selected automotive companies.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
5	(Constant)	1.531	.266		5.749	.000
	Car washing service	.381	.048	.403	7.975	.000
	Telephone service	.260	.031	.370	8.328	.000
	Maintenance service	.313	.040	.360	7.867	.000
	Spare part supply service	.299	.053	.248	5.661	.000
	Warranty service	.131	.043	.148	3.046	.003

a. Dependent Variable: After sale service satisfaction

Source: Own survey, 2011

The result on the above Table 4.16 shows, after sale service components like car washing service, telephone service, maintenance service, spare part supply service and warranty service are found significantly related to overall satisfaction level of after sale service customers and they have no equal contribution to overall satisfaction levels, as is seen in the standardized coefficient column.

The standardized coefficient beta values indicated shown above indicates the change in each after sale service has a unit change in overall satisfaction of customers. For example, from the table above, a 0.403 change in car washing service has a unit effect on overall satisfaction; a change in 0.370 in online (telephone) service has a unit change in overall satisfaction of customers. And a change in 0.360, 0.248 and 0.148 units in maintenance service, spare part supply service, and warranty service respectively has a unit change in overall satisfaction. This shows that after sale service has an effect on customer satisfaction.

Table 4.17: Regression analysis of excluded variables

Excluded Variables ^f						
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
5	Driving orientation service	-.066 ^e	-1.443	.151	-.113	.745
	Documentation service	.053 ^e	1.178	.240	.093	.780
e. Predictors in the Model: (Constant), Car washing service, Telephone service, Maintenance service, Spare part supply service, Warranty service						
f. Dependent Variable: After sale service satisfaction						

Source: Own survey, 2011

However, as Table 4.17 shows, driving orientation and documentation service services are not significantly related to overall satisfaction of customers. Though the result is not significant as an individual component still driving orientation shows negative sign on after sale service satisfaction. On the other hand, telephone service shows a positive sign to overall satisfaction of after sale service customers.

Moreover, the research conducted by Loomba (1998), Forooz and Rostami (2006), Gaiardelli, et al. (2007), and Potluri and Hawariat (2010) have shown after sale service is essential for the satisfaction of customers. The study conducted by those researchers match with the finding of the researcher.

4.4. After Sale Services Offered in the selected automotive industry

According to the after sale service manager and the after sale service technician coordinators, Holland Car PLC provides maintenance, spare parts supply, telephone service, warranty, driving orientation and documentation service in its after sale service station. The company after sale service technician coordinators told to the researcher that Holland Car PLC also provides car-washing service and it is done when maintenance service is offered to customers. On the other hand, the after sale service foreman of MOENCO stated at the time of interview as spare part supply service, pre delivery inspection (PDI) service, free service check-up, express maintenance service, periodic maintenance service, general repair service, annual vehicle inspection service,

towing service, training service, telephone service, warranty service and documentation services are those after sale services offered by MOENCO in the after sale service station at Bole.

4.5. Comparisons of Customer Satisfaction in the after Sale Services of selected companies

As the after sale service coordinator of Holland Car PLC stated Holland Car PLC has conducted one customer satisfaction survey using questionnaire, while one the foreman from MOENCO responds to the researcher as the company has customer satisfaction survey through asking customer to forward their feeling from the service they got. The comparative analysis of the selected company after sale services and the satisfaction of selected customers in the industry have been shown as follows. .

The data from the interview shows Holland Car PLC has no separate reception room which has facilities, and the company uses the room of documentation as a reception room, while MOENCO has separate reception room which has its own seat, customer lounge, television, newspaper, magazine and so on.

The sample after sale service customers were questioned about the cleanness and comfort of after sale service receptions of the company. As a result, 10% of the sample respondents respond as it is excellent while majority of the respondents representing 62% rank as it is very good. 17%, 6 % and 5% are respondents who said good, fair and poor for the cleanness and comfort of after sale service reception of Holland Car PLC respectively. On the other hand, 52% of the sample customers of MOENCO respond as for the cleanness and comfort of after sale services as excellent, while 30 % and 18% are the sample respondents who said very good and good respectively.

4.5.1. Maintenance service

According to Rizaimy, et al. (2009) a car or truck today may contain 10,000 mechanical parts and 40 on-board computers, all-vulnerable to dirt, grease, salt, rust, corrosion, friction, and shock. As a result, the vehicle should get maintenance services. In order to get maintenance service vehicle owners visit their automotive dealer frequently. The maintenance services offered by the selected companies have been discussed below;

Holland Car PLC maintenance service

a) Preventive maintenance

It includes actions performed in an attempt to keep an item in a specified operating condition by means of systematic inspection, detection and prevention of emergent failure. Holland Car PLC suggests preventive maintenances like frequent oil changes, avoiding engine stress, and paying careful attention to the manufacturer's recommendations about how to break in a new car. However, mechanical parts normally require regular maintenance. Holland Car PLC believes each vehicle should get preventive maintenance and inspection with 5000 Kms travel interval.

b) Corrective maintenance

It is unscheduled maintenance or repair actions performed because of failures or deficiencies, to restore items to a specific condition. The restoration or replacement of components of facilities or equipment as necessitated when wear, tear, damage or failure occurred on vehicle parts. It is important to return the facility or equipment to efficient operating condition. Holland Car PLC offer corrective maintenance service in free of charge if the problem is stated under the warranty agreement and within the warranty period (12 months or 25000 Kms)

MOENCO maintenance service

A. Free Service Check-up

All passengers and commercial vehicles purchased from MOENCO are entitled for free maintenance check-ups at 1,000 km and 5,000 km except for replacement of lubricants and filters.

B. Express Maintenance Service

MOENCO provides its valued customers with express maintenance service for TOYOTA, DAIHATSU & LEXUS vehicles at its main branch in Addis. The service center is equipped with the most advanced automotive equipment and the service provided by qualified technicians. The express maintenance service is available for standard maintenance check-up services of all models vehicles with mileage up to 50,000 km. During the express maintenance service, customer can watch the entire check-up process on his/her vehicle through the window of the

comfortable customer waiting lounge. The company has applied activity time ratio for most maintenance services.

C. Periodic Maintenance

Proper maintenance will ensure maximum performance, greater reliability, longer life and higher resale value for your vehicle. In order to ensure safety, the company recommends that all TOYOTA, DAIHATSU & LEXUS owners to bring in their vehicles to the service centers in every 5,000 km or 3 months (whichever comes first). The company's periodic maintenance Service comprises of four categories of detailed inspection and adjustment packages (A, B, C and D) depending on the mileage of the vehicle.

D. General Repair ($\geq 200,000$ kms)

MOENCO's service centers also provide general repair service for all sophisticated general mechanical and electrical system on all TOYOTA, DAIHATSU & LEXUS vehicles. The company's general repair service comprises of units overhauling (like engines, automatic and manual transmissions/transaxles, fuel injection pumps, differentials, steering gearboxes, vane pumps, starters, alternators, etc.), and diagnosis & repair of any malfunctions on the vehicle using the state-of-art equipment and tools available in the service centers. MOENCO also provides towing service to assist our customers in the event of vehicle breakdown or malfunction.

