



**ST.MARY'S UNIVERSITY**

**SCHOOL OF GRADUATE STUDIES**

**ASSESSING THE INFLUENCE OF AFTER-SALES SERVICE ON  
CUSTOMER SATISFACTION: IN THE CASE OF LIFAN MOTORS PLC**

**BY**

**SEIFU NEGEDE**

**RESEARCH THESIS SUBMITTED TO SCHOOLS OF GRADUATE  
STUDIES OF ST. MARY'S UNIVERSITY IN PARTIAL FULFILMENTS  
OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF ART  
IN MARKETING MANAGEMENT**

**JAN, 2018**

**ADDIS ABABA, ETHIOPIA**

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**COLLEGE OF BUSINESS AND ECONOMICS**

**DEPARTMENT OF MARKETING MANAGEMENT**

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**ADVISOR: ASFAW YILMA (PhD)**

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**APPROVED BY BOARD OF EXAMINERS**

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**Dean, Graduate Studies**

**Signature & Date**

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**Advisor**

**Signature & Date**

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**External Examiner**

**Signature & Date**

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**Internal Examiner**

**Signature & Date**

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## **DECLARATION**

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of my advisor. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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Name

St. Mary's University, Addis Ababa

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Signature

January, 2018

## **ENDORSEMENT**

This is to certify that Seifu Negede carried out his thesis on “Assessing the influence of after-sales service on customer satisfaction: In the case of Lifan motors PLC” and submitted in partial fulfillment of the requirements for the award of the degree of Masters of Art in Marketing Management at St. Mary's University with my approval as university advisor.

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Advisor

St. Mary's University, Addis Ababa

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Signature

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## **ABBREVIATIONS AND ACRONYMS**

ANOVA= Analysis of Variance

CD=Customer Dissatisfaction

CRM =Customer Relationship Management

CS= Customer satisfaction

ETB= Ethiopian Birr

ETC =Ethiopian Telecommunication

JIT= Just In Time

PLC =Private Limited Company

SERVQUAL=Service Quality

SPSS =Statistical Package for Social Science

TCS=Total customer Satisfaction

QFD= Quality Function Deployment

## ***ABSTRACT***

*The delivery of after sales service by a company is critical in satisfying customer needs and expectations. This research analyzed the influence of aftersales service on customer satisfaction in the case of Lifan motors PLC. Then based on the key variables of aftersales service (maintenance, spare parts, warranty, online service, car washing, Inspection and driving orientation) were used to measure and quantify the relationships between customer satisfaction and customer requirements by using Kano's model. Data was collected from 90 after sale service customers by using purposive sampling technique through questionnaire, the techniques of analysis used in this study are descriptive (frequency, percentage, and mean) and inferential analysis (regression and correlation). The result from regression analysis indicate that discovered after-sales service has impact on customer satisfaction, results from correlation analysis indicate that customer satisfaction and after-sales service has positive and moderate significant relationship. Maintenance, spare parts, warranty and inspection significant contribution to overall customer satisfaction and driving orientation and online services are significantly related to overall satisfaction of customer. Companies should solve the dissatisfaction of customers in quality, time and price of the components of after-sales service by assessing customer's satisfaction frequently.*

***Key words: After sale service; Customer satisfaction; Kano model***

# CHAPTER ONE

## 1.1. INTRODUCTION

In today's competitive environment, a strong focus on customer satisfaction is essential to the success of any organization. Rapid globalization means that companies now compete in markets all over the world. Foreign and domestic organizations are realizing that profit will only be achieved through focus on satisfying the needs and wants of customers through exchange processes. According to Posselt (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. It is important to satisfy customers. Such satisfaction is important because a company's sales come from two basic groups: from new customers and from retained customers. A research shows that it usually costs more to attract new customers than to retain current ones. And the best way to retain current customers is to keep them satisfied. Customer satisfaction is a key to building long lasting relationships with consumers. Satisfied customers buy a product again, talk favorably to others about the product, pay less attention to competing brands and advertising, and buy other products from the company (Allen, 1999). Dissatisfied consumer, on the other hand, responds differently. As a satisfied customer tells people about a good product experience, dissatisfied customer complains to more people than what a satisfied customer did. Clearly, bad word of mouth travels further and faster than good word of mouth and can quickly damage consumer attitudes about a company and its products.

The key to build long lasting customer relationships is to create superior value and satisfaction. Customer relationship management (CRM) involves building and maintaining profitable customer relationships by dealing with all aspects of acquiring, keeping and growing customers (Kotler and Armstrong, 2010). After-sales service is activities organized by business organizations after the purchasing stage and is a part of customer relationship management (CRM). After-sales services have been used to describe services that are provided to the customer after the products have been delivered (Vitasek, 2005).

It is noteworthy to point out that after-sales plays a key role in supporting marketing activities to enhance customer loyalty, and thus to increase profitability in the long term (Saccani, et al, 2006).

According to Alexander et al (2002) and Wise and Baumgartner (1999), profit margins can be generated higher by delivering the after sale service compared to product sale without it. It may generate at least three times turnover of the original purchase during a given product lifecycle. Buyers of product want assurance that the product will perform satisfactorily over its useful life when operated properly. This is achieved through post-sale support such as installation, warranties, extended warranties, maintenance service contracts, provision of spares, training programs and product upgrades. 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.

According to Kotler (2002), 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 Stationed and Ethio-telecom which has post sale service for mobile and fixed line telephone services (Eskinder, D., 2007). 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: Under number 685/2010 article 55(1)

“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 with 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, Lifan motors suppliers provides after sale services for their customers in order to satisfy those customers and to make them loyal. The researcher wants to assess the influence of after sales services on the customer satisfaction in the case of Lifan motors Plc using Kano model that is different from SERVQUAL. Because these company have after sale service with different experience i.e. Lifan motors has 26 years of experience in China and in Ethiopia has only 9 year experience. As a result, the researcher assessed the influence of after sale services on customer satisfaction in this company.



## **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, and 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 Potluriand 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 influence of after sale service on customer satisfaction. Thus, it was appropriate to study the influence 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 influence of after sale services on customer satisfaction and the automotive industry in Lifan motors.

The researcher (Potluri and Hawariat) doesn't see the effect using another model to prove the relationship. This gap lead the researcher to conduct a research and a need to study on influence of after sale service on customer satisfaction in Lifan Motors PLC using Kano model and this study was try to fill the gap between expectation of customers and perceived performance of automobile industries by creating awareness among owners, managers and others involved in delivery of after-sales service towards the service quality and customer satisfaction.

### **1.3. Research Questions**

- Does after-sales service offered by Lifan motors have an impact on customer satisfaction?
- Is there a significant relationship between customer satisfaction and after-sales service quality?
- Is there a relationship between customer satisfaction and positive word of mouth?
- What are after sale services offered in the Lifan motors?

### **1.4. Objectives of the Study**

#### **1.4.1. General Objective**

The general objective of this study is to discover the impact of after sales services on customer satisfaction and loyalty.

#### **1.4.2. Specific Objective**

- To identify the components of after-sale services offered to Lifan motors customers.
- To examine the relationship between after-sales service and customer satisfaction.
- To investigate the influence of after sales service on customer satisfaction.
- To identify the challenges of implementing after- sale services in Lifan Motors.

## 1.5. Research Hypothesis

One of the most commonly used methods in statistical decision making is hypothesis testing. In general, a hypothesis test is a process in which we assume an initial claim to be true and then test this claim using sample data. Ordinarily, the initial claim refers to a population parameter of interest such as the population mean.

Hypothesis tests include two hypotheses: the null hypothesis (denoted by  $H_0$ ) and the alternative hypothesis (denoted by  $H_1$ ). The null hypothesis is the initial claim and is often specified using previous research or common knowledge. The alternative hypothesis is what we may believe to be true or hope to prove true. The alternative hypothesis is sometimes referred to as the research hypothesis.

The decision-making process for a hypothesis test can be based on the probability value (p-value) for the given test.

- If the p-value is less than or equal to a predetermined level of significance, then we reject the null hypothesis and claim support for the alternative hypothesis.
- If p-value is greater than the  $\alpha$ -level, we fail to reject the null hypothesis and cannot claim support for the alternative hypothesis.

Based on the literature review the following four hypotheses are developed.

H1: All elements of after sales service have equal contribution to the overall satisfaction of customer.

H2: After sales service have negative effect on customer satisfaction.

H3: After sales service positive influence on overall customer satisfaction.

H4: The components of aftersales have an influence on customer satisfaction.

Thus, the present study was tries to answer these tentative working hypotheses along with the central research question of this study.

## **1.6. Significance of the Study**

The purpose of this paper is to investigate the impact of after-sales services on customers' satisfaction as well as on their behavioral intentions, namely positive word-of-mouth (WOM). Recently, there have been very minimum studies that were conducted by taking into consideration the after-sales service in business organizations generally in the automotive industry particularly Lifan motors in Ethiopia. Therefore from the data presented in this study, it can be expected that the findings of this study was benefit both industrial and academician by giving a new source of ideas and information. In addition, the paper can benefit firms in the automotive industry. Moreover, it can benefit Lifan motors supplier, because it draws attention where corrective action is necessary to satisfy and delight customers in after sale service and to make customers loyal.

## **1.7. Scope and Limitation of the Study**

The study was conducted in Lifan motors PLC, car assembly plant which is first of its kind in Ethiopia (Lifan car owner) after sale service customer who got at least once after sale service in Addis Ababa have been incorporated in the study. The major limitation of the study was the failure to incorporate government and non-government organization customers of automotive company and other brand owners of lifan. In addition, other variables such as new model vehicles, preference of brand and so on may affect customer satisfaction and loyalty in the automotive industry. The potential limitations of that were hindering the success of this study may lack of adequate data.

## **1.8. Organization of the Study**

This study was organized in to five chapters. Chapter one was about the Introduction part of the study such as: background of the study, statement of the problem, objectives of the study, research question, scope of study, and limitation of the study, significance of the study, and organization of the study. Chapter two was present survey of the theoretical and empirical literature on after sales service, customer satisfaction and loyalty. Chapter three was explained the data and methodology used in the study for analysis purpose. Chapter four was provided

information on the data analysis. Chapter five draws summary of findings and conclusions and provides recommendations.

## **1.9. Profile of the Organization**

Lifan Founded in 1992, Lifan Industry (Group) Co. Ltd (hereinafter called Lifan Group) with more than 13,653 employees is one of the biggest private-owned enterprises in China. Over the past 18 years, specializing in research and development, manufacturing and marketing (including international trade) of automobile, motorcycle and engine, Lifan Group has rapidly matured into a prestigious enterprise with the integration of financial sector, real estate and football industry.

Yang fan Motors PLC is a subsidiary branch of Lifan Motors (China) engaged in assembling and distributing Lifan vehicles in Ethiopia. Above 100 employees, 97% of them are local.

