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Effects Of After-Sales Service On Customer Satisfaction The Case Of National Motors Corporation Plc.

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MSc Thesis

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Approval of Thesis for Defense

I hereby certify that I have supervised, read, and evaluate this thesis titled "Effects of after-sales service on customer satisfaction the case of National Motors Corporation Plc." Prepared by Mesafint Assfaw under my guidance. I recommend the thesis to be submitted for oral defense

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I hereby confirm that changes required by the examiners have been carried out incorporate the final thesis. Name of Student Mesafint Assfaw Signature _____ Date 04-11/2021

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Declaration

This is to certify that the thesis entitled "Effects of after-sales service on customer satisfaction the case of National Motors Corporation Plc.", Submitted in partial fulfillment of the requirements for the degree of masters of Science in Industrial Management faculty of Mechanical and industrial engineering, Bahir Dar Institute of Technology is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificate. The assistant and help I received during this investigation have been dully acknowledged.

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Abbreviations and Acronyms

Co. Ltd	Company limited
CAGR	Compound annual growth rate
EIC	Ethiopian Investment Commission
ETB	Ethiopian Birr
ETC	Ethiopian Telecommunication Corporation
FDRE	Federal Democratic Republic of Ethiopia
PLC	Private Limited Company
NMC	National Motors Corporation
ANOVA	Analysis of Variance
α,β	Coefficients of an Equation
DF	Degree of Freedom
SS	Sum of squares
MS	Mean Square
n.d	not specific date
CSI	Continual Service Improvement
PCA	Principal Component analysis

Abstract

Organizations must look into the needs and wants of their customers to be successful. Different researchers have shown that customer satisfaction is important and has a positive effect on an organization's profitability. Customers can satisfy not only by the product they purchase but also by the service they got from the organization. The main objective of this study is to analyze the effects of after-sales service on the satisfaction of National Motors Corporation PLC customers.

Data were collected from 78 after-sales service clients and after-sales leaders. To select these 78 consumers purposive sampling is used. STATA version 13 software programs are used to summarize and analyze the collected data. The techniques used for analyses of responses are descriptive, inferential analysis and the Kano model of customer satisfaction. To check the validity of the survey Factor analysis, Kaiser-Meyer-Olkin (KMO) is performed, and to check the reliability of variables Cronbach's alpha is run in STATA version 13, the result showed that the survey is both valid and reliable.

The results indicate that the company's after-sales services, such as maintenance, inspection, spare parts supply, warranty, training, branch, and online communication, have a substantial beneficial impact on customer satisfaction. Moreover, the result indicates that there is misalliance between after-sales services need by the customers and what was being the company is concentrating on. In addition, the finding shows that inspection has the highest contribution to customer satisfaction followed by communication, spare part, maintenance, warranty, and branch and training respectively.

Keywords: after-sales service, customer satisfaction, Kano model

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Many companies previously wanted to focus on creating and marketing products, rather than the customers who bought the products; however, the relationship between the two parties has now changed, and the customer is the most important focus of maintaining the relationship (Gaiardelli et al., 2007). Building a good relationship between seller and buyer has meant to generate value for both ends (Cannon and Perreault, 1999; Palmatier et al., 2006). A key factor that differentiates a company's products and performs well in meeting customer needs is service provision (Anderson and Narus, 1995).Cost and profits can influence services for both buyer and seller. And can absolutely affect how customers do commercial with their providers (ibid). Furthermore, for the customer after-sales service is considered as a means for increasing a valuable advantage for the customer as well as it is a business opportunity for the company (Saccani et al., 2007).

(Bundschuh and Dezvane, 2003; Gaiardelli et al. 2007) study shows that after-sales service is generally accepted as a potential source of revenue, profit, and competitive advantage in most manufacturing industries. The after-sales revenue generated by the automotive industry is more than three times that of the original product purchased (Wise and Baumganter, 1999). The Ethiopian automotive industry has a significant role in the national economy. In the Ethiopian automotive industry, there are different dealer companies each of them has playing their contribution to increasing the industry and overall for the national economy.

Satisfying existing customers and attracting new customers is the main purpose of every business. In all enterprises, customers are regarded as kings. In a company, customer satisfaction cannot be seen as a separate function, but a basic priority, which shows how the company is committed to providing customers with quality products or services, and ultimately increasing customer loyalty. Customer satisfaction is one of the company's basic goals. Organization, because people often say that the customer

is the boss, and the boss is always right, which means that the customer is right when asking for after-sales service (Yuen & Chan, 2010).