As the researcher identified and stated in Table 4.6 and 4.9, maintenance service is one – dimensional requirement and customers satisfaction increases when customers get maintenance service. Accordingly the researcher has compared the satisfaction of customers on maintenance service of Holland Car PLC and MOENCO. (See Table 4.18)

Table 4.18: Chi-square test on maintenance service (n = 167)

Maintenance Parameters	Company	Column percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on maintenance to solve problem	Holland Car PLC	0	0	29.2	28.6	44.1	4	4.009	2	0.135
	MOENCO	0	0	70.8	71.4	55.9	4			
Customer satisfaction on time it takes for maintenance	Holland Car PLC	50	68.8	23.4	23.3	33.3	3	23.030	4	0.000*
	MOENCO	50	45	76.6	76.7	66.7	4			
Customer satisfaction on price of maintenance	Holland Car PLC	100	55	35.7	28.6	39	4	4.684	4	0.321
	MOENCO	0	45	64.3	71.4	61	4			
Customer satisfaction in the overall maintenance service	Holland Car PLC	100	37	26.1	26	51.3	4	10.075	4	0.039*
	MOENCO	0	63	73.9	74	48.7	4			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

The above table is a cross-tabulation of customer satisfaction on one after sale service parameter by the company (Holland Car PLC and MOENCO), with percentage of column. Column proportions are computed so that they sum to 100% down each column. If these two variables are unrelated, then in each row the proportions should be similar across columns. There appear to be differences in the proportions for the variables to be similar.

The test of independence hypothesizes that customer satisfaction on after sale service parameters by the company (Holland Car PLC and MOENCO), are unrelated. While, the null hypothesis hypothesizes that customer satisfaction on after sale service parameters on the two companies has no difference in the response pattern of customers. The chi-square statistic measures the overall discrepancy between the observed cell counts and the counts expected if the column proportions were the same across columns. A larger chi-square statistic indicates a greater discrepancy between the observed and expected cell counts greater evidence that the column proportions are not equal, that the hypothesis of independence is incorrect, and, therefore, that customer satisfaction on after sale service parameters by the company (Holland Car PLC and MOENCO), are related.

The computed chi-square statistic has a value of 23.030 and 10.075 for the time it takes for maintenance service and for the overall maintenance service. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.000 and 0.039) is the probability that a random variate drawn from a chi-square distribution with 4 degrees of freedom for the time it takes for maintenance service and for the overall maintenance service respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.05 level of significance. Hence, there is a significance difference in the pattern responses of the two company customer's satisfaction for the time it takes for maintenance service and for the overall maintenance service by the company (Holland Car PLC and MOENCO). But customer satisfaction on the maintenance service to solve the problem and on the price of maintenance service shows insignificant result (0.135 and 0.321 respectively), this shows there is no difference on the two companies maintenance to solve the problem and on the price of maintenance service in satisfying their customers. The mean result of customer satisfaction shows customers are satisfied with all parameters of maintenance service in the two companies except a mean of less

than satisfied in the time it takes for maintenance service in Holland Car PLC. Comparing the two company's customer satisfaction most of the satisfied and very satisfied customers are from MOENCO. This is because of the way that the MOENCO provide maintenance service using sophisticated technology.

According to Attafar (2010), when customers believe that a service price is fair, the purchase behavior of customers tends to be repeated. In contrast, if customers feel that certain service does not deserve its price, they will not repeat purchase behavior. In addition, firms and customers compare the price and quality of services with the same services and evaluate by making comparisons with other references, and the same for time it takes to get service. Moreover, if a service fulfills the customer's expectations, the customer will be pleased and consider that the service is acceptable. Therefore, to manage price, time and quality decisions effectively, marketing managers should assay respond of consumers to those changes.

Car washing service

As the company after sale service technician coordinators said Holland Car PLC provide car washing service at the time of maintenance service. On the other hand foreman from MOENCO respond as the company keep the neatness of customers' vehicle with automatic vehicle washing equipment the type of which is unique in the country. As the result of Table 4.12 shows, the after sale service customer of MOENCO categorize car washing service as attractive requirement if it is offered separately. On the other hand, customers of MOENCO have categorized car washing service as one- dimensional requirement. Holland Car PLC sample customers response for the cleanness of their vehicles after washed shows , 44% of the sample population are satisfied, 31% are very satisfied, 21% are neutral and 5 % are dissatisfied with the cleanness of the vehicles after washed. On the other hand, MOENCO sample after sale service customer's response indicates 57% the sample respondents are very satisfied, 31% are satisfied, 12% are neutral with the cleanness of their vehicle after washed.

In addition as one of the technician coordinator said Holland Car PLC has no clean destination for washed vehicles, and those washed vehicles not safe from ash and mud unless the owner take the vehicle immediately. To solve this problem the company washes vehicles one day before the submission date of vehicles. But MOENCO foreman respond as the company has separate area

for washed vehicles and the vehicles washed after every process of maintenance has been finalized.

Technicians

As the after sale service manager of Holland Car PLC said, Holland Car PLC have 34 technicians of which 20 of them are permanent and the rest 14 are temporary workforce of the company. On the other hand MOENCO has 147 service trained technicians. At the time of interview the forman from MOENCO stated that the company offers short time and longtime training for its technicians and front line employees. From the response of Holland Car PLC and MOENCO customers, it is possible to infer a variation on the competency and politeness of technician among the two companies. Though more than 68% of Holland Car PLC and MOENCO after sale service customers are satisfied with both competency and politeness of technicians, most of Holland Car PLC sample respondents are satisfied with the politeness of technicians. On the other hand, most of MOENCO sample respondents are satisfied with competency of technicians than politeness of technicians. Attitudes and performance of employees, particularly for front line service providers it is a vital factor for the failure or success. There is interdependence between customers and service providers. Emotional response of customers for the service and products can affect attitude of customers to their dealing and experience with service providers as shown in (Attafar, 2010).

4.5.2. Spare part supply service

According to Goffin (1999) original spare parts are defined in the following ways;

1. Parts produced directly by the vehicle assembler
2. The components produced by the original equipment supplier and branded with the logo(s) of the vehicle manufacturer and the parts manufacturer and supplier.
3. Technically identical parts produced by the parts supplier, branded with its logo and sold to the independent after market.
4. When parts used are of the same specifications and production standards as those used by the vehicle assembler.

The spare parts of Holland Car PLC are parts supplied by Lifan, FIAT and GAC brands. Holland Car PLC supplies all spare parts for its brand and products sold from Holland Car PLC. And MOENCO provides genuine parts for the vehicles it supplies. The company delivers spare parts with the right quality at the right time and the right place. MOENCO's parts operation is one of primary value chain systems and it is based on "JIT" operation system (Just in time) which in turn is based on "sell one buy one" philosophy. And the service is computerized in which the amount of spare parts in store and ordered are clearly recorded.

Beauvillard, et al. (2009) stated that different types of services have different success factors. In spare parts supply for example, pricing, availability, delivery speed, and combined technical and customer database are key to customer satisfaction and profitability. The effect of price, availability and delivery speed in spare part of Holland Car PLC and MOENCO on the satisfaction of after sale service customers has been compared in the Table 4.19 below.