Lifan was the first company to assemble vehicles in Ethiopia in 2007 in partnership with Holland Car, but has been operating independently since 2009. Ethiopia now has nine vehicle assembly companies and the government wants it to become an important car-production hub in future. It currently assembles passenger vehicles and pickup trucks with engine capacities of up to 2.8 liters as well as buses, tractors and trailers, with a growing volume of parts also being manufactured here for all vehicle types. The company will sell the first ten Lifan 320 and the first ten Lifan 620 for special and promotional prices of 179,800 Birr and 299,800 Birr respectively according to Roger Tian.

Lifan Motors Plc., a subsidy of Yang fan Motors Plc., the Chinese auto manufacturer, is undertaking an expansion project with five million USD intended for the provision of spare parts in sufficient quantities and increased after-sales service.

The company already operates an assembly operating in Addis Ababa, and the new plant would double capacity. The deputy general manager of Lifan in Ethiopia, Roger Tian, said demand for Lifan cars had been growing at an average of 50% for the past three years, and the company anticipated a 50% to 70% rise in demand next year.

A Lifan motor offers a wide range of models like Lifan 520,520i, 320, 330, 530, 620,630, 720, 820, X50 and X60. macrovans and so on and had them exported and fully participated in the

internationalized competition on global market. In terms of new energy autos, a Lifan motor has successfully developed model 320 and 620 electric vehicles. As planned, Lifan motors will develop at least two new products every year.

## **Definition of Terms**

**After sale service:** - is all the service offered by Lifan motors PLC 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 Lifan motors PLC, 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 Lifan motors PLC, which leads to repeat purchase (buy another vehicle) from Lifan motors PLC.

**Influence:** -the capacity to have an effect on the character or behavior of customers or something, or the effect itself as result of customer satisfaction on the after sale service offered by the Lifan motors PLC.

**Kano model:-** as a tool to measure quality, which is used to determine the importance of each requirement of a customer as a result of their satisfaction on the after sale service offered by the Lifan motors PLC.

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## **CHAPTER TWO**

### **2.REVIEW OF RELATED LITERATURES**

#### **2.1. Theoretical Literatures**

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.

##### **2.1.1. Terms and Definition**

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 Rigopoulos, 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 manufacturer's 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 Ethio-telecom 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 failure 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.

### **1. 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.

### **2. 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.

### **3. 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.

#### **2.1.5. Customer Satisfaction**

Customer satisfaction can be experienced in a variety of definitions and connected to both goods and services. Mathew 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 Rigopoulos, 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.

#### **2.1.6. 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.

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

- 👤 **Quality:** - If defects are detected during the after-sales service period, the customer is happy.
- 👤 **On-time delivery:** - Nothing is more frustrating than not receiving a delivery on an agreed-upon day.
- 👤 **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.

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.

- **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.
- **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.
- **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.

- **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.
- **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 lifan motors plc. Using quality, time of delivery and money the customers pay for specific and overall satisfaction of customers on the after sale services.

## **2.2. Methodological Reviews**

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:

### **2.2.1. Quality Function Deployment (QFD)**

According to Yang (2005), YojiAkao 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.

### **2.2.2. 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.

### **2.2.3. Kano model**

According to Lin (2009) Kano model is a theory of product development and customer satisfaction developed in the 1980s by Dr. Noriyaki 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.

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.

#### **2.2.4. 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 other products.
- Price premium due to appreciation of added-value services.
- Reduced operating cost because of familiarity with the service system.
- Positive word-of-mouth in terms of referring other customers to the company.

### **2.2.5. 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.

## **2.3. 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 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.

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 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 were conduct a research on Lifan motors after sale service customers to understand the effect of after sale service on customer satisfaction using Kano model and disconfirmation theory.

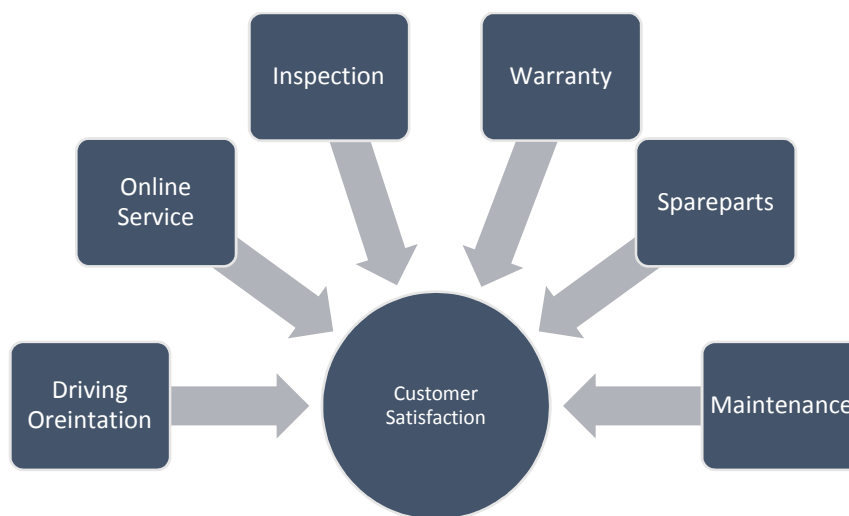
## **2.4. Conceptual Framework**

As Sudharshan (2010) found, there is a positive relationship between customer satisfactions and after sales service component but this connection is not always a linear relation. This relationship depends on factors such as market regulation, switching costs, and 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 after sales but their connection is not always a linear relation. Sudharshan(2010) has shown different factors that affect the connection between customer satisfaction and aftersales service.

The following conceptual framework was developed for this study. It shows the independent variables (after sale services) and customer satisfaction as dependent variable; the concept driven from the different literatures review (such as the company offered to aftersales service to its customers).



**Figure 1: Modified conceptual framework for proposed study.**

**Source:** Attafar, 2011

The independent variables of this study are the component of aftersales service including.

- Maintenance
- Spare parts supply
- Warranty service
- Inspection
- Online services
- Training (Driving Orientation) the dependent variables is customer satisfaction.

## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY**

According to Bruce (2002) research design is a plan of action indicating the specific steps that are necessary to provide answers to those questions, test the hypothesis, and then achieve research objectives. The research methodology part deals with a systematic and scientific method adopted to solve the research problems.

#### **3.1. Description of the Research Area**

The study area covers all Addis Ababa geographical area splint into four directions and ten sub-city of the city that comes to service station. The target populations of the study were who got at least once after sales service at service station in Addis Ababa around Kirkos sub-city Kerra service station center. Kerra service station is the only service center of Lifan Motors in Addis Ababa and give different kind of after sales service for all the city customers which comes from all sub-city of Addis Ababa.

#### **3.2. The Research Approach and Design**

A research design is a guide the researchers in the process of collecting, analyzing and interpreting the data collected for the research. This research is a quantitative research where sources of information are gathered from questionnaire. Instrument utilized was through the self-administered questionnaire containing closed-ended and scales to matrix questions. This study is interested in describing the characteristics of a population or phenomenon, thus the study is a descriptive study.

This study also used hypotheses testing to determine the influence of delivery, after sales service towards customer satisfaction. The type of sampling is purposive sampling technique.

### **3.3 .Data Sources**

The data that have been employed includes detailed information on after sale service components and satisfaction in the automotive industry using both primary and secondary sources.

#### **3.3.1. Primary Source**

The primary data were collected from sample customers relating to the components of after sale services, how after sale service offered, and the effects of after sales service on customer satisfaction.

#### **3.3.2. Secondary Source**

The secondary data were collected from secondary sources such as: literatures found related to the topic.

### **3.4. Target Population**

The target population was the Lifan car owners in Addis Ababa city. The study population's units were constitute 7400 Lifan Motors Company car owners according to sales report of lifan motors from 2009 up to 30 June, 2017 after sale service customers who got at least once after sale service.

### **3.5. Sampling Technique and Sample Size**

The process of selecting a smaller group of people that have basically the same characteristics and preferences as the total group from which it is drawn called sampling (Bruce, 2002). Thus, the sampling technique used in this study was one of the non-probability sampling techniques. Accordingly, purposive sampling technique used to select the customers who got at least one after-sales service from Lifan motors, because it enabled researcher to select the sample based on his own judgment about some characteristics required from sample respondents (for example a respondents were customer who got at least once after-sales service and available at the company after- sales service station in Addis Ababa and available at convenient place). This was because as Fogli (2006) shows one limitation of customer satisfaction questionnaires.

The main advantage of using this sampling technique is, it is convenient to use and less time consuming. The sample taken was the representative of target population in which the study was undertaking.

Sample size determination is an important and often difficult step in planning an empirical study. A sample is a subset of a population element, where a population is a theoretically-specified aggregation of an element. Hence, a sample size is a subset of a population (Agresti& Finlay, 2009, p. 4). There are several methods for determining the sample size. In this paper was present a simple formula from Yamane to determine the sample size.

According to Yamane (1967:886) as cited in Israel (1992) which is revised on April 2009 and again reviewed (June, 2012). This formula can used to determine the minimal sample size for a given population size.

Assuming:-

A 90% confidence level and  $e = \pm 10\%$

$$n = \frac{N}{1 + N (e)^2}$$

Where  $n =$  Desired sample size

$N =$  Total population size

$e =$  the level of precision (sampling error)

Then, so sample size determination formula was as below.

$$n = \frac{7400}{1 + 7400(0.1)^2} = 99 \text{ the sample size of studied research.}$$



### **3.6. Data Collection Instrument**

In order to enhance the validity and trustworthiness of the study, the data was collected through questionnaire from the respondents and review of different literatures.

### **3.7. Data Collection Procedures**

The analysis of quantitative data collected from sample customers were computed from the result of IBM Statistical Package for Social Sciences (SPSS) version 21 software and has been noticed in descriptive analysis. To describe the sample characteristics in the data analysis report, respondent's profile such as age, gender; educational background and income were analyzed in the form of table. 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 languages. The questionnaires had been developed from comprehensive literature review related to influence of after sale service on customer satisfaction 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.

### **3.8. Method of Data Analysis**

The method of data analysis is mainly descriptive analysis, descriptive analysis refers to statistically describing, aggregating and presenting the constructs of interest or associations between these constructs. Questionnaires were designed and distributed to selected customers and the results were analyzed. The data obtained by close-ended questions of the questionnaires were quantitatively analyzed.

The analysis of quantitative data numerical data collected from sample customers were computed from the result of Statistical Package for Social Sciences (SPSS) version 21 software. To describe the sample characteristics in the data analysis report, respondent' profile such as age, gender, educational background and income were presented in the form of table.