Kurata & Nam, (2010) revealed that since customer satisfaction means when their expectation meets with the provided service so after-sales service serves as a foundation for evaluating customer satisfaction Perceived service is the result of consumers' perception of the dimensions of the service, which include functional dimensions and technical dimensions. Service quality is also measured by how it is provided throughout the service process and how it affects customer views. This is not only assessed as the results Fornell, (1992). (Gaiardelli, Cavalieri, & Ierace, 2007) have shown that there is a strong correlation between after-sales service and customer satisfaction, financial performance, manufacturing costs, customer retention, customer loyalty, and the success of marketing strategy.

Sudharshan (2010) shows that in the business community after-sales service is an emerging concept due to so many automobile sellers provide after-sales service for their customers as the nature of the items requires nonstop follow-up and inspection because vehicles are vulnerable to technical and mechanical problems because of long time service. Now a day with the rapid development of new customer service technologies has increased the emphasis on enhancing the customer connection automotive market is escalating competition. Effective after-sales service is very essential to attract new customers and retain existing customers since the nature of the products in the automotive manufacturing is extremely vulnerable to technical and mechanical problems (Ehinlanwo & Zairi, 1996).

However, most business organizations are not giving proper attention to the after-sales service factors and their effect on customer satisfaction. Failing to realize the importance of the factors can lead to an unsuccessful and threatening business relationship. Displeased customers will turn to opponents who can offer improved after-sales services (Murthy et a.l, 2004).

Murthy et al., (2004) revealed that due to the poor performance of the purchased item and/or the quality of after-sales service provided by the manufacturer customers are dissatisfied. In either case, it results in a negative effect on the overall business performance. This may lead to dis satisfied customers switching to a competitor or the company losing potential new customers due to the negative word-of-mouth effect.

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This implies that good after-sales service support is very important from customer satisfaction and the manufacturers/ suppliers/ dealers profitability point of view.

Many companies in Ethiopia haven't any after-sale services and those they do now not understand the benefit of giving after-sale service. In line with Ehinlanwo and Zairi (1996), transport of after-sales service is turning into more and more important as organizations do a whole lot of their strength to be extra cost-effective, enhance earnings margins, and meet customers' call for products or services. Also, Potluri and Hawariat (2010) suggest that the services in product layout, technology, and fee have become increasingly more difficult to differentiate products as the result; corporations need to offer after-sale services for their customers. Amongst those automobile dealers offer after-sale service for his or her customers as the nature of the product requires non-stop compliance with up and inspection, due to the fact motors are vulnerable to technical and mechanical problems as a result of long time provider.

Since it is significant to study the effect of after-sales service on customer satisfaction, this paper aims to examine the effect of after-sales service offered by the company on the satisfaction of National Motors Corporation PLC customers to identify whether the company is gaining the intended result from its offers and investments in after-sales services and which specific areas need improvement to satisfy the existing customer to the desired level.

1.2. Background of Case Company

National Motor Corporation plc. was established in 1993 with a paid-in capital of 10 million birr. The National Motor Company is one of the modern private organizations engaged in the import and sale of light and heavy trucks, vans, buses, four-wheelers and automobiles. NMC is the authorized agent of Chevrolet, Opel, Isuzu and Renault Trucks, representing the following well-known auto manufacturers' industries, covering America, Europe and Asia.

- General Motors Corporation North America for Chevrolet Vehicles
- Adam Opel Germany
- Isuzu Motors Japan
- Renault Trucks France

1.3. Statement of the Problem

According to Gandhi (n.d.), a customer is the most important guest on our premises; he or she is not reliant on us, and we are reliant on him or her. He/she is not an impediment to our work; rather, he/she is the source of it. We are not doing him/her a favor by using serving him/her; he/she is doing us favor through giving us and possibility to achieve this". Besides, Kotler (2002) said that its miles no longer sufficient to meet clients. We should please them. As Smith (2007) shows consumer delight is essential to any product or service, due to the fact it is a sturdy predictor of customers retention, customer loyalty, and product repurchase. However, in keeping with Lin (2009), the simplest 4 percent of dissatisfied customers complain, and finally, one disappointed customer tells nine different humans about the problem.