Table 4.19: Chi-square test on spare part service (n= 167)

Spare part supply parameters	Company	Percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on access of spare parts in store	Holland Car PLC	0	57.7	25	26.8	39	4	9.832	3	0.020*
	MOENCO	0	42.3	75	73.2	61	4			
Customer satisfaction on on time supply of spare parts	Holland Car PLC	30.8	88.2	23.9	25	34	3	25.968	4	0.000*
	MOENCO	69.2	11.8	76.1	75	66	4			
Customer satisfaction on price of spare parts	Holland Car PLC	100	58.3	18.2	28.6	34	4	10.583	4	0.032*
	MOENCO	0	41.7	81.8	71.4	66	4			
Customer satisfaction in the overall Spare part supply service	Holland Car PLC	0	25	65	22	40	4	8.155	3	0.043*
	MOENCO	0	75	35	78	60	4			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

The computed chi-square statistic has a value of 9.832, 25.96, 10.583, and 8.155 for the access of spare part in store, for on time supply of spare parts, for price of spare parts and for the overall spare part supply. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.020, 0.000, 0.032, and 0.043) is the probability that a random variate drawn from a chi-square distribution with 4 degrees of freedom for the access of spare part in store, for on time supply of spare parts, for price of spare parts and for the overall spare part supply respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.05 level of significance. Hence, there is a significance difference in the pattern responses of the two company's customer satisfaction for the access of spare part in store, for on time supply of spare parts, for price of spare parts and for the overall spare part supply. The mean result of customer satisfaction shows customers are satisfied with all parameters of spare part supply service in the two companies except a mean of less than satisfied in the on time supply of spare parts in Holland Car PLC. Comparing the two company's customer satisfaction most of the satisfied and very satisfied customers are from MOENCO. This is because of the way that the MOENCO provide spare part supply service using "JIT" philosophy. Because as Attafar (2010) stated the customers should be satisfied with the price, time and quality of services as a result customers can have another purchase from the company.

4.5.3. Warranty service

Warranties serve as persuasive marketing tools: (i) promotional and (ii) protectoral. As a promotional tool, warranties serve to promote the reliability and quality of a product with longer and better warranty terms implying a more reliable product. As a protectoral tool, warranties provide assurance to consumers against defective products that fail to perform satisfactorily over the warranty period. Warranties have played an important role in the automobile sector. The warranty for automobiles was 90 days in the 1930s and this has steadily increased over the years. In 2002, Suzuki offered a 7-year, 100,000-mile warranty on the power train and a 3-year, 36,000-mile bumper-to-bumper warranty as shown in (Bei 2008). As the data from the interview shows Holland Car PLC warranty remains valid for 12 months or 25,000 Kms distance, while MOENCO warranty remains valid for 12 months and 40,000 km distance whichever comes first up on the date the goods are delivered to the buyer excluding consumable parts, electrical and

electronics spare parts and defects arising from buyers miss handling in operation, collision, fire or any other external factors unless otherwise specified in the contract.

Depending on the warranty service of Holland Car PLC and MOENCO, in which the after sale service customers consider this service as must-be requirement the after sale service sample customers are questioned to express their satisfaction on the duration, clearness and implementation of warranty as promised. And the comparative result has been shown below on Table 4.20.

Table 4.20: Chi-square test on warranty parameters (n = 167)

Warranty parameters	Company	Percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on clearness of warranty information	Holland Car PLC	0	90.9	42.9	27.7	33.3	4	17.869	3	0.000*
	MOENCO	0	9.1	57.1	72.3	66.7	4			
Customer satisfaction on length of warranty	Holland Car PLC	100	90	34.5	27.1	35.5	4	17.961	4	0.001*
	MOENCO	0	10	65.5	72.9	64.5	4			
Customer satisfaction on the implementation of warranty as promised	Holland Car PLC	0	100	38.9	31.1	31.6	4	6.627	3	0.085
	MOENCO	0	0	61.1	68.9	68.4	4			
Customer satisfaction on the overall warranty service	Holland Car PLC	0	45.2	100	28.7	35	4	6.773	3	0.039*
	MOENCO	0	54.8	0	71.3	65	4			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

The computed chi-square statistic has a value of 17.69, 17.961 and 6.773 for the cleanness of warranty information, for the length of warranty time and for the overall warranty service. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.000, 0.001 and 0.039) is the probability that a random variate drawn from a chi-square distribution with 3, 4 and 3 respectively for the cleanness of warranty information, for the length of warranty time and for the overall warranty service respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.05 level of significance. Hence, there is a significance difference in the pattern of responses of the two company's customer satisfaction for the cleanness of warranty information, for the length of warranty time and for the overall warranty service. But, customer satisfaction on implementation of warranty as promised shows insignificant result (0.085), this shows there is no difference on the two companies in the implementation of warranty as promised in satisfying customers. The mean result of customer satisfaction shows customers are satisfied with all parameters of warranty service in the two companies. Comparing the two company's customer satisfaction most of the satisfied and very satisfied customers are from MOENCO. This is because of the way that the MOENCO provide warranty service in relatively longer period.

4.5.4. Documentation service

Holland Car PLC has a documentation service in which each customer has one catalogue and every history of the vehicle is written in that catalogue which have file cabinet with customers name and address. On the other hand MOENCO has electronic documentation in which it has a record of every vehicles sold from the company everywhere in the world. In addition MOENCO documentation has connection with different departments of the company and in three branches of the country. The comparisons of customers satisfaction in the two companies is shown on Table 4.21.

Table 4.21: Chi-square test on documentation parameters (n = 167)

Documentation parameters	Company	Percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on accuracy of documentation service	Holland Car PLC	100	100	0	29.9	36.4	4	10.621	3	0.014*
	MOENCO	0	0	0	70.1	63.6	4			
Customer satisfaction on relevance of documentation requests	Holland Car PLC	100	100	36	25	34.5	4	13.738	4	0.008*
	MOENCO	0	0	64	75	65.5	4			
customer satisfaction in the overall documentation service	Holland Car PLC	100	66.7	100	28.7	34.6	4	10.834	4	0.028*
	MOENCO	0	33.3	0	71.3	65.4	4			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

The computed chi-square statistic has a value of 10.621, 13.738 and 10.834 for the accuracy of documentation, for the relevance of documentation request and for the overall documentation service. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.014, 0.008 and 0.028) is the probability that a random variate drawn from a chi-square distribution with 4 degrees of freedom for the accuracy of documentation, for the relevance of documentation request and for the overall documentation service respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.05 level of significance. Hence, there is a significance difference in the pattern responses of the two company's customer satisfaction for the accuracy of documentation, for the relevance of documentation request and for the overall documentation service. The mean result of customer satisfaction shows customers are satisfied with all parameters of documentation service. Comparing the two company's customer satisfaction most of the satisfied and very satisfied customers are from MOENCO. This is because of the way that the MOENCO provide documentation service through computerized system.

Many companies now have sophisticated documentation of company activities and stakeholders. For documentation purpose, the availability of computerized systems and memory devices play an important role. According to Goffin (1999) for the automotive industry, the documentation service incorporate typical forms of documentation like cover equipment operation, installation, maintenance, and repair. Good documentation can lead to lower support costs and increased productivity. However, the documentation for many products and services is poorly written and unnecessary information is included and difficult to understand.

4.5.5. Telephone service

The after sale service customers of Holland Car PLC and MOENCO after sale service customers categorize this service as one dimensional requirement. As the after sale service technician coordinators of Holland Car PLC and foreman of MOENCO stated both companies offers telephone service for the after sale service customers in two cases.

1. The after sale service of Holland Car PLC provides feedback for customer calls when the customer has call when their vehicle faced problem, and the available technicians tell customers what to do through telephone.

2. After the vehicles got maintenance service the after sale service technicians call for owners of the vehicle by taking their address from the customers' catalogue and inform them to take their vehicle. The telephone service of MOENCO is also done through tale operator to make the communication easy and for customers to get the right information from the right person.