The techniques of analysis used in this study were descriptive (percentage, frequency and mean), to understand the relationship between the dependent variable (customer satisfaction) and independent variable (after sale services offered by Lifan Motors) inferential analysis refers to the statistical testing of hypothesis (regression and correlation analysis) were used. All the study variable scales are ranked in 5 Likert scales and customer satisfaction measurement parameters like quality, time and price was computed. The analysis was also done using Kano model requirement analysis.

### **3.9. Model Specification**

The aims of this study were to examine the influence of after sales service on customer satisfaction in Lifan Motors Company. The researcher was employed the Kano models to determine the significance level of the variables for the customer satisfaction in Lifan Motors.

#### **3.9.1. 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-sales service components that could be applied to the automotive industry depending on the finding of stated researchers. These are after-sales service components in which the researcher used to categorize each service in Kano classification.

- Maintenance service,
- Spare parts supply,
- On line service (telephone) service,
- Car washing,
- Inspection,
- Warranty and
- Training (driving orientation).

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

### **3.9.2. Ethical Issues in Research**

Ethics are norms or standards of behaviors that guide moral choices about behavior and our relationships with others. The goal of ethics in the research is to ensure that no one is harmed or suffers adverse consequences from research activities. The researcher responsible anticipates ethical dilemmas attempt to adjust the design, procedures and protocols during the planning process rather than treating them as afterthought.

Ethical research requires personal integrity from the researcher .the researcher consider the following ethical issues.

- Remain to issues
- Local norms suggest what ought to be done under the given circumstances
- Review boards and peer groups help sorting out dilemmas.

#### **Ethical treatment of participants**

The research must be designed so that respondent doesn't suffer physical harm, discomfort ,pain embarrassment or loss of privacy. To safeguard against these, the researcher should consider the following guidelines.

- explain study benefits
- explain respondents right and protections
- obtain informed consent

In situations where respondents are intentionally or accidentally deceived, they should be debriefed once the research is complete.

- Explanations of any deception
- Description of the hypothesis goal or purposive of the study
- Post study sharing of the results.

Finally, to address the rights of respondents, ethical researchers do the following

- Inform respondents of their rights to refuse to answer any questions or participate in the study.
- Obtain permission to interview respondents.
- Limit the time required for participation.
- Restrict observation to public behaviors only.

### 3.9.3. Reliability Analysis

The reliability analysis was undertaken for the elements of after-sales service using cronbach’s coefficient alpha. 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 not differ because respondents have different opinions, not because the survey is confusing nor has multiple interpretations. To check the reliability of variables used in the study, the researcher employed reliability analysis on IBM SPSS version 21.

The reliability statistics result of spare part supply, maintenance, driving orientation ,warranty, car wash and online (telephone service), is, 0.909, 0.902, 0.934, 0.883, 0.945., and 0.806 respectively, which indicates a high level of internal consistency for the scale in the sample(see table 4.2 below).

**Table 3.9.2 Reliability Analysis**

After-sales service		Cronbach's Alpha
1	Spare parts supply	0.909
2	Maintenance	0.902
3	Warranty services	0.883
4	Car washing services	0.945
5	Driving orientation	0.934
6	Online(telephone) services	0.806

Source: Own Survey, 2017

Most researchers use 0.70 as a minimum acceptable level of coefficient Alpha, where as in some cases 0.6 and 0.5 are also considered sufficient (Allen and Bennett 2012). In this study, cronbach's coefficient alpha is well over 0.7 in all cases (table 4.2). Thus, the level of alpha was considered to be reliable enough to proceed with the data analysis.

## **CHAPTER FOUR**

### **4.DATA ANALYSIS AND DISCUSSIONS OF RESULTS**

The purpose of this study is to examine the impact of after-sales service on customer satisfaction in the case of Lifan motors. This chapter presents characteristics of the studied sample population, analysis and interpretation of the data collected. And the basic function of this chapter is to provide information on the analysis and discussion of the data collected through questionnaire survey. As discussed in the previous chapter the questionnaire has been structured in three parts: a) the personal information/ characteristics of the respondents, b) questionnaire on Kano model analysis), c) questionnaires that indicate levels of customer satisfaction for each after-sales service. This chapter begins with questionnaires' response rate and descriptive statistics about the characteristics of the respondents. The results of the reliability analysis for the data collected using Likert scale are then reported. The next section presents the results of Kano model analysis and finally, hypothesis testing with discussion of their results are reported.

Among customers of Lifan motors who got at least one after-sales service the number of sample respondents were 99, out of whom 90(90.9%) of sample respondents have returned and responded full data 9(0.09%) of the respondents did not returned the data and a high response rate was achieved because of personal contacts made with both the respondents and organizations.

## 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.

**Table 4.1. 2. Gender and age of the respondents**

Gender and age of the respondents		Frequency	Percent
Gender of the respondents	Male	64	71.1
	Female	26	28.9
	Total	90	100
Age of the respondents	Less than 25	4	4.4
	26-40	40	44.4
	41-55	38	42.2
	56-65	8	8.9
	Total	90	100

Source: Own Survey 2017

As shown in table 4.1.1 above, 64 (71.1%) of Lifan motors after- sales service respondents were Males and 26(28.9%) of them were Females, this indicates that majority of respondents were Males, which implies more Males were visit the service station than Females.

Looking in to the age of respondents, 4(4.4%) of the respondents were below 25 years, while 40 (44.4%) of Lifan motors respondents were between the ages of 25- 40 years. On the other hand, 38 (42.2%) of the respondents were between the ages of 41-55 years and 8(8.9%) of the respondents were between the age of 56-65years, this indicates that majority of the respondents

(44.4 %) were between 26-40, which implies that younger and adult people got more after-sales services than older people.

**Table 4.1.2 .Marital Status, Educational Background and Income of the Respondents.**

Profile of the Respondents		Frequency	Percent
Marital Status	Married	50	55.6
	Unmarried	40	44.4
	Total	90	100
Educational Background of the Respondents	Below secondary school	0	0
	12 grade complete	3	3.3
	Diploma holder	17	18.9
	BA holder	55	61.1
	MA degree and above	15	16.7
	Total	90	100
Income of the Respondents	Below 2000	4	4.4
	2001-3000	18	20
	3001-4500	21	23.3
	4501-6000	11	12.2
	Above 6000	36	40
	Total	90	100

Source: Own survey 2017

In terms of the marital status of the respondents, 50(55.6%) of Lifan motors respondents were married while 40(44.4%) of the respondents were single. This shows that the dominant marital status of respondents in the study were married, which implies married respondents need more safety and comfort of their car than unmarried respondents.

With respect to academic qualification of the respondents, none of the Lifan motors after-sales service respondents was below secondary school, while 3(3.3%) of respondents were 12 grade



complete, 17(18.9%) of respondents were Diploma holder ,55(61.1%) of the respondents were Bachelor degree and 15(16.7%) of sample respondents were MA degree and above. From this one can understand that majority of the respondents were educated. This indicates that educated people need more after-sales services than uneducated people.

Moreover, the monthly income of respondents shows that, 4(4.4%) of the respondents earn below 2000 Ethiopian birr, 18(20%) of the respondents earn between 2001-3000 Ethiopian birr, 21(23.3%) of the respondents earn between 3001-4500 Ethiopian birr and 11(12.2%) of the respondents earn between 4501-6000 Ethiopian birr and 36(40%) of respondents earn above 6000 Ethiopian birr. This indicates that majority of the respondents 36(40%) earn more than 6000 Ethiopian birr monthly

The quickest way to assess the questionnaires is to map the customer’s requirement as shown in Table 4.3.1.

**Table 4.3.1: Kano evaluation**

Customer requirement		Dysfunctional question				
		I like it	I expect it	I am neutral	I can tolerate it	I dislike it
<b>Functional question</b>	I like it	Q	A	A	A	O
	I expect it	R	I	I	I	M
	I am 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.

**Table 4.3.2: The classification of Lifan motors sample population requirements according to Kano model (n = 90)**

After-sales service		Customers requirement and frequency						Total
		A	O	M	I	R	Q	
1	Maintenance	40	<b>46</b>	2	1	1	0	90
2	Spare part supply	35	<b>50</b>	3	1	1	0	90
3	Online services (telephone)	10	28	9	<b>42</b>	1	0	90
4	Car washing	<b>46</b>	21	2	17	4	0	90
5	Inspection	35	<b>46</b>	6	1	2	0	90
6	Warranty	20	27	<b>40</b>	2	1	0	90
7	Driving orientation	12	30	7	<b>39</b>	2	1	90

Sources: Own Survey 2017.

\_\_\_\_\_ The detail calculations shown in appendix II

According to the results of the customer requirement analysis depending on the most frequent responses, Car washing is attractive requirement for Lifan motors this means when this element

are fulfilled, they provide satisfaction to the customers, but when not delivered, they do not cause dissatisfaction, because they are not expected by the customer.

In addition online (telephone) service, and training (driving orientation) are indifferent requirements this means quality elements that result neither in satisfaction nor dissatisfaction, whether fulfilled or not.

Moreover warranty service is must be elements that mean quality elements that result in dissatisfaction when not fulfilled (or not delivered at a satisfactory level), because the customer takes them for granted, but when fulfilled (delivered at a satisfactory or higher level) they do not result in satisfaction for Lifan motors after-sales service customers (See Table 4.3.2).

After the first classification according to the most frequently used responses, 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 Indifferent 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.

**Equation1: Customer satisfaction coefficient.**

$$\begin{aligned}
 \text{CS} = \text{Customer's Satisfaction} &= \frac{A+O}{A+O+I+M} \\
 \text{CD} = \text{Customer's Dissatisfaction} &= \frac{O+M}{(-1) \times (A+O+I+M)} \\
 \text{TCS} = \text{Total customer satisfaction} &= \frac{A+O}{A+O+I+M} + \frac{O+M}{(-1)(A+O+I+M)} = \frac{A-M}{A+O+I+M}
 \end{aligned}$$

Source: Bilgili, 2008

By calculating the Lifan motors customer satisfaction coefficients the variables have been identified in Table 4.3.3 as those requirements which are closer to one - dimensional requirements.

**Table 4.3.3. : Lifan motors customer requirements which are closer to the classification of one - dimensional requirements (n = 90)**

no	After-sales service	Frequency	Satisfaction Dimension	Dissatisfactions dimension	Total customer satisfaction
1	Maintenance	O 46	0.95	-0.53	0.42
2	Spare parts supply	O 50	0.95	-0.6	0.34
3	Inspection	O 46	0.92	-0.6	0.33

Source: Own survey 2017de

After the calculation of Lifan motors customer satisfaction coefficients, maintenance service, spare parts supply service and inspection services are categorized as one dimensional requirement for Lifan motors after-sales service customers (See table 4.3.3).

As a result, Lifan motors customer satisfaction increases when the company offers those services, that mean the higher CS coefficient, the higher the satisfaction of the customer when those factors are fulfilled, and the closer of CD coefficient to -1, the higher customer dissatisfaction when those factors are not fulfilled.