Subsequently, customer satisfaction plays a crucial function in the success and non-stop lifestyles of the organization. According to and Ehinlanwo Zairi (1996) product layout, technology, and pricing are becoming increasingly difficult to discern. In keeping with Foss and Stone (2001), increasing competition within the automotive market blended with speedy improvement of the latest customer service technologies has accelerated the point of interest in enhancing the customer relationship. Because the nature of the products (motors) inside the automobile enterprise is distinctly prone to technical and mechanical troubles, powerful after-sale service could be very vital to attract new customers and preserve existing customers.

As stated in the introduction part, after-sale service is not familiar in Ethiopia and companies that have after-sale services but they did not research after-sale in the National Motor Corporation which the case company of this thesis.

Although Potluri and Hawariat (2010) performed to have a look at the region after-sale service in Ethiopia, the studies changed into performed in after-sale service behavior of telecom clients using SEQUAL model, it isn't always enough to generalize the effect of after-sale service on customer satisfaction. As consequence, it became suitable to observe the effect of after-sale service on customer satisfaction by the usage of any other model like the Kano model and in different organizations.

Different researches have been done in the automotive industry of Ethiopia, which are overall in the industry and different automotive companies in the title of after-sales service and customer satisfaction. As per the researcher's knowledge, presently there is no study found which is done on the effect of after-sales on customer satisfaction for National Motors Corporation private limited company, although it one of the

automotive companies contributing it is the role in the industry. Thus, it would be interesting to investigate how after-sales service activities affect the satisfaction of customers. Such investigation could deepen knowledge regarding links of after-sales services with customer satisfaction in the automotive industries.

1.4. Research Questions

This study aims to know the effect of after-sales service on customer satisfaction by answering the following research questions:

1. What components of after-sales service are being offered by National Motors Corporation PLC?
2. Is there a difference between what National Motors Corporation PLC is focusing and company's customer need?
3. What after-sales service components offered by the company affect the satisfaction of National Motors Corporation PLC customers?
4. Which after-sales service components have a higher level of effect on customer satisfaction?
5. Which after-sale service strategy is preferable to enhance the satisfaction level of company customers?

1.5. Objectives of the Research

1.5.1. General Objective

The general objective of the study is to analyze the effects of after-sales service on the satisfaction of National Motors Corporation PLC customers.

1.5.2. Specific Objectives

The specific objectives of this study are:

- ✓ To identify offered after-sales services components by National Motor Corporation PLC.
- ✓ To study whether there is a mismatch between what the NMC is providing & what customers really desire.
- ✓ To examine the effect of after-sales services offered by National Motors corporation PLC on customer satisfaction
- ✓ To differentiate which component of after-sales service have a higher effect on the satisfaction of National Motors Corporation PLC customers

✓ To recommend appropriate after-sale service strategy to enhance the satisfaction level of company customers

1.6. Scope and Limitation of the Study

Due to the different constraints such as time, finance, access to organized data this study will only focus on the effect of after-sales service on customer satisfaction by using the KANO model. The research has conducted in National Motors Corporation PLC, which is one of the Ethiopian automotive companies. The major limitation is the failure to include other automotive companies to compare and contrast. Therefore, the results of this study may not provide the general situation of the Ethiopian automotive aftermarket industry.

1.7. Significance of the Study

There are some researchers have been conducted in different automotive companies on the effect of after-sales service on customer satisfaction but no study has study found in NMC. The outcome of the research shows the company's after-sales service weaknesses and strengths. It is also used for the company to differentiate which component of after-sales service needs to focus on relative to their customer satisfaction. Moreover, this study adds value to the effect of after-sales service on customer satisfaction in NMC and for other similar researches used as reference material.

1.8. Organization of the Research

This paper has five chapters. Chapter one briefs about the background of the research, statement of the problem, objective, significance, scope, limitation, and organization of the study. Chapter two deals with of literature review. Chapter three discusses the research methodology. The fourth chapter presents results and discussion. The last and chapter five point out a summary of the findings conclusion and provides a recommendation.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Theoretical Review

2.1.1. After-Sales Service

As in line with Muhammad et al. (2011), after-sales service is defined as customer service following the acquisition of a service or product. It is usually formalized by using assurance or service settlement between the service provider and the customer. By way of presenting after-sales service, the employer facilitates the consumer's attainment of to start with a perceived fee of the product (during purchase).