Table 4.22: Chi-square test on telephone service parameters (n = 167)

Telephone service parameters	Company	Percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on telephone service on solving the problem	Holland Car PLC	100	91.7	29.6	26	32.1	4	24.004	4	0.000*
	MOENCO	0	8.3	70.4	74	67.9	4			
Customer satisfaction on ontime feedback through telephone	Holland Car PLC	100	26.9	29.6	42.4	37	3	4.587	4	0.332
	MOENCO	0	73.1	70.4	57.6	63	4			
Customer satisfaction in the overall telephone service telephone service	Holland Car PLC	0	92.9	25.9	30.2	30.4	4	23.739	3	0.000*
	MOENCO	0	7.1	74.1	69.8	69.6	4			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

As Table 4.22 shows, the computed chi-square statistic has a value of 24.004 and 23.739 for the telephone service to solve the problem and for the overall telephone service. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.000 and 0.000) is the probability that a random variate drawn from a chi-square distribution with 4, 3 respectively degrees of freedom for the telephone service to solve the problem and for the overall telephone service, respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.01 level of significance. Hence, there is a significance difference in the pattern responses of the two company's customer satisfaction for telephone service to solve the problem and for the overall telephone service. But customer satisfaction on the on time feedback through telephone shows insignificant result (0.332), this shows there is no difference on the two companies on ontime feedback through telephone service to satisfy their customers. The mean result of customer satisfaction shows customers are satisfied with all parameters of maintenance service in the two companies except a mean of unsatisfied feeling of customers in the on time feedback through telephone in Holland Car PLC.

4.5.6. Driving orientation

As the after sale service technician coordinators of Holland Car PLC and foreman of MOENCO, Since vehicles have sophistication and variation of parts from time to time, especially vehicles produced recently are computerized. Both companies provide driving orientation / training for customers in order to make familiar what is on the vehicle. Table 4.23 shows the chi-square test on driving orientation parameters.

Table 4.23: Chi-square test on driving orientation parameters (n = 167)

Driving orientation parameters	Company	Percent (Holland Car PLC n = 57, MOENCO n = 110)					Mean	Chi-square	df	Sig.
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied				
Customer satisfaction on content of driving orientation	Holland Car PLC	100	100	25.6	36.7	19.5	3	41.22	4	0.000*
	MOENCO	0	0	74.4	63.3	80.5	4			
Customer satisfaction on duration of driving orientation	Holland Car PLC	100	100	24.7	40.7	18.2	3	45.223	4	0.000*
	MOENCO	0	0	75.3	59.3	81.8	4			
Customer satisfaction on the overall driving orientation	Holland Car PLC	100	37.8	20.9	33.3	46.7	3	7.640	4	0.106
	MOENCO	0	62.2	79.1	66.7	53.3	3			

* Significant at $p = 0.05$ level of significance; p = refers to probability

Source: Own survey, 2011

The computed chi-square statistic has a value of 41.22 and 45.223 for the content of driving orientation and for the duration of driving orientation service. In order to determine whether this is enough evidence to reject the hypothesis of independence, the significance value of the statistic is computed. The significance value (0.000 and 0.000) is the probability that a random variate drawn from a chi-square distribution with 4 degrees of freedom for the content of driving orientation and for the duration of driving orientation service respectively. Since this value is greater than the table value, we can reject the null hypothesis at the 0.05 level of significance. Hence, there is a significance difference in the pattern responses of the two company's customer satisfaction for the content of driving orientation and for the duration of driving orientation service.

But, customer satisfaction on the overall driving orientation service shows insignificant result (0.106), this shows there is no difference on the two companies driving orientation service to satisfy their customers. The mean result of customer satisfaction shows customers are satisfied with the content and duration of driving orientation service in MOENCO, but customers of Holland Car PLC are not satisfied with all parameters of driving orientation service

As one of the after sale service technician coordinators said Holland Car PLC provides driving orientation and other orientations after maintenance of vehicles have been made. The after sale service customers of Holland Car PLC and MOENCO has shown their feeling of driving orientation as the reverse requirement. The result proves that if the reverse quality is offered to customers the dissatisfaction of customers will be increased. The reason for the dissatisfaction of more than half of the customers is the negative feeling that the customers have towards driving orientation.

4.5.7. Customer satisfaction in the overall after sale service

After identifying the satisfaction of customers for each components of after sale services of, the researcher has questioned the sample population to express their overall satisfaction in after sale services. The response of customers has shown in the figure 4 below.

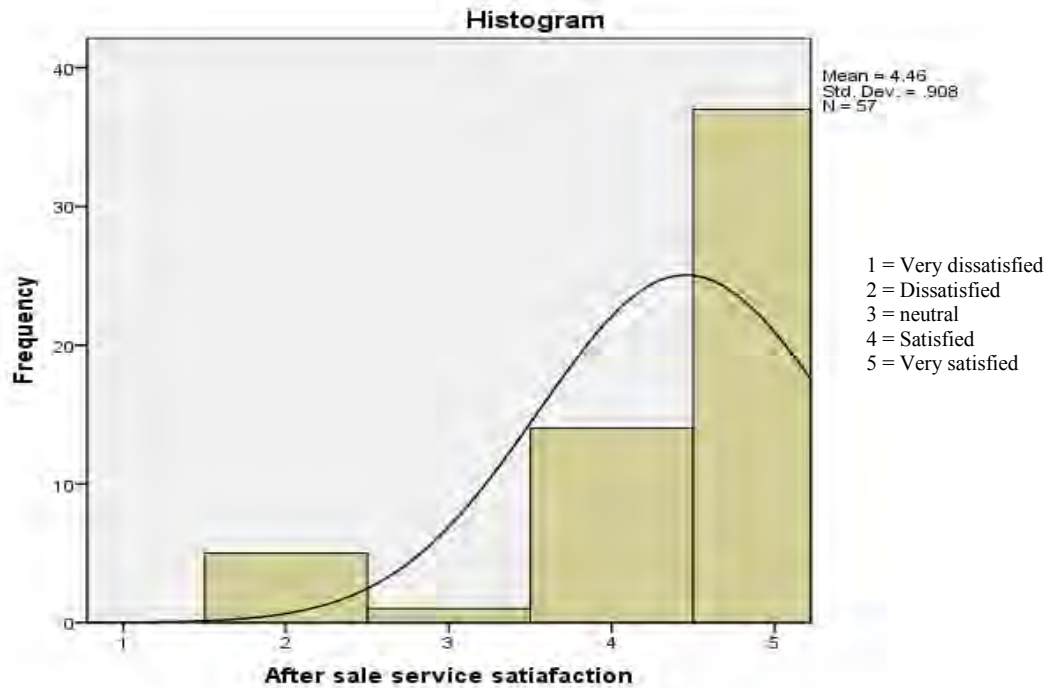


Figure 4: Overall satisfaction of Holland Car PLC customers in the after sale service (n=57)

Source: own survey, 2011

As shown in figure 4 above, 37 customers representing 65% of sample population are very satisfied, 14 respondents representing 27 % are satisfied, and 1 respondents representing 2 % are neutral with the overall after sale service of Holland Car PLC. While 5 respondents representing 9 % of sample after sale service customers are dissatisfied and none of the sample populations are very dissatisfied with the overall after sale service. The mean (4.46) result of after sale service customers in the overall satisfaction of customers in the after sale service proves that customers are satisfied.