The customer dimension number indicate that if this features present the customers satisfaction is increase with 0.92,095, 0.92, and decrease with numbers of -0.5,-06,-0.6 if the features not present in maintenance, spare parts and inspections respectively. Generally an increase in fulfillment (performance/positive disconfirmation) of those elements results in a proportional increase of satisfaction, whereas a decrease in fulfillment those elements results in a proportional decrease of satisfaction or increase of dissatisfaction (symmetric impact on OCS).

**Table 4.3.4. : Lifan motors customer requirements which are closer to the classification of Must be requirements, Attractive and Indifferent Requirements (n = 90)**

no	After-sales service	Frequency	Satisfaction Dimension	Dissatisfaction dimension	Total customer satisfaction
1	Warranty	M 40	0.53	-0.75	-0.22
2	Car washing	A 46	0.78	-0.23	0.51
3	Online services	I 42	0.42	-0.41	0.01
4	Driving orientation	I 39	0.47	-0.42	-0.08

Source: Own survey 2017.

\_\_\_\_\_ The detail calculations shown in appendix II

After the calculation of Lifan motors customer satisfaction coefficient, Warranty services are categorized as must be requirements for Lifan motors after-sales service that means the existence of this factors are not bring high satisfaction because of CS coefficients (0.5) is low, but if this factors are not fulfilled it brings dissatisfaction because CD(-0.75) is high. Therefore, Lifan motors customers fell nothing for the existence of warranty service in the company, but they will be dissatisfied if those services are not offered to them.

On the other hand Car washing is categorized as an Attractive requirement that means an increase in fulfillment (performance/positive disconfirmation) results in an over-proportional increase of satisfaction (0.8) but if this element is not fulfilled it does not result in more dissatisfaction(-0.2) (nonlinear impact on OCS).

Therefore Lifan motors customers are Satisfied when those elements fulfilled, but when not delivered, they do not cause dissatisfaction, because they are not expected by the customer (asymmetric impact on OCS).

Lastly, Online services (telephone services) and driving orientations are categorized as Indifferent requirement this means those elements that result neither in satisfaction nor dissatisfaction, whether fulfilled or not, as indicated in CS and CD coefficient for both of this elements the coefficient is low, which indicate whether those two elements fulfilled or not, it does not result in satisfaction or dissatisfaction.

## **4.2. Level of Satisfaction of the respondents for each after-sales service components.**

### **A. Spare part supply service**

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

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

**Table 4.4.1. Descriptive Statistics of spare parts supply (n=90).**

Spare parts supply	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std. deviation
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction for access of spare parts in store	18	20	63	70	3	3.3	5	5.6	1	1.1	1.98	0.75
2.Level of satisfaction for on time supply of spare parts	18	20	59	65.9	2	2.2	8	8.9	3	3.3	2.10	0.94
3.Level of satisfaction for Over all spare parts supply	19	21.1	58	64.4	3	3.3	9	10	1	1.1	2.06	0.86

Source: Own Survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors spare parts supply services, respondents were asked to rate their satisfaction accordingly, 1(1.1%) of the respondents responded that they were very dissatisfied with the access of spare parts in store, while 5(5.6%) of the respondents responded that they were dissatisfied, 3(3.3%) of respondents responded that they were neutral, 63(70%) of respondents responded that they were satisfied and 18(20%) of the respondents responded that they were very satisfied with the access of spare parts in store. From this one can understand that majority of the respondents were satisfied and very satisfied with the access of spare parts in store.

This indicates that when there is high access of spare parts in store, respondents are more satisfied. In addition, the level of satisfaction of the respondents for on time supply of spare parts; 3 (3.3%) of the respondents responded that they were very dissatisfied, 8(8.9%) of the respondents responded that they were dissatisfied, 2(2.2%) of the respondents responded that they were neutral, while 59(65.6%) of the respondents responded that they were satisfied and 18(20%) of the respondents responded that they were very satisfied with on time supply of spare parts. From this one can understand that majority of the respondents were satisfied and very

satisfied with on time supply parameter of spare parts supply, this indicates that when there is equal distribution of spare parts for all customers, customers are equal satisfied.

Moreover, the level of satisfaction of the respondents for over all supply of spare parts; 1(1.1%) of the respondents responded that they were very dissatisfied, 9(10%) of the respondents responded that they were dissatisfied, 3(3.3%) of the respondents responded that they were neutral for the overall supply of spare parts.

While 58(64.4%) of the respondents responded that they were satisfied and 19(21.1%) of the respondents responded that they were very satisfied for overall supply of spare parts of Lifan motors after-sales services.

More than half of the respondents were satisfied with the overall supply of spare parts, this indicates that Lifan motors provide spare parts based on the needs of the customers that are why majority of the respondents were satisfied.

The mean value indicates that, the mean respondents are satisfied with spare parts parameters of Lifan motors; this shows that majority of the respondents are satisfied with the spare parts supply parameters, this is because of the way that the Lifan provide spare part supply service using “JIT” philosophy. From this it is possible to conclude that when customers satisfied with the price, time and quality of services as a result customers can have a positive image towards company. The standard deviation amount indicates that there are some variation responses between respondents.

## **B. 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 Lifan motors have been discussed below;



**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.

Lifan motors 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. Lifan motors 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. Lifan motors 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 25,000 Kms).

As the researcher identified using Kano model analysis, maintenance service is one – dimensional requirement and customers satisfaction increases when customers get maintenance service and dissatisfied when did not get maintenances service. Accordingly the researcher has identified the level of satisfaction of customers on maintenance service of Lifan motors (See Table 4.4.2.).

**Table 4.4.2. Descriptive Statistics of Maintenances Service**

Maintenances service	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std.d eviat ion.
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction for time takes for maintenance	4	4.4	58	64.4	3	3.3	21	23.3	4	4.4	2.59	1.04
2.Level of satisfaction for Price of maintenance	4	4.4	62	68.9	8	8.9	12	13.3	4	4.4	2.44	.937
3.Level of satisfaction for overall maintenances services	4	4.4	65	72.2	3	3.3	14	15.6	4	4.4	2.43	.960

Source: Own Survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors maintenances services, respondents were asked to rate their satisfaction ,accordingly 4(4.4%) of the respondents responded that they were very dissatisfied, 21(23.3%) of the respondents responded that they were dissatisfied, 3(3.3%) of the respondents responded that they were neutral, while 58(64.4%) of the respondents responded that they were satisfied and 4 (4.4%) of the respondents responded that they were very satisfied with time it takes for maintenance of Lifan motors after-sales service.

From this one can understand majority of the respondents were satisfied with the time taken for maintenance services, this indicates time play a crucial role for the satisfaction of the customers with respect to maintenance service.

Level of satisfaction of the respondents for the price of maintenance of Lifan motors after-sales services;42(4.4%) of the respondents responded that they were very dissatisfied,12(13.3%) of the respondents responded that they were dissatisfied, while 8(8.9%) of the respondents responded that they were neutral, while 62(68.9%) of the respondents responded that they were satisfied and 4(4.4) of sample respondents responded as they were very satisfied with price of maintenance of Lifan motors after-sales services. This indicates that the price of maintenance services of Lifan motors is affordable, that is why more customers were satisfied with price parameters of maintenance, which implies if the price of the maintenance service is fair, customers are more satisfied.

The level of satisfaction of the respondents for the overall maintenance services of Lifan motors; 4(4.4%) of respondents responded that they were dissatisfied.14(15.6%) of the respondents responded that they were dissatisfied, while 3(3.3%) of the respondents responded that they were neutral, 65(72.2%) of the respondents responded that they were satisfied and 4(4.4%) of the respondents responded that they were very satisfied with the overall maintenance services provided by Lifan motors after-sales services.

The mean result of customer satisfaction shows that customers are satisfied with maintenance services parameters; this indicates that when company offers the maintenance services with fair price, timely and with better quality, customers are more satisfied. And the standard deviation amount indicates that there is low variation of response among sample respondents.

When customers believe that a service price is fair, the behavior of customers tends to be positive and have a positive attitude towards the company. In contrast, if customers feel that certain service does not deserve its price, they will have negative 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 of Lifan motors should have to assess respond of consumers to those changes.

### **C. 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. Based on the Kano model analysis warranty service is considered as must be requirement that means customer is not satisfied when they get those services ,but when this element is not fulfilled it result in dissatisfaction.

The level of satisfaction of the customer for warranty service parameter is described in table 4.4.3 below.

**Table 4.4.3. Descriptive Statistics of warranty service**

Warranty Service	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std.d eviation
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction For length of warranty services	6	6.7	46	51.1	1	1.1	32	35.6	5	5.6	2.8	1.12
2.Level of satisfaction for warranty implemented as promised	3	3.3	52	57.8	2	2.2	28	31.1	5	5.6	2.8	1.09
3.Level of satisfaction for overall warranty services	5	5.6	55	61.1	0	0	26	28.9	4	4.4	2.6	1.09

Source: own survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors warranty services, respondents were asked to rate their satisfaction ,accordingly 5(5.6%) of the respondent responded that they were very dissatisfied,32(35.6%) of the respondent responded that they were dissatisfied with services offered by Lifan motors, 1(1.1%) of the respondent responded that they were neutral with lengthy of warranty services,46(51.1%) of the respondents responded that they were satisfied with the services offered by the Lifan motors company and 6(6.7%) of the respondent responded that they were very satisfied with the lengthy of warranty service offered by Lifan motors.

This indicates that majority of the respondents were satisfied with the lengthy of warranty services provided, which implies the longer period of warranty services, the more satisfaction of the customers.

The level of satisfaction of the respondents for warranty implemented as promised by Lifan motors ;5(5.6%) respondent responded that they were very dissatisfied with the warranty implemented as promised , 28(31.1%) of the respondent responded that they were dissatisfied, 2(2.2%) of the respondent responded that they were neutral with warranty implemented as promised 52(57.8%) of the respondents responded that they were satisfied and 3(3.3%) of the respondents responded that they were very satisfied with warranty implemented as promised by Lifan motors. this indicates that more than 50 percent of the respondents responded they were satisfied for warranty implemented as promised , this implies that there is a problem on this parameter from company side that is why there are also customers who are dissatisfied and very dissatisfied.

According to table 4.4.3 above, the level of satisfaction of the respondents for overall warranty services offered by Lifan motors after sales service station; 4(4.4%) of the respondent responded that they were very dissatisfied,26(28.9%) of the respondent responded that they were dissatisfied with the services offered, 55(61.1%) of the respondents responded that they were satisfied and 5(5.6%) of the respondent responded that they were very satisfied with the overall warranty service offered by Lifan motors after sales service station and there is also dissatisfaction is with 28.9%.