Gaiardelli, et al. (2007) clean after-sales service as those activities taking place after the purchase of the product and committed to assisting customers inside the utilization and discarding of the products to make them loyal. Whereas the Rigopoulou, et al. (2008) after-sales services are regularly referred to as "product guide sports", which means all activities that help the product-centric transaction. Moreover, as specific in Potluri and Hawariat (2010) the term "after-sales services" has been approached inside the literature under broad perspectives. Whilst referring to service supplying companies, after-sales services are being handled as one among numerous supplementary service factors supplied. Then again, whilst referring to tangible goods, they're by and large seen as operative sports of some or all participants of the distribution chain.

In line with Kotler (2002), attracting a new customer is five instances extra than the value to preserve modern customer happiness. This shows the after-sales service reliability has a critical effect on the employer's profitability, and splendid after-sales service is a promotion by way of itself. Consistent with Adrian, et al. (1995) in today's advertising surroundings, and more and more crucial supply of aggressive gain in the manner we serve customers. In current years, more and more organizations focus their interest on preserving existing customers as opposed to attracting new ones. This indicates the after-sales service has a crucial function in retaining the customers without any advertising as well as the after-sales service profit will equivalent to the primary motors or product income.

2.1.2.Objectives of After-Sale Service

Loomba (1998) says the main goal of the after-sales is to preserve customer satisfaction via trust, credibility, and experience of safety conveyed by using the organization and constructing lasting relationships that contribute to increased performance for sustainable outcomes. After-sale service benefits include aggressive gain, customer happiness, long-term client relationships, consumer retention and loyalty, new product success and improvement, excessive profits, Differentiation, and Branding, according to Forooz and Rostami (2006).

Gaiardelli, et al. (2007) describe an effective after-sales service protocol as critical to streamline service control and meet customer's expectancies, it can permit you to enjoy customer satisfaction, at the same time as additionally saving on your backside-line and it generates earnings. Henley center headlight imaginative and prescient (Anon., 2007) illustrations extra than 1,800 customers who had purchased all the automobile manufacturers bought in the U.S, remarkable service no longer handiest beef up relationships with clients who already sense unswerving to a brand. It may also defuse sick will that reasons disaffected clients to bad-mouth the brand. According to Potluri and Hawariat (2010), the providing of after-sales service is becoming increasingly important as businesses strive to be more cost-effective, increase profit margins, and match customer demand for a product or service.

However, the maximum of the business companies is not aware of the after-sales service elements and their impact on customer satisfaction. Failing to understand the importance of the factors can lead to an ineffective and hazardous commercial organization connection. This may lead disappointed clients to exchange to a competitor or the corporations lose the ability for new clients due to bad word-of-mouth impact. Consequently, each enterprise must understand the goal and importance of getting after-sale services and make them reliable and implement it to fulfill clients.

2.1.3.Components of After-Sales Service

Goffin (1999) clarifies seven elements of after-sale support that must be gives to customers over the working lifetime of the product as follows.

Installation: - for several products the first element of product support following the sale is installation. This is usually done for complex products or where personnel from the manufacturing organization or their agents involve safety issues.

User training: - The difficulty of some type of equipment demands that manufacturers deliver good training for users. Many computers based and complex products include functions that help users learn to use them more competently.

Documentation:-Most items have some form of documentation and manufacturing such as medical electronics play a key role. A typical form of documentation covers equipment operation, installation, maintenance, and repair. Good documentation can lead to lower support costs.

Maintenance and repair:-Maintenance and repair are the main elements of product upkeep, which has essential companies to invest significant resources. Preventive maintenance is undertaken to clean, refurbish, or replace parts of equipment that otherwise would be liable to fail. For example, mechanical parts usually require regular maintenance, just like a car.

Online support: - Telephone advice on the 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 the fault (troubleshooting). Nowadays the companies are widely used internet for the after-sales service is more near to customers.