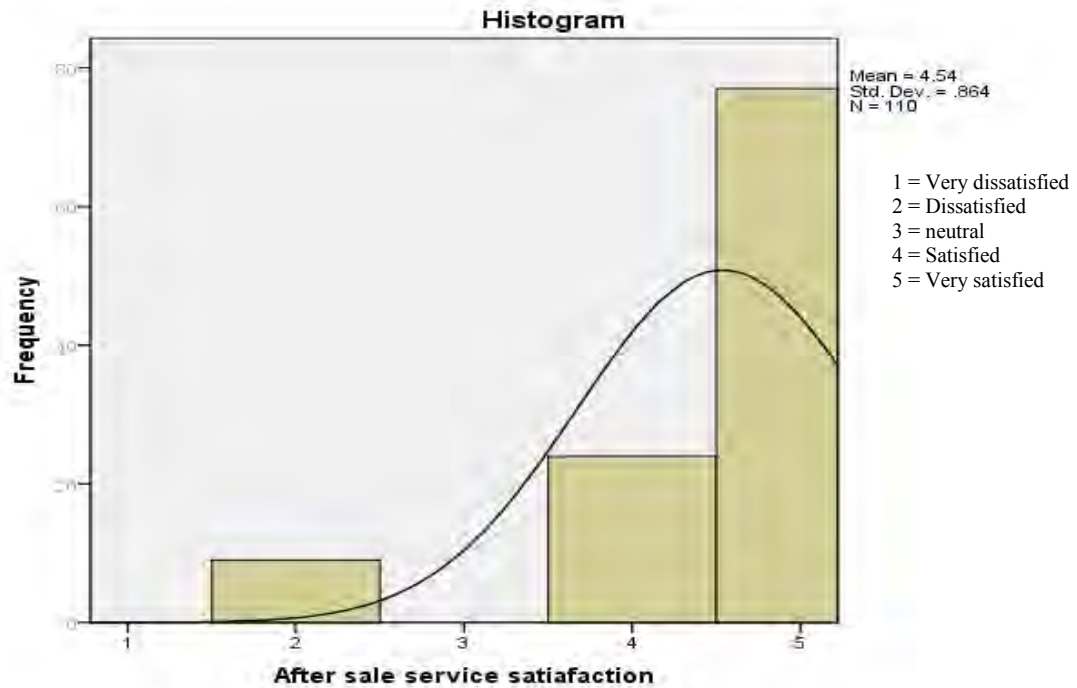


Figure 5: MOENCO Customer satisfaction in the overall after sale services (N= 110)

Source: Own survey, 2011

As shown in figure 5 above, 77 customers representing 70 % of sample population are very satisfied, 24 respondents representing 22 % are satisfied, and 9 respondents representing 8 % of sample after sale service customers are dissatisfied and 2.2% of the sample populations are very dissatisfied with the overall after sale service. While none of the respondents feel neutral with the overall after sale service of MOENCO. The mean (4.54) result of after sale service customers in the overall satisfaction of customers in the after sale service shows satisfied.

The result from the overall satisfaction of after sale service customers also show Holland Car PLC and MOENCO have few customers who are dissatisfied with the overall after sale services. But all after sale service customers respond as they will visit the after sale service station again. From the overall satisfaction repose it is possible to infer that customers visit after sale service station again to get service not because they are satisfaction rather because of the availability of vehicles brand spare parts and agreement to get service from the company.

4.6. Customer Satisfaction and Loyalty

The relationship between the overall satisfaction in the after sale service and the rebuy behavior (loyalty) for the selected automotive companies after sale service customers using the correlation analysis is shown the Table 4.24 below.

Table 4.24: Correlation matrix of customer satisfaction and loyalty (n= 167)

Correlations			
		Loyalty (buy another vehicle)	After sale service satisfaction
Loyalty (buy another vehicle)	Pearson Correlation	1	.330**
	Sig. (2-tailed)		.002
	N	167	167
After sale service satisfaction	Pearson Correlation	.330**	1
	Sig. (2-tailed)	.002	
	N	167	167
** . Correlation is significant at the 0.01 level (2-tailed).			

Source: Own survey, 2011

Analyzing the data of 167 sample respondents yield that, Pearson correlation coefficient of (0.330) which is significant at the 95 % confidence level. And the overall satisfaction of customers in the after sale service and their interest to buy another vehicle from Holland Car PLC and MOENCO is positively correlated (0.330), but the correlation is low. The correlation implies that after sale service customer satisfaction has a positive and low relationship with customer loyalty, the low relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after sale services. For example, factors like vehicle price, gasoline prices, substantial change in income (up or down), family preference, job requirement etc...could influence the decision of buying other vehicle.

In addition, the response of customers for the overall satisfaction in Holland Car PLC shows a mean of respondents answer is satisfied. Moreover, as Table 4.25 shows below, 89% of the sample populations are very satisfied and satisfied with the overall after sale services of Holland Car PLC. 9% of the population are dissatisfied with the after sale service and the rest 2% are

neutral. But 79% of the customers respond as they will buy another vehicle from Holland Car PLC depending on their experience in the after sale service of Holland Car PLC. And also 92% of the sample populations are very satisfied and satisfied with the overall after sale services of MOENCO. 8% of the population are dissatisfied with the after sale service. But 76% of the customers respond as they will buy another vehicle from MOENCO depending on their experience in the after sale service of MOENCO. This strengthens the positive relationship between customer satisfaction in the after sale service and rebuying from the company or loyalty of customers. The research conducted by Hallowell (1996), Wang and Ji (2009), Raza (2010), John and Shiang (2010), Seyed (2007), Lin (2009) and Sudharshan (2010) shows the positive relationship between customer satisfaction and loyalty. Therefore, the finding of researcher matched with the finding of those researchers.

Table 4.25: Customer satisfaction and rebuy behavior (N = 167)

		Name of the company			
		Holland Car PLC		MOENCO	
		Frequency	Percent	Frequency	Percent
Customer satisfaction in the overall after sale service	Very dissatisfied	0	0	0	0
	Dissatisfied	5	8.8	9	8.2
	Neutral	1	1.8	0	0
	Satisfied	14	24.6	24	21.8
	Very satisfied	37	64.9	77	70
	Total	57	100	110	100
Buy another vehicle from Holland Car PLC	Yes	45	78.9	84	76.4
	No	12	21	26	23.6
	Total	57	100	110	100

Source: Own survey, 2011

4.7. Challenges of After Sale Service

As the after sale service manager of Holland Car PLC stated in the interview one challenge of after sale service is some customers lack understanding in contents of warranty agreement. As he stated few customers wants to get service that is not stated in the warranty agreement.

In addition, the after sale service technician coordinators stated Holland Car PLC has two Garages. One is the after sale service station at Bole (Wollo Sefer) and the other is its maintenance Garage at Bole Michael as a result working in separate area could be considered as another challenges. Because vehicles which requires corrective maintenance service will be serviced at Bole Michael Garage, and after maintenance is completed the vehicle will be moved to Wollo Sefer after sale service station and the customers will take their vehicle at the after sale service station. This has a cost of transportation and takes time. However, if the service is offered at one area the cost and time the company faced will be eliminated.

The technician coordinators of Holland Car PLC stated that the after sale service for vehicle industry requires huge workshop, as a result not having huge workshop and not having activity time ratio to accomplish a specific task is another challenge Holland Car PLC faced in implementing after sale service.

Moreover, as technician coordinators of Holland Car PLC stated the customers perception for the after sale service (some customers are nervous when something happened in their vehicle and they order the after sale service technicians to solve the problem immediately. For example, few customers were hot when Lifan vehicles faced problem when the amount of ethanol in gasoline has increased from 2-10 percent) is another challenge Holland Car PLC faced in implementing after sale service. The data from the interview also shows as there was no special customer handling and technical training given to workers rather technicians treats customers by the experience they had.

One after sale service Technician coordinator also stated that Holland Car PLC has faced short time shortage of spare part for DOCC brand. As a result, the shortage of spare parts could be another challenge of after sale service of Holland Car PLC. The company did not apply outsourcing of after sale service and it does not face any challenges faced because of outsourcing.