The mean result of customer satisfaction shows that customers are satisfied with the all parameter of warranty services. This indicates majority of sample respondents (61.1 percent) are satisfied with the overall warranty services provided by Lifan motors. This implies that, all the parameters of warranty services are very crucial for the satisfaction of the customers. The standard deviation shows that there is much less variation in the values of warranty services.

#### **D. Car Washing Service**

As the company after-sales service technician coordinators said Lifan motors provide car washing service at the time of maintenance service As the result of Kano model analysis shows, the after sale service customer of Lifan motors categorize car washing service as attractive requirement that means customers are satisfied when they got those services but they are not dissatisfied when this element is not fulfilled because other company also provide this services.

The level of satisfaction of customers for car washing parameters is described in table 4.4.4 below.

**Table 4.4.4. Descriptive Statistics of Car Wash Service**

Carwash service	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std. deviation
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction for cleanness of your car after washed	6	6.7	42	46.7	13	14.4	14	15.6	15	16.7	2.9	1.249
2.Level of satisfaction for time it takes for washing	6	6.7	46	51.1	13	14.4	12	13.3	13	14.4	2.8	1.207
3.Level of satisfaction for price of washing	5	5.6	46	51.1	14	15.6	12	13.3	13	14.4	2.8	1.192

Source: Own survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors car washing services, respondents were asked to rate their satisfaction ,accordingly; 15(16.7%) of the respondents was very dissatisfied, 14(15.6%) of sample respondents responded that they were dissatisfied, 13(14.4%) of the respondent responded that they were neutral.

While respondent responded that 42(46.7%) of the respondents responded that they were satisfied and 6(6.7%)of the respondents responded that very satisfied with the cleanness of their car after washed. this indicates that less than 50 percent of the respondents responded were satisfied with the cleanness of their car after washed, which implies that the company offers less quality washing services that brings cleanness of the car, it leads to dissatisfaction of the customers.

The level of satisfaction of the respondents for the time it takes for washing of the car is ;13(14.4%) of the respondent responded that they were very dissatisfied, 12(13.3%) of the

respondent responded as they were dissatisfied, 13(14.4%) of the respondent responded that they were neutral, 46(51.1%) of the respondent responded that they were satisfied and 6(6.7%) of the respondent responded that they were very satisfied with time it takes for the washing of Lifan motors after sales service station. this shows that majority of the respondents were satisfied with time take for car washing.

The respondents level of satisfaction for the price of car washing; 13(14.4%) of the respondents was very dissatisfied with price parameter, 12(13.3%) of the respondents responded that they were dissatisfied, 14(15.6%) of the respondents responded that they were neutral, 46(51.1%) of the respondents responded that were satisfied and 5(5.6%) of the respondents were very satisfied with the price of washing the car. This indicates that more of the respondents were satisfied followed by neutral and very dissatisfied respondents.

The mean result of customer satisfaction for car washing parameter shows that customers are satisfied with the all parameter of washing services, this indicates majority of sample respondents are satisfied with the overall car washing services provided by Lifan motors after-sales service station.

### **E. Online Service**

The after-sales service customers of Lifan motors categorize this service as Indifferent requirement. As the after-sales service technician coordinators of Lifan motors offers telephone service for the after sale service customers in two cases.

The after-sales service of Lifan motors 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.

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 is also done through tale operator to make the communication easy and for customers to get the right information from the right person.

The descriptive statistics of online services of Lifan motors are described in table 4.4.5 below.

**Table 4.4.5. Descriptive Statistics of online services (n=90).**

Online services	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std.d eviation
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction for accuracy to solve problems	9	10	56	62.2	10	11.1	13	14.4	2	2.2	2.37	0.930
2.Level of satisfaction for on time feed back	9	10	67	74.4	8	8.9	5	5.6	1	1.1	2.13	0.706
3.Level of satisfaction for telephone services	10	11.1	67	74.4	5	5.6	7	7.8	1	1.1	2.13	0.753

Source: Own survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors online services, respondents were asked to rate their satisfaction ,accordingly2 (2.2%) the respondents responded that they were very dissatisfied, 13(14.4%) of the respondent responded that they were dissatisfied,10(11.1%) of the respondents responded that they were neutral, 56(62.2%) of the respondents responded that they were satisfied and 9(10%) of the respondents responded that they were very satisfied with the accuracy of Lifan motors after- sale service station to solve the problems. This indicates majority of respondents were satisfied with accuracy of the company to solve the problems.

On the other hand, the level of satisfaction of the respondents for on time feedback given by the Lifan motors after sales service station; 1(1.1%) of the respondents responded that they were very dissatisfied, 5(5.6%) of the respondents responded that they are dissatisfied, 8(8.9) of the respondents responded that they are neutral, 67(74.4%) of the respondents responded that they were satisfied and 9(10%) of the respondents responded that they were very satisfied for on time feedback given by the station.



Moreover , the level of satisfaction of the respondents for telephone services; 1(1.1%)of the respondent was very dissatisfied, 7(7.8%) of the respondents responded that they were dissatisfied with telephone services, 5(5.6%) of the respondents responded that they were neutral, 67(74.4%) of the respondents responded that they were satisfied and 10(11.1%) of the respondents responded that they were satisfied with the telephone services offered by Lifan motors after sales service station.

The mean result of customer satisfaction for online service parameter shows that customers are satisfied with the parameter of online services that is with accuracy to solve problems, on time feedback and telephone services.

The standard deviation result shows that there is less variation among the respondents' responses on the online services parameter. This indicates most of respondents are satisfied with online services provided by Lifan motors after-sales service station.

#### **F. Driving Orientation**

As the after sale service technician coordinators of Lifan motors, Since vehicles have sophistication and variation of parts from time to time, especially vehicles produced recently are computerized. Lifan motors provide driving orientation / training for customers in order to make familiar what is on the vehicle.

Table 4.4.6 below describes the level of satisfaction of the respondents based on the parameters of training.

**Table 4.4.6 Descriptive Statistics of driving orientation (training n=90)**

Driving orientation(training)	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied		Mean	Std. deviation
	No	%	No	%	No	%	No	%	No	%		
1.Level of satisfaction for content of orientation	21	23.3	56	62.2	7	7.8	5	5.6	1	1.1	1.99	.80
2.Level of satisfaction for duration of orientation	17	18.9	58	64.4	9	10	4	4.4	2	2.2	2.07	.81
3.Level of satisfaction for overall orientation services	18	20	60	66.7	9	10	3	3.3	0	0	1.97	.66

Source: Own survey, 2017

In order to find out the level of customer satisfaction towards Lifan motors orientation services, respondents were asked to rate their satisfaction ,accordingly; 1(1.1%) of the respondents responded that they were very dissatisfied,5(5.6%) of the respondents responded as they were dissatisfied, 7(7.8%) of the respondents responded that they were neutral, 56(62.2%) of the respondents responded that they were satisfied and 21(23.3%) of the respondents responded that they were very satisfied with the content of orientation given by Lifan motors after-sales service station. This indicates majority of the respondents are satisfied with the content of orientation offered by Lifan Motors Company. The second parameter of training or orientation for customer satisfaction is duration of orientation, accordingly the level of satisfaction of the respondents for this parameter is; 2(2.2%) of the respondents responded that they were very dissatisfied, 4(4.4%) of the respondents responded that they were dissatisfied, 9(10%) of the respondents responded as they were neutral, 58(64.4%) of the respondents responded that they were satisfied and 17(18.9%) of the respondents responded that they were very satisfied with duration of orientation given by Lifan motors after-sales service station.

Lastly, the level of satisfaction of the respondents for overall orientation services; none of respondent responded were very dissatisfied, 3(3.3%) of the respondents responded that they were dissatisfied, 9(10%) of the respondents responded that they were neutral, 60(66.6%) of the respondents responded that they were satisfied and 18(20%) of the respondent responded that he was very satisfied with the overall orientation services provided by the Lifan motors after sales service station.

The mean result of customer satisfaction for driving orientation service parameter shows that customers are satisfied with the parameter of driving orientation services that is with content of orientation, duration of orientation and quality of orientation of the services offered by Lifan motors after sales service station.

The standard deviation result shows that there is less variation among the respondents' responses on the driving orientation services parameter.

From above finding one can conclude that majority of sample respondents as indicated by mean value are satisfied with the overall after-sales service provided by Lifan motors after-sales services station followed by very satisfied and the number of respondents that were neutral occupied the last level.

### **4.3. Customer satisfaction in after-sales service and intension to visit service station again.**

Satisfied customers buy a product again, talk favorably to others about the product, pay less attention to competing brands and advertising, and buy other products from the company (Allen, 1999).

Dissatisfied consumer, on the other hand, responds differently. As a satisfied customer tells people about a good product experience, dissatisfied customer complains to more people than what a satisfied customer did. Clearly, bad word of mouth travels farther and faster than good word of mouth and can quickly damage consumer attitudes about a company and its products. Accordingly, the relationship between customer satisfaction and positive word of mouth are depicted in following tables.

**Table 4.5.1 Customer satisfaction in after-sales service and intension to visit service station again (n=90)**

How do you rate your all over satisfaction of after-sales service?	Frequency	Percent
Very dissatisfied	1	1.1
Dissatisfied	15	16.7
Neutral	2	2.2
Satisfied	64	71.1
Very Satisfied	8	8.9
<b>Total</b>	<b>90</b>	<b>100</b>
Based on your overall experiences in after-sales service of Lifan motors would you visit the after-sales service station again?	Frequency	Percent
<b>Yes</b>	55	61.1
<b>No</b>	35	38.9
<b>Total</b>	<b>90</b>	<b>100</b>

Source: Own Survey, 2017.

The response of customers for the overall satisfaction in Lifan motors shows a mean of respondents answer is satisfied. Moreover, as Table 4.5 above shows, 8(8.9%) of the sample populations are very satisfied and 64(71.1%) of the sample populations are satisfied with the overall after-sales service of Lifan motors, 2(2.2%) of the sample respondents are neutral with the after sale service, while 15(16.7%) are dissatisfied and the rest 11(1.1%) are very dissatisfied. Accordingly, 55(61.1%) of the customers respond as they will visit again the Lifan Motors after-sales service station again depending on their experience in the after-sales service of Lifan Motors but 35(38.9%) of sample respondents responded as they will not visit the service station again. From this one can conclude that majority (61.1percent) of sample respondents responded as they will visit the service station again whether they are satisfied or not satisfied with after-sales service.

#### 4.4. Cross Tabulation between Variables

This part compares two variables to assess the relationship between them. In this study, cross tabulation is therefore, applied to compare customer satisfaction and intention to visit the service station again as indicated in table 4.6 below.