Warranties: - Most product manufacturers provide a warranty, and in some markets (for example, cars). Producers try to gain a competitive advantage by present longer warranty times. Collateral reduces the financial risk of owning the product and is therefore an important element of customer care

Branches:- one of the most important decisions faced by after-sales management is dividing the entire product/ customer locations in the region into sub-regions and open optimum branches which gives maintenance service, spare parts supply, warranty service, etc. to the customer by optimizing the company's total cost and customer's service level. These branches are responsible to provide after-sales service to all types of equipment and customers within the assigned territory. Branch locations have a direct effect on the company's operational performance and customer satisfaction

(Simmon, 2001). Assigning dedicated technicians, tools, spare parts, and faculties has high cost unless designed and managed efficiently; on the other hand far branches from customers increase downtime of equipment and reduce the profitability of customer and accordingly satisfaction.

Upgrades: - Offering customers to enhance the performance of the existing products can be an important aspect of support. For example, computer manufacturers' offer upgrades, because they increase the working life of products and can be a significant source of revenue. OEMs have a competitive advantage in this regard because they generally have equipment sales records that can benefit from upgrades. According to Potluri and Hawariat (2010), the major tasks related to after-sales services of fixed lines in ETC are: -

Provision of information: - Customers 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 undertake a series of tasks that may vary from product to product and from service to service Delivery is all the components established by the service provider, used to operate and maintain the service defined in the service specification and used by the customer.

Maintenance and Repair Service: - This service function includes all repair-related activities from the time the service does not provide one or more specific functions to the restoration of these functions for use by customers. Regardless of the product or service being repaired, the process must be consistent from the customer's point of view.

Billing services: - Billing is common to almost all services that are not provided for free. Inaccurate, illegible, or incompatible invoices will disappoint customers. Customers usually want invoices to be clear, informative, and detailed so that they can clearly understand how the total is calculated.

Customer complaints handling: - A complaint is the result of the organization's service failures that occurs for many reasons. Any type of service failure brings about negative feelings and responses from customers. Complaining customers need quick responses. Therefore, if the company welcomes and encourages complaints, it must be prepared to act rapidly.

In keeping with the above, Goffin (1999) stated installation, user training, documentation, maintenance and repair, online support, warranty, and upgrades as a

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detail of after-sale service. Potluri and Hawariat (2010) classify the predominant obligations related to after-sale services of fixed-line in etc. as the provision of facts, service delivery, maintenance and repair service, billing service, and customer complaint dealing with. Maximum corporations include protection, restore, online service, warranty, training, and so forth… as an element of after-sale service. although those researchers have investigated the said after-sale service elements, the researcher additionally investigated maintenance, spare elements supply, online (cellphone) service, warranty, training (using orientation), towing service, annual automobile inspection service, and documentation services because of the kinds of after-sale services presented inside the car industry.

2.1.4.Customer Satisfaction

Conferring to Mohd J. et al. (2015) customer satisfaction is the key parameter to know the customer expectation for a particular product or brand. Customer satisfaction is defined as the percentage of the total number of customers who have used the product and experienced the service quality of your service center and are pleased or satisfied. This means if the after-sales service of the companies is reliable and strong enough the customers are loyal and they also no needs to ignoring the after-sales service products provider.

According to Rigopoulou et al. (2008) Customer satisfaction is the mentality of customers towards the company when customers meet or exceed their expectations during the life of a product or service. Tegbar T (2017) Customer satisfaction measurement involves the collection of data that provides information about how satisfied or dissatisfied customers are with a service. This evidence can be composed and examined in many different methods. Many organizations regularly check customer satisfaction levels to monitor performance and measure the impact of service improvements over time.

Brady and Robertson (2001) explained that customer satisfaction is the feeling of pleasure or disappointment that an individual generates when comparing the perceived performance of a product with its expected value.

Additionally, Rizaimayet al. (2009), mentioned about customer satisfaction measures should depend on quality, on-time delivery, money, issue factor, accommodation, and cooperation

According to thoughts of Mohd J. et al. (2015) reasons for the importance of customer satisfaction are:

      -Customer satisfaction too raises the lifetime worth of the customer.

      -Customer satisfaction is also a point of differentiation.

      -Customer satisfaction is also helpful to reduce the negative communication of word of mouth.

      -It displays the loyalty and repurchases intents of the customer.

      -For reducing customer churn customer satisfaction is important.