On the other hand, the foreman of MOENCO have explained as the company has faced rare challenges in implementing after sale service for its customers because of the company's motto of "customer first " philosophy. As the data from interview with MOENCO foreman and after sale service manager shows few customers try to cheat the technicians by giving their vehicle for service after showing only few problems of their vehicle. As a result the company discover additional problem on the vehicle and the customers deny unregistered defect on their vehicle and they debate to get parts changed fee and get their vehicles serviced on free of charge. In addition to this MOENCO has faced parking shortage to implement annual inspection service. Hence, shortage of parking and cheating of few customers are among the challenges that MOENCO faced in implementing after sale service.

CHAPTER FIVE: SUMMERY, CONCLUSION AND SUGGESTION

4.1. Summery and Conclusion

According to the results of the customer requirement analysis depending on the most frequent responses and calculation of customer satisfaction coefficients requirements like maintenance, spare parts supply, online (telephone), and inspection services have been found to be closer to one - dimensional requirements classification for Holland Car PLC and MOENCO after sale service customers. While warranty service and training (driving orientation) has been classified as must be and reverse requirement respectively for those company's customers. On the other hand, car washing service has been classified as the requirements that are closer to attractive requirement for MOENCO customers and one dimensional requirement for Holland Car PLC customers. Documentation service was also categorized as must be requirement for Holland car PLC customers and one dimensional requirement for MOENCO customers in Kano category. From the above finding it is possible to conclude that different company customers could have different feeling for similar service.

Holland Car PLC after sale service manager, 3 after sale service technicians , MOENCO foreman and more than 85 % of the sample after sale service customers from selected companies who have got after sale services more than once respond as after sale service has an effect on customer satisfaction and loyalty (rebuy behavior). More over the result from the regression analysis proves as after sale service has an effect in the overall satisfaction of customers.

In the regression analysis after sale service components like maintenance service, warranty service, telephone services, car washing service and spare part supply service are found significantly related to overall satisfaction level of after sale service customers and they have no equal contribution to overall satisfaction levels. However, driving orientation and documentation services are not significantly related to overall satisfaction of customers.

From the Kano analysis and regression analysis it is possible to conclude that after sale service component has an effect on the satisfaction of customers.

From the result of the study it is possible to conclude that the components of after sale services that automotive companies provide to their after sale service customers are PDI service, preventive and corrective maintenance service, car washing service, spare parts supply service, online (telephone) service, warranty service, training (driving orientation) service, annual vehicle inspection service, towing service and documentation service in their after sale service.

For the comparative analysis satisfaction of customers for each after sale service is measured in the parameters like quality, time and price. Though most of the customers of the two company's customers are satisfied and very satisfied with the after sale services, there are also customers who are neutral, dissatisfied and very dissatisfied with the after sale services of those companies. The mean of most after sale service parameters also shows a satisfied response on both companies. The pattern of customer's response for the stated companies after sale services have been computed using chi-square test and the result is as follows:

The data from the comparative analysis shows a significant difference in the pattern of response on time it takes for maintenance and on the overall satisfaction of customers, while there is no significant difference in the pattern of customer responses on maintenance service to solve the problem and on price of maintenance service.

In addition, there is a significant difference on the pattern of response in all parameters of spare part supply and documentation services. Moreover, there is a significant difference on the pattern of response on telephone service to solve the problem and for the overall telephone service. While, there is no significant difference on ontime feedback through telephone service in satisfying customers between those companies.

The warranty service duration, clearness and the overall warranty service shows a significant difference among the two companies customers response, while there is no difference on the implementation of warranty as promised in satisfying customers of those companies.

The content and duration of driving orientation shows a significant difference in the pattern of response between the two companies, while the overall satisfaction of customers of the two companies has no significant difference in the pattern of customer's response.

As a result, from the result of the two company's comparative analysis, we can infer that automotive companies provide similar after sale service in different way. In addition the way they provide after sale service for their customers has a different effect on the satisfaction of customers.

The result from this study also shows a positive relationship between customer satisfaction in the after sale service and rebuying behavior from the company or loyalty of customers.

The challenges that automotive companies faced in implementing after sale service are: the customers lack understanding the contents of the company warranty, lack of customer handling and technical training, lack of having huge after sale service workshop, shortage of parking area, few customers cheat the company by giving false information about the problem of the vehicle, some customers feel nervous when they got problem in their vehicle and they need immediate solution for serious vehicle problems, and shortage of spar part access.

4.2. Suggestion

Depending on the finding of the research the researcher forwards the following suggestions for Holland Car PLC and MOENCO.

- First, the problem of dissatisfaction should be removed by responding to the one-dimensional/basic requirements. The great increase in the satisfaction is also possible by responding to the attractive requirements more. In addition, the reduction or change of reverse requirement could reduce or avoid the dissatisfaction of customers, because these requirements are already categorized dissatisfying attribute by Kano category.
- Though the regression analysis result proves the insignificance of documentation and driving orientation service for overall satisfaction of customers, customers of MOENCO and Holland Car PLC feel documentation service as a must-be requirement and one dimensional requirement in which its existence will affect the satisfaction of customers. Hence, Holland Car PLC and MOENCO have to offer documentation service in a better way.
- Both companies should solve the dissatisfaction of customers in quality, time and price by assessing customer's satisfaction frequently.
- In addition, the researcher suggests Holland Car PLC to build after sale service workshop that fulfills vehicle workshop standards, to provide customer handling training for those employees who have frequent contact with customers, and technical training for after sale service technicians, to implement computerized system of service, to make the warranty statement easily understandable for customers and improve the warranty duration, and to build a separate reception room that have facilities like TV, Newspaper, Magazine, Comfortable seat etc...
- On the other hand, the researcher suggests MOENCO to have a separate garage which can give annual vehicle inspection service to avoid parking problem and technician who can identify the vehicles problem before the reception of the vehicle for service.

Finally, the researcher wants to recommends to those researchers who have an interest on after sale service to conduct a study on after sale and its impact on customer satisfaction and profitability. Because after sale service is essential for customer to get service after they purchase the product as well as for the sellers as one means of customer loyalty, repeat purchase and profitability.

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ANNEXES

ANNEX I: Interview Questions for Holland Car PLC and MOENCO After Sales Service Manager

1. Which one(s) of the following after sales service method Holland Car PLC is using?
 - ❖ Installation
 - ❖ Training
 - ❖ Documentation
 - ❖ Maintenance
 - ❖ Online support
 - ❖ Upgrades
 - ❖ Part supply
2. Are there any other methods the company is using and not mentioned in the above list?
Please mention them.
3. What challenges does the company faced in implementing after sale service?

ANNEX II: Interview Questions for Holland Car PLC After Sales Service Technician Coordinators and MOENCO Foremen.

1. Position -----

2. What after sale services does your company offer to its customers in this after sale service delivery station? How it is offered?

3. What challenges does your company faced in implementing after sales service?

ANNEX III: Questionnaire for Holland Car PLC after sale service customers.

Addis Ababa University
College of Management, Economics and Information Science
Master of Business Administration Program

This questionnaire is prepared by Kindye Essa, who is Master of Business Administration student at Addis Ababa University. The purpose of this questionnaire is to gather data in order to study effect of after sale services on customers' satisfaction and loyalty. Please co-operate by filling the questionnaire, because your genuine, frank and on time response is vital for the success of my study. Besides, the data gathered by this questionnaire is purely for academic purpose and your response will be secured anonymously. Thus, I kindly request you to respond each item carefully.