**Table 4.6. : Cross tab matrix of Customer Satisfaction and Intension to visit the After-sales service station again (n= 90)**

	Level of satisfaction		Based on your all over experiences in After-sales service of Lifan motors would you visit the after-sales services again?		Total
			Yes	No	
How do you rate your overall satisfaction on Lifan motors after-sales service?	Very Dissatisfied	Frequency	0	1	1
		Percent	0%	100%	100%
	Dissatisfied	Frequency	10	5	15
		Percent	90.9%	9.09%	100%
	Neutral	Frequency	1	1	2
		Percent	90%	10%	100%
	Satisfied	Frequency	42	22	64
		Percent	58%	42%	100%
	Very satisfied	Frequency	2	6	8
		Percent	40%	60%	100%

Source: Own survey, 2017

According to table 4.6 above , those customers of Lifan motors who are very satisfied (64) with after-sales service, all of them responded as they will visit the service station again, but from those customers who are satisfied ,only 22(42%) of the respondents responded that they will not visit the service station again.

And from those customers who are neutral in their satisfaction in after-sales service, 1(90%) of the respondents responded as they will visit the service station again but only1 (10%) of neutral respondents responded as they will not visit the service station again.

There are 15 respondents who are dissatisfied with after sale service of Lifan motors from those customers 10(90.9%) of sample respondents responded as they will visit the service station again. But only 5(9.09%) respondent who are dissatisfied with after-sales services responded as he/she will not visit the service station again. Surprisingly, those customers who are very dissatisfied with after- sales services of Lifan motors responded as they will not visit the service station again. .

Generally, majority of after-sales service customers64 (71.1%) responded as they will visit the after- sales service station again. From the overall satisfaction response it is possible to conclude that customers visit after-sales 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.

#### **4.5. Relationship between Customer Satisfaction and After-Sales Service**

The relationship between the overall satisfaction and after-sales service of Lifan motors customers using the correlation analysis is shown in the table 4. 7. Below

**Table 4.7. Correlation Matrix of After-Sales Service and Customer Satisfaction (n=90)**

	After-sales service	Customer satisfaction
--	---------------------	-----------------------

After-sales service	Spearman Correlation	1	.452**
	Sig. (2-tailed)		.001
	N	90	90
Customer satisfaction	Spearman Correlation	.452**	1
	Sig. (2-tailed)	.001	
	N	90	90
**. Correlation is significant at the 0.01 level (2-tailed).			

Source, Own Survey 2017

Analyzing the data of 90 sample respondents yield that, Pearson correlation coefficient of (0.452) which is significant at the 95 % confidence level. And the quality of after-sales service and the satisfaction of the customers of Lifan motors are positively correlated (0.452), and the correlation is moderate. The correlation implies that after-sales service has a positive and moderate relationship with customer satisfaction, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service for customers be highly satisfied.

For example, factors like quality of products, durability of the products, gasoline prices, substantial change in income (up or down), and family preference could influence the overall satisfaction of the customers.

Based on the above correlation, it is possible to reject the null hypothesis that indicates there is a negative relationship between after-sales service and customer satisfaction due to they have a positive relationships.

## 4.6 .Customer Satisfaction and Positive Word of Mouth

Satisfied customers buy a product again, talk favorably to others about the product, pay less attention to competing brands and advertising, and buy other products from the company (Allen, 1999).

Dissatisfied consumer, on the other hand, responds differently. As a satisfied customer tells people about a good product experience, dissatisfied customer complains to more people than what a satisfied customer did. Clearly, bad word of mouth travels farther and faster than good word of mouth and can quickly damage consumer attitudes about a company and its products. Accordingly, the relationship between customer satisfaction and positive word of mouth are depicted in following tables.

**Table 4.8.1 Customer Satisfaction and Positive Word of Mouth**

		Frequency	Percent
Would you recommend another person's to purchase Lifan motors?	No	66	73.3
	Yes	24	26.7
	Total	90	100.0

Source: Own survey, 2017

Based on the table 4.8.1 above, 66(73.3%) of the sample respondents responded as they will recommend another person's to purchase Lifan motors, the main reasons why they recommend another person is they are satisfied with after-sales services rendered by the company and the prices of car is affordable at a reasonable prices, so any person who have a medium income can purchase it. And 24(26.7) sample respondents responded as they will not recommend another person's to purchased Lifan motors, the main reasons why they are not recommend another person is not due to after-sales service problem but the original car have many problems, like lack of durability and malfunctioning of their vehicle.



This indicates that majority of the respondents believe that after –sales service have an impact on the satisfaction of the customer. Most of the respondents are satisfied with the quality of after-sales service provided to them but they are not satisfied with the quality of the products especially with the durability of the car.

In addition, Lifan motors technician coordinators and after-sales service manager told the researcher as after-sales service has an impact on customer satisfaction. Moreover, one after-sales service technician coordinator from Lifan motors said after-sales service is very essential for owners of vehicles as the nature of vehicles require continuous follow-up. From the response of respondents, it is also possible to see that the impact that after-sales service can have on customer satisfaction and loyalty. Based on the above information it is possible to relate customer satisfaction with positive word of mouth, because of those customers who are satisfied with after-sales services of Lifan motors have a positive attitude towards service station, even though they are not as such positive attitude for the quality of the car.

**Table 4.8.2. Correlation Matrix of Customer Satisfaction and Positive Word of Mouth.**

Correlations

		Positive word of mouth	Customer satisfaction
Positive word of mouth	Spearman Correlation	1	.412**
	Sig. (2-tailed)		.000
	N	90	90
Customer satisfaction	Spearman Correlation	.412**	1
	Sig. (2-tailed)	.000	
	N	90	90
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Own survey 2017

Analyzing the data of 90 sample respondent's yield that, Pearson correlation coefficient (0.412) and the significance value (0.000) which is significant at the 90 % confidence level indicates that customer satisfaction and positive word of mouth significantly co-related. The correlation implies that customer satisfaction has a positive and moderate relationship with positive word of mouth, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service.

Based on this information it is possible to reject the null hypothesis that indicates there is negative relationship between customer satisfaction and positive word of mouth.

#### **4.7. Impact of After -Sales Service on Customer Satisfaction In the Case of Lifan motors**

The sample population of after-sales service customers are questioned either after-sales service has an impact on customer satisfaction or not, as shown in table 4.8 below.

**Table 4.9 Customers Response for the Impact of After-Sales Service on Customer Satisfaction (n=90)**

Do you think after-sales service has an impact on customer satisfaction?		Frequency	Percent
	Yes	86	95.6
	No	4	4.4
	Total	90	100

Source, Own survey, 2017

From the above table it is possible to infer that 86(95.6%) of sample respondents responded that after-sales service have an impact on customer satisfaction, while 4(4.4%) of the respondents responded that after-sales service have no impact on customer satisfaction.

This indicates that majority of the respondents believe that after –sales service have an impact on the satisfaction of the customer. Most of the respondents are satisfied with the quality of after-sales service provided to them but they are not satisfied with the quality of the products especially with the durability of the car.

In addition, Lifan motors technician coordinators and after-sales service manager told the researcher as after-sales service has an impact on customer satisfaction. Moreover, one after-sales service technician coordinator from Lifan motors said after-sales service is very essential for owners of vehicles as the nature of vehicles require continuous follow-up.

In order to know either after-sales service components have an impact on overall satisfaction of customers the stepwise regression analysis was also computed and the result is as shown below.

**Equation2: Regression Equation.**

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \dots + \alpha_k X_k + e_i$$

Where,

$\alpha_0$  = Point of intercept

Y = Overall satisfaction of customers in the after sale services

$X_k$  = after- sales service components

$\alpha_k$  = Slope of the line

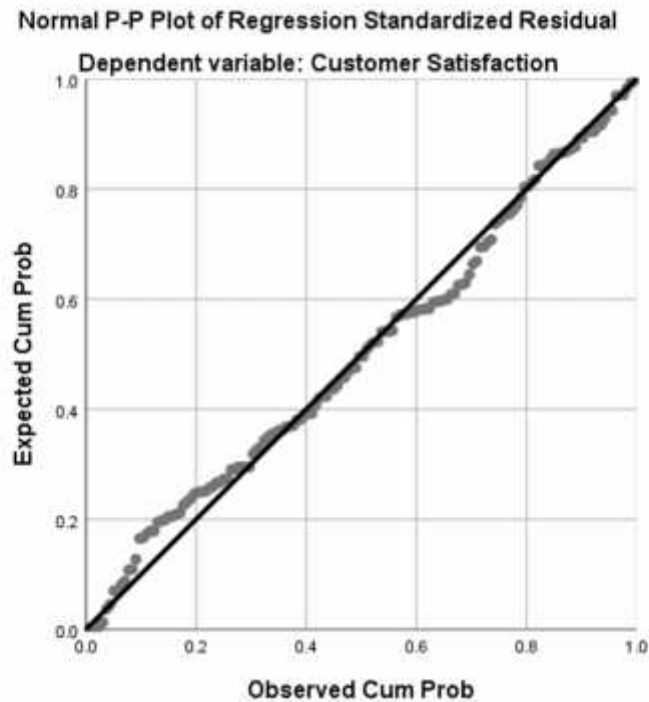
$e_i$  = Error term associated with the ith observation

#### 4.7.1. Assumption of Multiple Linear Regression

Most statistical tests rely upon a certain assumption about the variables used in the analysis. When this assumption does not meet the result may not be trustworthy, resulting in a Type I or Type II error, or over or under estimation of significance or effect size. Prior to running the analysis, regression assumptions were checked (Field, 2009).

##### 1. Normality of Residuals

Normality of residuals can be checked with a normal p-p plot. The plot shows that the points generally follow the normal (diagonal) line with no strong deviation. This indicates that the residuals are normally distributed.



Source: Own Survey, 2017

Figure 2.P-P Plot for Regression standardized residuals

## 2. Independent of Error (Auto-correlation)

It is a characteristics of data in which the correlation between values of the same variable is based on related objects. It violets the assumption of instance independence which underlies most conventional model.