2.1.5.Customer Satisfaction and After Sales Service Quality

After-Sale Service and Customer Satisfaction Theory

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

1. The Disconfirmation of Expectations theory

The disconfirmation of expectancies principle holds that satisfaction/dissatisfaction responses rise from a cognitive assessment system wherein pre-purchase "expectancies" or earlier ideals the probability of product-associated stories or results are retrieved from reminiscence and in comparison to cognitions approximately the product-associated stories or results found out with inside the intake of the product. The result of this comparison is the expected non-confirmation, varying from negative (expectation exceeds the result obtained) to zero (expectation equal to the achieved result) and positive (the result obtained exceeds the expectation).The Value-Percept

2. Disparity theory

The theory states that satisfaction / dissatisfaction is an emotional response triggered by a process of cognitive evaluation, in which the perception (or belief) of an object, behavior or condition is correlated with the values (or needs, desires, desires) of a person.) Compare.

Since consumers seek the realization of value, not confirmation of their expectations, it is assumed that their perceptions of products, systems, or market behavior are only tested based on the extent to which they meet consumer value. Although the product may provide more attributes or results than expected, this has no effect on satisfaction, unless this aspect hinders the realization of another value.

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3. Regret Theory

This theory was developed by Taylor (1997) theory proposes a richer notion of satisfaction that included expectations about the un-chosen option. This theory retains the basic expectancy – disconfirmation paradigm as the basis for the regret theory approach. Regret straight influences the Consumers" conclusion to purchase another time. 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 principle states that usual client pleasure is the distinction between client choice and expectation and the real overall performance of the precise good or service.

2.1.6.Importance of Customer Satisfaction

Customer satisfaction helps companies in many ways: Information on customer satisfaction helps organizations to evaluate their ability in meeting customers' needs and expectations effectively (Zeithaml et al., 2009). Besides, it helps organizations to analyze the performance of an offering to customers to identify areas for improvements as well as what areas customers consider to be very important to them (Zeithaml et al., 2009).

Companies can use satisfaction surveys to predict customer retention, loyalty, and profitability for the organization. The researches have shown that customer satisfaction indications to productivity of the organization (Bei and Chiao, 2001; Heskett et al., 1997).

Studies have shown that there is a positive correlation between customer satisfaction and customer loyalty and retention (Zeithaml et al. 1996; Heskett et al. 1997). Reichheld (1990) stated that customer satisfaction accounts for approximately 40% of customer retention. In the automotive industry, customers who are satisfied with a dealer might buy multiple vehicles as their income and business increase and also keep going back to that dealer for every service throughout their lifetime.

Customers who are satisfied with a company's service may tell others about it – positive word-of-mouth, just as the dissatisfied customer also bad mouth the company to others. Therefore it is important especially for service businesses to satisfy the customer consistently.

2.1.7. Customer Satisfaction Measuring Models

Customer satisfaction measurement is an essential part of the broader set of tools that offer insight into customer needs, behaviors, and motivations. It allows a company to understand what their client's cost, how this varies between exclusive types of humans, and for that reason, in which action may be taken to improve conveyance. Most importantly, it's far a key strategic tool: sophisticated customer satisfaction modeling processes allow organizations to become aware of the 'drivers' of satisfaction or dissatisfaction – the factors that decide whether the person is glad or no longer. Extraordinary customer satisfaction measurement models have been evolved and in use to identify and attention to consumer satisfaction. A number of them are discussed below.

2.1.8. Quality Function Deployment (QFD)

Quality Function Deployment (QFD) QFD was created by Shigeru Mizuno and Yoji Akao of Tokyo Institute of Technology in the 1960s. Quality Function Deployment was first used in 1972 at Mitsubishi Heavy Industries Co., Ltd. at Kobe Shipyard in Japan. Given that then it's been efficiently utilized in product and service design with the aid of many companies. Its miles these days are hooked up as an important first-class or quality tool inside the design method. (Akao, 1990; Mazur, 1194; Ekdahl and Gustafson, 1997). QFD is a systematic method utilized by move-functional teams so that you can perceive and remedy the issues concerned in providing products, approaches, offerings, and strategies that decorate customers' satisfaction (Gonza ́lez, Quesada, and Bahill, 2003). Akao (1990) defines QFD as a technique for outlining design features that can be consistent with client expectations after which translating the customers' requirements into the layout or design goals and essential quality assurance factors that can be used at some point of the production/carrier improvement phase (Akao,1990). The quality function deployment system has been used to (Sangeeta and Karunes, 2004):

-Perceive the presence of correlated layout traits and consumer requirements;

-Relate layout characteristics in the form of nice elements/additives to the extraordinary client requirements;

-Perceive the minimal set of layout traits able to cowl all purchaser requirements. Several guides illustrate one-of-a-kind service QFD packages.