Please note that:

1. No need of writing your name.
2. Please fill the answer by putting “√” mark.
3. Please give more attention and return the completed as fast as possible.
4. If you need further explanation, you can contact me on through the address sown below.

Kindye Essa

Mobile: +251913124538

E-mail: kindye.essa@gmail.com

Thank you in advance, for your cooperation.

9. What will be your feeling, if Holland Car PLC **has** each of the following after sale services?
Please put “√” depending on your desire.

After sale services	How do you feel				
	I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Maintenance					
Spare parts supply					
Online service (Telephone)					
Car washing					
Inspection					
Warranty					
Training (driving orientation)					
Documentation					

10. How do you rate your level of satisfaction with the cleanness and comfort of reception of Holland Car PLC?

Excellent Very good Good
Fair Poor

11. Depending on your experience in the after sale services of Holland Car PLC, please put “√” for your level of satisfaction in each criterion shown below?

11.1. Maintenance	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Solve the problem					
Time it takes for maintenance					
Price of maintenance					
Overall maintenance service					

11.2. Spare Parts supply	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Access of spare parts in store					
On time supply					
Price of spare parts					
Overall spare part supply					

11.3. Online / telephone service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Accuracy to solve the problem					
On time feedback					
Telephone service					

11.4. Warranty service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Clearness of information					
Length of warranty service					
Warranty implemented as promised					
Overall warranty service					

11.5. Documentation service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Accuracy of documentation					
Relevance of requested information					
Overall documentation service					

11.6. Training /driving orientation	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Contents of orientation					
Duration of orientation					
Overall satisfaction					

12. How would you rate your satisfaction on the cleanness of your vehicle after washed?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

13. How would you rate your satisfaction on the competency of technicians of Holland Car PLC?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

14. How would you rate your satisfaction on the politeness of after sale service technicians of Holland Car PLC?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

15. How would you rate your overall satisfaction on Holland Car PLC after sale service experience?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

16. Based on your overall experience in the after sale service of Holland car PLC, would you visit the after sale service station again?

Yes No

17. Based on your overall experience in the after sale service of Holland car PLC, would you buy another vehicle from Holland Car PLC?

Yes No

18. If you would like to give additional suggestions, please

Thank you very much!!!

ANNEX III: Questionnaire for MOENCO after sale service customers.

Addis Ababa University
College of Management, Economics and Information Science
Master of Business Administration Program

This questionnaire is prepared by Kindye Essa, who is Master of Business Administration student at Addis Ababa University. The purpose of this questionnaire is to gather data in order to study effect of after sale services on customers' satisfaction and loyalty. Please co-operate by filling the questionnaire, because your genuine, frank and on time response is vital for the success of my study. Besides, the data gathered by this questionnaire is purely for academic purpose and your response will be secured anonymously. Thus, I kindly request you to respond each item carefully.

Please note that:

1. No need of writing your name.
2. Please fill the answer by putting “√” mark.
3. Please give more attention and return the completed as fast as possible.
4. If you need further explanation, you can contact me on through the address sown below.

Kindye Essa

Mobile: +251913124538

E-mail: kindye.essa@gmail.com

Thank you in advance, for your cooperation.

1. Gender: Male Female
2. Age: Under 25 26 - 40
41 - 60 Over 60
3. Educational level
Below secondary school 12 grade complete Diploma
Bachelor degree Master degree and above
4. Average monthly income -----
5. Name of your vehicle.....
6. Do you think after sale service by MOENCO has effect on your level of satisfaction and loyalty?
Yes No
7. How many times did you get after sale service? -----
8. What will be your feeling, if MOENCO **has no** each of the following after sale services?
Please put “√”depending on your desire.

After sale services	How do you feel				
	I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Maintenance					
Spare parts supply					
Online (Telephone) service					
Car washing					
Inspection					
Warranty					
Training (driving orientation)					
Documentation					

9. What will be your feeling, if MOENCO **has** each of the following after sale services?

Please put “√” depending on your desire.

After sale services	How do you feel				
	I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Maintenance					
Spare parts supply					
Online service (Telephone)					
Car washing					
Inspection					
Warranty					
Training (driving orientation)					
Documentation					

10. How do you rate your level of satisfaction with the cleanness and comfort of reception of MOENCO?

Excellent Very good Good
 Fair Poor

11. Depending on your experience in the after sale services of MOENCO, please put “√” for your level of satisfaction in each criterion shown below?

11.1. Maintenance	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Solve the problem					
Time it takes for maintenance					
Price of maintenance					
Overall maintenance service					

11.2. Spare Parts supply	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Access of spare parts in store					
On time supply					
Price of spare parts					
Overall spare part supply					

11.3. Online / telephone service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Accuracy to solve the problem					
On time feedback					
Telephone service					

11.4. Warranty service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Clearness of information					
Length of warranty service					
Warranty implemented as promised					
Overall warranty service					

11.5. Documentation service	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Accuracy of documentation					
Relevance of requested information					
Overall documentation service					

11.6. Training /driving orientation	Level of satisfaction				
	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Contents of orientation					
Duration of orientation					
Overall satisfaction					

12. How would you rate your satisfaction on the cleanness of your vehicle after washed?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

13. How would you rate your satisfaction on the competency of technicians of MOENCO?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

14. How would you rate your satisfaction on the politeness of after sale service technicians of MOENCO?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

15. How would you rate your overall satisfaction on MOENCO after sale service experience?

Very satisfied Satisfied Neutral
Dissatisfied Very dissatisfied

16. Based on your overall experience in the after sale service of MOENCO, would you visit the after sale service station again?

Yes No

17. Based on your overall experience in the after sale service of MOENCO, would you buy another vehicle from MOENCO?

Yes No

18. If you would like to give additional suggestions, please.

Thank you very much!!!

ANNEX IV: Kano Model Analysis Calculation Results

Customer requirement		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q	A	A	A	O
	I expect it	R	I	I	I	M
	I'm neutral	R	I	I	I	M
	I can tolerate	R	I	I	I	M
	I dislike it	R 0	R	R	R	Q

Where customer requirement is:

M - Must-Be quality

O - One-Dimensional quality

A - Attractive quality

R - Reverse quality

Q - Questionable

I - Indifferent quality

For the indifferent attribute customer satisfaction coefficient calculation was used to categorize the service in other classification of Kano category.

$$CS = \text{Customer's Satisfaction} = \frac{A + O}{A + O + I + M}$$

$$CD = \text{Customer's Dissatisfaction} = \frac{O + M}{(-1) * (A + O + I + M)}$$

$$TCS = \text{Total customer satisfaction} = \frac{A + O}{A + O + I + M} + \frac{O + M}{(-1) * (A + O + I + M)} = \frac{A - M}{(A + O + I + M)}$$

A. Holland Car PLC

1. Maintenance

Maintenance		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 3	A 5	O 25
	I expect it	R 0	I 0	I 4	I 12	M 0
	I'm neutral	R 1	I 0	I 0	I 1	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 6
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 8 **O = 25** M = 6 I = 17 R = 1 Q = 0

CS = 0.59 CD = - 0.55 TCS = 0.04

2. Spare part supply

Spare part supply		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 6	A 3	O 34
	I expect it	R 0	I 4	I 0	I 6	M 0
	I'm neutral	R 0	I 1	I 0	I 0	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 3
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 9 **O = 34** M = 3 I = 11 R = 0 Q = 0

CS = 0.75 CD = - 0.65 TCS = 0.01

3. Online (telephone) serice

Online (telephone) serice		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 8	A 7	O 12
	I expect it	R 0	I 3	I 14	I 3	M 2
	I'm neutral	R 0	I 0	I 0	I 0	M 0
	I can tolerate	R 0	I 1	I 0	I 4	M 2
	I dislike it	R 0	R 0	R 1	R 0	Q 0