**Table 4. 9.1. Durbin-Watson statistics**

1	1.83
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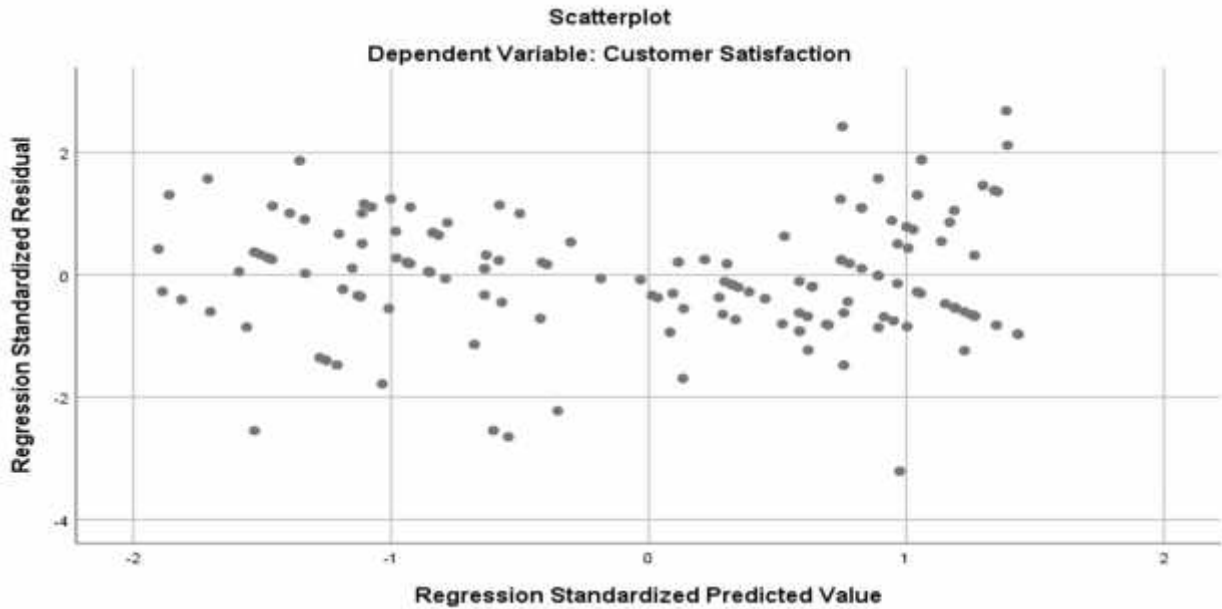
- a. Dependent Variable:  
Customer satisfaction

Source: Own survey, 2017

The Durbin Watson statistics 1.83 which is between two critical values of  $1.5 < d < 2.5$ . Therefore, we can assume that there is no first order auto-correlation in our multiple regression data.

## 3. Homoscedasticity

The variance of the error term is constant across cases and independent of the variables in the model. An error term with non-constant variance is said to be heteroscedastic. Because the dots are scattered randomly without any pattern, it means the variance of the residuals are constant.



Source: Own survey, 2017

Figure 3.Scatter Plot

#### 4. Multicollinearity

It is the states of very high inter correlation or inter association between independent variables. It is therefore a type of disturbance in the data, and if present in the data inferences made about the data may not be reliable.

Table 4.9.2. Multicollinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Maintenance	0.273	3.668
	Spare parts	0.471	2.124
	Inspection	0.406	2.464
	Warranty	0.364	2.749
	Car washing services	0.411	2.432
	Driving orientation	0.922	1.085
	Online service	0.235	2.654

Source: Own survey, 2017

The statistics showed that each variable had a tolerance value of more than 0.1 and a VIF of less than ten, hence multicollinearity would not interfere the outcome of multiple regression analysis.(Hair, 2006); (Field, 2009)

**Table 4.9 .3: Regression Analysis Model Summary (n= 90)**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652 <sup>a</sup>	.872	.869	.17540025
a. Predictors: (Constant), after-sales service				

Source: Own survey, 2017

As the above table shows, the value of R= 0.652 indicates a moderate relationship between after-sale service and overall satisfaction of customers in the after-sales service, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service for customers be highly satisfied. The value of R<sup>2</sup>= 0.872 explains that 87.2 % of the variation in satisfaction is explained, while 12.8 % remain unexplained by the after-sales service. Thus, the predictive ability of the model is fit and high.

**Table 4.9.4: Regression Analysis ANOVA results (n=90)**

ANOVA <sup>b</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	86.477	6	12.3	55.3	.000e
	Residual	2.523	82	.031		
	Total	89	89			
a. Predictors: (Constant), Spare parts, Maintenance. Carwash,Onlineservice,Driving Orientation, Warranty service						
b. Dependent Variable: Customer satisfaction						

Source; own survey, 2017

The ANOVA output table describes the overall variance accounted for in the model. The F value (55.3) and the small significance value level (0.000) indicate that the predictor variables are not contributing equally to the overall satisfaction of after-sales service customers.

Moreover, the significance level (0.000) is less than 0.05. Thus the stated after-sales service components have an impact on customer satisfaction, as is indicated by the F statistics.

**Table 4.9.5: Regression Analysis Coefficients for Overall After-Sales Service Satisfaction in**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.531	0.266		4.408	0.000
	Spare parts	0.299	0.053	0.248	3.099	0.000
	Maintenance	0.313	0.04	0.36	2.408	0.000
	Warranty	0.131	0.043	0.148	5.099	0.003
	Carwash	0.381	0.048	0.403	4.408	0.000
	Driving orientation	.077e	1.443	0.151	0.113	0.045
	Online service	.053e	1.178	0.24	0.093	0.025
e. Predictors in the Model: (Constant), Car washing service, Telephone service, Maintenance service, Spare part supply service, Warranty service, driving orientation, Online service.						
f. Dependent Variable: After sale service satisfaction						

Source; Own Survey, 2017

The result on the above table 4.9.3 shows, after-sales 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-sales service customers and they have 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-sales 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. 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-sales service has an impact on customer satisfaction.

However, as shows, driving orientation and online services are significantly related to overall satisfaction of customer. Though the result is significant as an individual component still driving orientation shows an impact on after-sales service satisfaction.

Based on the above findings it is possible hypothesis is accepted that indicates all components of after-sales service have equal contribution to the overall satisfaction of the customers.

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

## CHAPTER FIVE

### 5. FINDINGS, CONCLUSION AND RECOMMENDATION

#### 5.1. FINDINGS

The purpose of this study was to discover the impact of after-sales service on customer satisfaction in the case of Lifan motors. A total of 90 respondents were used as sources of data. Purposive sampling technique was used and data collection used for this study was questionnaires. The method of analysis were mainly descriptive analysis using frequency, mean and percentage as and inferential statistics mainly correlation and regression statistical methods were used.

Analysis was done in order to discover the impact of after-sales service on customer satisfaction in the case of Lifan motors based using Likert scale questionnaire using price, time and quality as a main elements which determines customer satisfaction.

The analysis led to the following major findings.

- The study revealed that the sample of Lifan motors respondents consisted of more males (71.1 percent) than females (28.9percent). More than 44.4% of the respondents were between 26-40 years old. And 44.4 and 55.6 percent of the respondents were single and married, respectively, and none of the respondents are below secondary school.
- According to Kano model, 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, and inspection services have been found to be closer to one - dimensional requirements classification for Lifan motors after-sales service customers.

While warranty service has been classified as must be quality for this company's customers. On the other hand, car washing service has been classified as the requirements that are closer to attractive requirement for Lifan motors customers and online services and driving orientation has been classified as the requirements that are closer to indifferent quality.

- Lifan motors after-sales service manager, after sale service technicians, and more than 95.6 % of the sample after sale service customers from Lifan motors who have got after-sales service at least once responded as after-sales service has an impact on customer satisfaction and 73.3% of positive word of mouth.
- The study revealed that majority of respondents was satisfied with after sales service of Lifan motors.
- The correlation of after sales components and over customer satisfaction is moderate relationship, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service for customers be highly satisfied.
- The correlation implies that customer satisfaction has a positive and moderate relationship with positive word of mouth, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service.

## 5.2. CONCLUSION

Based on major findings, the following conclusions were made:

- ❖ From the Kano analysis and regression analysis it is possible to conclude that after-sales service components have an impact on the satisfaction of customers and those components have no equal impact on customer satisfaction.
- ❖ Based on the study, it can be concluded that the significant factors involved in after-sales service are spare part supply, maintenance, carwash and warranty are significantly related to after-sales satisfaction, but divining orientation and online services are not significantly related to the overall after-sales satisfaction.
- ❖ After-sales service have positive and moderate relationship with customer satisfaction, the moderate relationship is because of the availability of other factors to be considered when purchasing vehicle in addition to the after-sales service for customers be highly satisfied.

- ❖ It can be seen that customers really rely on the prompt delivery of the products, on time supply of spare parts, maintenance response to be according to specification and requirement, and with the assurance of good quality products that are guaranteed for a certain period of time. When all these all factors are being looked at professionally and efficiently, the reputation of the company will be enhanced and this will make the company much talked about among the consumers and competitors.
- ❖ To the manufacturers, these factors in after-sales service are of utmost importance to build a long lasting profitable relationship with the existing customer. Such relationship will create a strong loyal customer base that will give the company a competitive edge for future survival.
- ❖ Majority of after-sales service customers (61.1 percent) responded as they will visit the after- sales service station again. From the overall satisfaction response it is possible to conclude that customers visit after-sales service station again to get service not because of they are satisfied rather because of the availability of vehicles brand spare parts and agreement to get service from the company.
- ❖ Therefore, after-sales service is clearly have an impact in satisfying consumer needs, which an important factor in creating long term profitable relationship with the customers.
- ❖ Unless the concerned body takes a serious measure to improve the after-sales service and level of customer satisfaction, the image of the company will be affected from the viewpoint of customers’.

### **5.3 RECOMMENDATIONS**

Depending on the finding of the research the researcher forwards the following recommendation for Lifan motors Company.

- Companies should solve the dissatisfaction of customers in quality, time and price of the components of after-sales service by assessing customer’s satisfaction frequently.
- Always, Lifan motors should focus on delivering high quality after-sales service like warranty that met customers’ expectation to effectively compete with competitors.

- 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.
- As for recommendation, it is important that the company to adopt a good after-sales service management to enhance the effectiveness and efficiency to serve the customer.

For example, by implementing extensive customer relationship management (CRM) with sophisticated software and analytical tools, this can help to integrate customer information and build stronger capabilities in after-sales service.

- Secondly, companies need to improve on the inventory management by keeping acceptable safety stock to avoid the delay in product delivery to the customer. Furthermore, it must always keep the lead time at the minimum possible as to meet the needs and wants of the customer.

A good distribution system is required to ensure that the product can reach the maintenance the company must always train their staff to give cohesive and reliable services to the customers. Here, a good attitude towards working together throughout the maintenances process with the customer is needed so that the customer will be happy and delighted with the service.

- Fourthly, there is a need to respond within a reasonable and acceptable period of time to the customer regarding the warranty claim.

The company should not delay the claim made by a customer and try to fulfill it promises either by repairing or replacing with a new product.

- Fifthly, company should offering better warranty terms convey greater assurance to buyers and can result in greater sales. Failure to deliver proper warranty service can have a negative impact on sales and hence negate the reasons for offering the warranty in the first place. This implies that product warranty logistic is very important from customer satisfaction as well from the manufacturer's profitability point of view.

- Finally, continuous improvement is required through integrated functional activities in order to produce high quality products which in turn can lead to customers' high satisfaction and confidence. All departments be it Marketing, Finance, Operations and Human Resource must work together to achieve the mission, vision and objectives of the company.