Benefits that arose from stated QFD packages include fewer design and service costs, fewer and earlier design adjustments, higher organization performance, development in provider quality, and certainly, an increase in customer satisfaction (Franceschini and Rossetto, 1995) and (Kim, Han, Choi, and Kim, 1998). However, some researchers found a loss of the best management tools that would translate the customer's desires into the service elements of a company.

2.1.9. SERVQUAL

SERVQUAL is a customer satisfaction measuring model and measures discrepancies of service quality as a result of a comparison between what customers consider the service must be and their perceptions about the actual performance presented through the company, Parasuraman et al., (1985). Parasuraman et al., (1985) postulated device includes 22 items with five classes: Tangibles, reliability, responsiveness, warranty, and empathy (Table 2.1). The model incorporates two components: expectations and perceptions, if the expectation of carrier excellent is handed, it means customers' satisfaction. If the expectancy isn't always met, it approaches customers' dissatisfaction.

Tangibles: Tangibles consist of the attributes of the one related to physical items which include systems, buildings, and the advent of both employees and the devices applied to speak to the client.

Reliability: relates to the employee's capability to supply the service dependably and correctly. Numerous researchers discovered that reliability tends to continually show up in the evaluation of service. Parasuraman, et al., (1988) indicated that reliability generally is the most important attribute customers are trying to find within the location of quality service. It turned into additionally determined by using Parasuraman, et al., (1985) that the conversion of bad wording to advantageous wording.

Responsiveness: The preference and willingness to help customers and deliver a set-off service make up the dimension of responsiveness. Parasuraman, et al., (1988) consist of such elements in responsiveness as telling the customers the exact time body within which service could be finished, promptness of provider, willingness to be of help, and by no means too busy to respond to customer requests.

Warranty: informed and courteous employees who encourage self-belief and trust from their clients set up assurance, Parasuraman, et al., (1988) protected movements

by employees along with continually courteous conduct instills self-assurance and knowledge as prime factors of assurance. Assurance replaces competence, courtesy, credibility, and safety inside the authentic ten dimensions for evaluating service quality (Zeithaml, et al., 1988)

Empathy is the caring and personalized interest the enterprise presents its customers. Person interest and handy working hours were the two primary factors covered by using Parasuraman, et al., (1985) in their evaluation of empathy. The degree to which the customer feels empathy will cause the consumer to either be given or reject the service come across (Zeithaml, et al., 1988).

Table 2.1. Service Quality Dimensions

Tangibles	• Modern equipment • Visually appealing facilities • Employees who have a neat, professional appearance • Visually appealing materials associated with the service	Parasuraman, et al., (1985)
Reliability	• Providing services as promised • Dependability on handling customer service problems • Performing services correctly the first time • Providing services at the promised time • Maintaining error-free records	Parasuraman, et al., (1988)
Responsiveness	• Keeping customers informed about when services will be performed • Prompt service to customers • Willingness to help customers • Readiness to respond to customer's requests	Parasuraman, et al., (1988)
Assurance	• Employees who instill confidence in customers • Making customers feel safe in their transactions • Consistently courteous employees • Employees who know to answer customer's questions	Parasuraman, et al., (1988)
Empathy	• Giving customers individual attention • Employees who deal with customers in a caring fashion • Having the customer's best interest at heart • Employees who understand the need of their customers • Convenient business hours	Parasuraman, et al., (1985)

Source: Zeithaml, V.A., Parasuraman, A. and Berry, L.L. (1990)

2.1.10. Kano Model of Customer Satisfaction

One of the models to degree customer satisfaction is the Kano model of customer satisfaction which classifies product attributes based totally on how they're perceived by clients and their impact on customer satisfaction (Kano et al., 1984). These classifications are very useful in guiding design choices: they indicate that precision is sufficient and when more is better (analysis of the model by Kano, 2014; Spool, 2011).

The Kano model was advanced in 1984 using Noriaki Kano and his crew. It was formulated to outline models that might categorize and prioritize consumer desires and service the manufacturer with recommendations for product improvement lifecycle and to provide the customer with on-growing satisfaction when returning for the brand new line of a product from the equal producer.