A = 15 O = 12 M = 4 **I = 25** R = 1 Q = 0

CS = 0.48 CD = - 0.38 TCS = 0.10

4. Car washing serice

Car washing serice		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 3	A 4	A 1	O 12
	I expect it	R 0	I 0	I 0	I 9	M 2
	I'm neutral	R 0	I 0	I 9	I 6	M 0
	I can tolerate	R 0	I 0	I 10	I 0	M 0
	I dislike it	R 0	R 0	R 0	R 0	Q 1

A = 8 O = 12 M = 3 **I = 34** R = 0 Q = 0

CS = 0.357 CD = - 0.25 TCS = 0.107

5. Inspection service

Inspection service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 3	A 0	O 19
	I expect it	R 0	I 0	I 0	I 4	M 16
	I'm neutral	R 0	I 0	I 8	I 6	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 0
	I dislike it	R 0	R 0	R 0	R 1	Q 0

A = 3 O = 19 M = 16 I = 18 R = 1 Q = 0

CS = 0.39 CD = - 0.51 TCS = - 0.12

6. Warranty service

Warranty service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 3	A 3	A 2	O 15
	I expect it	R 0	I 0	I 0	I 8	M 15
	I'm neutral	R 0	I 0	I 2	I 3	M 5
	I can tolerate	R 0	I 0	I 0	I 0	M 1
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 8 O = 15 M = 21 I = 13 R = 0 Q = 0

CS = 0.40 CD = - 0.63 TCS = - 0.23

7. Driving orientation

Warranty service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 1	A 0	O 12
	I expect it	R 0	I 0	I 0	I 1	M 10
	I'm neutral	R 0	I 0	I 1	I 0	M 1
	I can tolerate	R 2	I 0	I 1	I 8	M 0
	I dislike it	R 11	R 0	R 3	R 3	Q 3

A = 1 O = 12 M = 11 I = 11 **R = 19** Q = 3

CS = 0.15 CD = - 0.46 TCS = - 0.31

8. Documentation

Documentation		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 1	A 3	O 9
	I expect it	R 0	I 4	I 0	I 11	M 11
	I'm neutral	R 0	I 0	I 0	I 2	M 0
	I can tolerate	R 4	I 7	I 6	I 0	M 3
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 4 O = 9 M = 14 **I = 30** R = 0 Q = 0

CS = 0.22 CD = - 0.44 TCS = - 0.22

B. MOENCO

1. Maintenance

Maintenance		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 6	A 10	A 4	O 50
	I expect it	R 0	I 0	I 8	I 9	M 1
	I'm neutral	R 0	I 0	I 0	I 20	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 2
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 20 **O = 50** M = 3 I = 37 R = 0 Q = 0

CS = 0.654 CD = - 0.48 TCS = 0.174

2. Spare part supply

Spare part supply		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 15	A 10	O 56
	I expect it	R 0	I 8	I 0	I 11	M 7
	I'm neutral	R 0	I 0	I 0	I 0	M 3
	I can tolerate	R 0	I 0	I 0	I 0	M 0
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 25 **O = 56** M = 10 I = 19 R = 0 Q = 0

CS = 0.73 CD = - 0.6 TCS = 0.13

3. Online (telephone) serice

Online (telephone) serice		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 5	A 16	O 23
	I expect it	R 0	I 8	I 20	I 10	M 0
	I'm neutral	R 0	I 0	I 6	I 0	M 4
	I can tolerate	R 0	I 0	I 0	I 9	M 9
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 21 O = 23 M = 13 **I = 53** R = 0 Q = 0

CS = 0.4 CD = - 0.32 TCS = 0.08

4. Car washing serice

Car washing serice		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 6	A 41	A 0	O 27
	I expect it	R 0	I 0	I 0	I 12	M 0
	I'm neutral	R 0	I 0	I 17	I 1	M 6
	I can tolerate	R 0	I 0	I 0	I 0	M 0
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 47 O = 27 M = 6 **I = 30** R = 0 Q = 0

CS = 0.672 CD = - 0.3 TCS = 0.342

5. Inspection service

Inspection service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 0	A 6	A 0	O 41
	I expect it	R 0	I 0	I 0	I 7	M 37
	I'm neutral	R 0	I 0	I 18	I 1	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 0
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 6 O = 41 M = 37 I = 26 R = 0 Q = 0

CS = 0.42 CD = - 0.70 TCS = - 0.18

6. Warranty service

Warranty service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 5	A 6	A 3	O 30
	I expect it	R 0	I 0	I 0	I 5	M 37
	I'm neutral	R 0	I 0	I 8	I 10	M 0
	I can tolerate	R 0	I 0	I 0	I 0	M 6
	I dislike it	R 0	R 0	R 0	R 0	Q 0

A = 14 O = 30 M = 43 I = 23 R = 0 Q = 0

CS = 0.4 CD = - 0.66 TCS = - 0.26

7. Driving orientation

Warranty service		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 1	A 1	A 0	O 8
	I expect it	R 0	I 0	I 0	I 0	M 28
	I'm neutral	R 0	I 0	I 4	I 0	M 0
	I can tolerate	R 9	I 8	I 0	I 11	M 0
	I dislike it	R 10	R 2	R 10	R 6	Q 12

A = 2 O = 8 M = 28 I = 23 **R = 37** Q = 12

CS = 0.09 CD = - 0.42 TCS = - 0.33

8. Documentation

Documentation		Dysfunctional (negative) question				
		I like it	I expect it	I'm neutral	I can tolerate	I dislike it
Functional (positive) question	I like it	Q 0	A 3	A 1	A 6	O 13
	I expect it	R 0	I 8	I 0	I 28	M 0
	I'm neutral	R 0	I 0	I 0	I 4	M 0
	I can tolerate	R 0	I 3	I 7	I 20	M 12
	I dislike it	R 0	R 0	R 0	R 5	Q 0

A = 10 O = 13 M = 12 **I = 70** R = 5 Q = 0

CS = 0.18 CD = - 0.22 TCS = - 0.04

Annex V Critical values of the chi-square (χ^2) distribution

df	0.05 Level of significance	0.01 Level of significance
1	3.84	6.64
2	5.99	9.21
3	7.82	11.34
4	9.49	13.28
5	11.07	15.09
6	12.59	16.81
7	14.07	18.48
8	15.51	20.09
9	16.92	21.67
10	18.31	23.21
11	19.68	24.72
12	21.03	26.22
13	22.36	27.69
14	23.68	29.14
15	25.00	30.58
16	26.30	32.00
17	27.59	33.41
18	28.87	34.80
19	30.14	36.19
20	31.41	37.57
21	32.67	38.93

22	33.92	40.29
23	35.17	41.64
24	36.42	42.98
25	37.65	44.31
26	38.88	45.64
27	40.11	46.97
28	41.34	48.28
29	42.56	49.59
30	43.77	50.89

The calculated value of χ^2 must be larger than or equal to the table value for significance.

Certification

This is to certify that Mr. Kindye Essa Mustofa has completed his project work entitled **EFFECT OF AFTER SALE SERVICES ON CUSTOMER SATISFACTION AND LOYALTY IN AUTOMOTIVE INDUSTRY OF ETHIOPIA**. In my opinion, his project is appropriate to be submitted as a partial fulfillment requirement for the award of Degree in Masters of Business Administration.

Fessha Afewerk (Asst.Prof)

Project Advisor

Signature

Date