## 5.4. Implication for further Research

- 📌 Future research should focus on the similar study of factors affecting customer
- 📌 Satisfaction in after-sales service in other prominent industries such as Telecommunication, construction and other manufacturing as well as service sectors.
- 📌 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.

By doing this, hopefully we can get a clearer picture on the extended scope of after-sales service of several industries environment, which can be further examined. Eventually, a comparison can be made between the findings of the different industries so that such constructible findings and conclusions can be made to the study.

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# Appendix

## **Appendix I: Questionnaire for Lifan Motors Plc. After-Sales Service Customers**

**ST.MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES**

**COLLEGE OF BUSINESS AND ECONOMICS**

**DEPARTMENT OF MARKETING MANAGEMENT**

**Dear Sir/Madam:**

I would like to express my sincere appreciation for devoting your valuable time for completing this questionnaire.

This questionnaire is prepared by Seifu Negede, who is Master of Marketing Management student at St. Mary's University. The purpose of this questionnaire is to gather data in order to assess the impact of after-sales service on customers' satisfaction in the case of Lifan Motors Company.

Please co-operate by filling the questionnaire, because your genuine, frank and on time response is vital for the success of this study. Besides, the data gathered by this questionnaire is purely for academic purpose.

**Please note that:**

- No need of writing your name.
- Fill the answer by putting “ ” mark.
- If you need further explanation, you can contact me on through the address sown below

Address:-email [seifunegede4@gmail.com](mailto:seifunegede4@gmail.com)

Phone No: +251920624620



**PART TWO:** What will be your feeling, if Lifan Motors Plc has each of the following after-sales services? Please put “ ”depending on your desire.

After-sales 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					
driving orientation					

What will be your feeling, if LIFAN have no each of the following after-sales service? Please put “ ”depending on your desire.

After-sales 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					
driving orientation					

**PART THREE:**

**Instruction:** Below are statements pertaining to the impacts of after-sales service on customer satisfaction. Please indicate whether you satisfied or dissatisfied with the following services provided by Lifan motors by ticking ( ) the appropriate one from the options that range from ‘Very satisfied(5), to ‘Very dissatisfied.

Please indicate your level of satisfaction for the following after-sales service provided by Lifan motors.	Very satisfied (5)	satisfied (4)	Neutral (3)	Dissatisfied (2)	Very dissatisfied (1)
<b>i. Spare parts supply</b> 1. How would you rate your satisfaction on the access of spare parts in store?					
2. How would you rate your satisfaction On time supply of spare parts?					
3. How would you rate your satisfaction on over all spare part supply?					
<b>ii. Maintenance</b> 1. How would you rate your satisfaction on Time takes for maintenance?					
2. How would you rate your satisfaction on Price of maintenance?					
3. How would you rate your satisfaction on over all maintenance service?					

<b>iii. <u>Warranty services</u></b> 1. How would you rate your satisfaction on Length of warranty service?					
2. How would you rate your satisfaction on Warranty implemented as promised?					
3. How would you rate your satisfaction on over all warranty service?					
<b>iv. <u>Car washing services</u></b> 1. How would you rate your satisfaction on Cleanses of your car after washed?					
2. How would you rate your satisfaction on Time it takes for washing?					
3. How would you rate your satisfaction on Price of washing?					

<b>v. <u>Training/ driving orientation</u></b> 1. Contents of orientation					
2. Duration of orientation					
3. Over all orientation services					
<b>vi. <u>On line/Telephone services</u></b> 1. Accuracy to solve the problem					
2. On time feed back					



3. Telephone service					
vii. How would you rate your overall satisfaction on Lifan motors after-sales service experience?					

1. Based on your overall experience in the after- sales service of Lifan Motors PLC, would you visit the after -sales service station again?

Yes

No

2. Do you think after -sales service has an impact on customer satisfaction?

Yes

No

3. Would you recommend another person's to purchase Lifan motors PLC?

Yes

No

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

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**THANK YOU VERY MUCH FOR YOUR COLLABRATION!!!**

## APPENDIX II: Kano Model Analysis Calculation Results

Customer requirement		Dysfunctional question				
<b>Functional question</b>		I like it	I expect it	I am neutral	I can tolerate it	I dislike it
	I like it	Q	A	A	A	O
	I expect it	R	I	I	I	M
	I am 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

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

Customer satisfaction coefficient

CS = Customer's Satisfaction =

CD = Customer's Dissatisfaction =

TCS = Total customer satisfaction =

$$\frac{A+O}{A+O+I+M}$$

$$\frac{(-1) \times (A+O+I+M)}{O+M}$$

$$\frac{A+O}{A+O+I+M} + \frac{O+M}{(-1)(A+O+I+M)} = \frac{A-M}{(A+O+I+M)}$$

### 1. Maintenance

Maintenance		Dysfunctional ( negative question)				
		I like it	I expect it	I am neutral	I can tolerate	I dislike it
Functional ( positive question)	I like it	<b>Q 0</b>	<b>A 0</b>	<b>A 15</b>	<b>A 25</b>	<b>O 46</b>
	I expect it	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 1</b>	<b>M 0</b>
	I am neutral	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 1</b>
	I can tolerate	<b>R 1</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 1</b>
	I dislike it	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>Q 0</b>

A=40 **O=46**

M=2

I=1

R=1

Q=0

CS= 0.95

CD= -0.53

TCS=0.42

### 2. Spare parts supply

Spare parts supply		Dysfunctional ( negative question)				
		I like it	I expect it	I am neutral	I can tolerate	I dislike it
Functional ( positive question)	I like it	<b>Q 0</b>	<b>A 0</b>	<b>A 25</b>	<b>A 10</b>	<b>O 50</b>
	I expect it	<b>R 0</b>	<b>I 1</b>	<b>I 0</b>	<b>I 0</b>	<b>M 0</b>
	I am neutral	<b>R 1</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 0</b>
	I can tolerate	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 3</b>
	I dislike it	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>Q 0</b>

A=35 O=50 M=3 I=1 R=1 Q=0

CS= 0.95 CD= -0.6 TCS=0.34

### 3. Online (telephone services)

Online (telephone service)		Dysfunctional ( negative question)				
		I like it	I expect it	I am neutral	I can tolerate	I dislike it
Functional ( positive question)	I like it	<b>Q 0</b>	<b>A 0</b>	<b>A 1</b>	<b>A 9</b>	<b>O 28</b>
	I expect it	<b>R 0</b>	<b>I 4</b>	<b>I 15</b>	<b>I 4</b>	<b>M 4</b>
	I am neutral	<b>R 0</b>	<b>I 2</b>	<b>I 0</b>	<b>I 0</b>	<b>M 2</b>
	I can tolerate	<b>R 0</b>	<b>I 13</b>	<b>I 0</b>	<b>I 4</b>	<b>M 3</b>
	I dislike it	<b>R 0</b>	<b>R 0</b>	<b>R 1</b>	<b>R 0</b>	<b>Q 0</b>

A=10 O=28 M=9 I=42R=1 Q=0

CS= 0.42 CD= -0.41 TCS=0.01

### 4. Car washing

Car washing		Dysfunctional ( negative question)				
		I like it	I expect it	I am neutral	I can tolerate	I dislike it
Functional ( positive question)	I like it	<b>Q 0</b>	<b>A 8</b>	<b>A 36</b>	<b>A 2</b>	<b>O 21</b>
	I expect it	<b>R 0</b>	<b>I 12</b>	<b>I 0</b>	<b>I 4</b>	<b>M 0</b>
	I am neutral	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 1</b>	<b>M 2</b>
	I can tolerate	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 0</b>
	I dislike it	<b>R 0</b>	<b>R 0</b>	<b>R 2</b>	<b>R 2</b>	<b>Q 0</b>

A=46    O=21                    M=2                    I=17                    R=4                    Q=0

CS= 0.78                    CD= -0.23                    TCS=0.51

### 5. Inspection

Inspection		Dysfunctional ( negative question)									
		I like it		I expect it		I am neutral	I can tolerate	I dislike it			
Functional ( positive question)	I like it	<b>Q</b>	<b>0</b>	<b>A</b>	<b>0</b>	<b>A</b>	<b>25</b>	<b>A</b>	<b>10</b>	<b>O</b>	<b>46</b>
	I expect it	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>1</b>	<b>M</b>	<b>6</b>
	I am neutral	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>6</b>	<b>I</b>	<b>0</b>	<b>M</b>	<b>0</b>
	I can tolerate	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>M</b>	<b>0</b>
	I dislike it	<b>R</b>	<b>0</b>	<b>R</b>	<b>0</b>	<b>R</b>	<b>0</b>	<b>R</b>	<b>2</b>	<b>Q</b>	<b>0</b>

A=35    O=46                    M=6                    I=1                    R=2                    Q=0

CS= 0.92                    CD= -0.6                    TCS=0.33

### 6. Warranty

Warranty		Dysfunctional ( negative question)									
		I like it		I expect it		I am neutral	I can tolerate	I dislike it			
Functional ( positive question)	I like it	<b>Q</b>	<b>0</b>	<b>A</b>	<b>13</b>	<b>A</b>	<b>5</b>	<b>A</b>	<b>2</b>	<b>O</b>	<b>27</b>
	I expect it	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>9</b>	<b>M</b>	<b>29</b>
	I am neutral	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>2</b>	<b>I</b>	<b>3</b>	<b>M</b>	<b>8</b>
	I can tolerate	<b>R</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>I</b>	<b>0</b>	<b>M</b>	<b>3</b>
	I dislike it	<b>R</b>	<b>0</b>	<b>R</b>	<b>1</b>	<b>R</b>	<b>0</b>	<b>R</b>	<b>0</b>	<b>Q</b>	<b>0</b>

A=20                      O=27M=40                      I=2                      R=1                      Q=0

CS= 0.53                      C D= -0.75                      TCS=-0.22

**7. Driving orientation (training)**

Driving orientation (training)		Dysfunctional ( negative question)					
		I like it	I expect it	I am neutral	I can tolerate	I dislike it	
Functional ( positive question)	I like it	<b>Q 1</b>	<b>A 0</b>	<b>A 11</b>	<b>A 1</b>	<b>O 30</b>	
	I expect it	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 8</b>	<b>M 5</b>	
	I am neutral	<b>R 0</b>	<b>I 0</b>	<b>I 25</b>	<b>I 6</b>	<b>M 2</b>	
	I can tolerate	<b>R 0</b>	<b>I 0</b>	<b>I 0</b>	<b>I 0</b>	<b>M 0</b>	
	I dislike it	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>	<b>Q 0</b>	

A=12                      O=30                      M=7 I=39R=2                      Q=0

CS= 0.47                      C D= -0.42                      TCS=-0