The Kano model of customer satisfaction proposed using the Japanese professor Noriaki Kano and his colleagues divides product attributes into three categories: threshold or need to be (primary), performance, and exhilaration or delighter (see figure 2.1). An aggressive product meets primary attributes, maximizes performances attributes, and consists of as many excitement attributes as viable (Chen & Chuang, 2008; Kano model analysis, 2014; Kano et al., 1984; Spool, 2011). Kano model is used to determine customer expectations for products; it is used to analyze customer needs and determine product requirements.

The principle awareness of consumer desires is abbreviated from the product quality properties. Clients (or potential customers) are seeking to resolve a problem or realize an opportunity. However, it's miles critical to outline the segregation of desires, on account that we recognize all the needs are not identical – distinctive clients have one-of-a-kind priorities and meanings connected to their wishes.

Figure 2.1. The three categories of features of the Kano Model
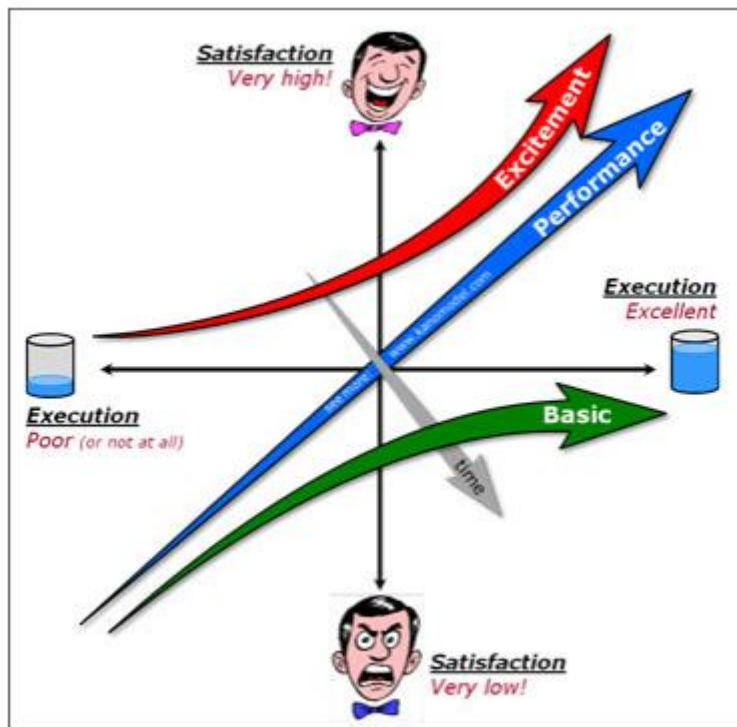
Source: Witell and Löfgren, (2007), p. 56

Use of the Kano model

The Kano model may be applied in one-of-a-kind methods, counting on the problem in focus. But, it's miles crucial to continuously provide the three elegant views of the consumer concerning the problem in consciousness. as soon as it can be used as a model for meeting the capabilities and homes that the product desires to have, it may be used as a model for outlining and benchmarking the product number one fine in opposition to different merchandise to be had at the market. The Kano model is occasionally called the „two-dimensional excellent model".

The client sees the Kano version as a smooth magnificence of the goods they encounter –they see them as simple, appropriate, or extremely good merchandise. This is wherein the usage of the Kano model will become complex. while providing a manner to a global marketplace, from time to time the statistics of pride can range from one location to any other, one manner of existence to a few other, one set of values to each other. The 2d critical element is the definition of pride at a few degrees inside the time. As time passes, the devices of capabilities that offer pride change. So while defining the capabilities and houses from a distance, it's miles crucial to understand the "strategic" with inside the "operational" utilization of the Kano model. The "strategic" thing of view shows something like "our product may have splendid

layout capabilities", and the more operative approach says something like "this 12 months our dishwashers may be made in all the hues of the rainbow."

If the Kano model is carried out as a device for outlining the products and their quality, the understanding of 'pleasure' and 'have to have to be absolutely and constantly. This definition must be applied to applicable the marketplace and the time in which the product is supposed to meet the marketplace. By doing this effectively, the Kano model can and can be used as a tool to achieve long-term but steady growth of consumer loyalty and recent customers trying to buy the product.

The Model

The model itself may be demonstrated graphically because the mixture of two-axis – the x-axis and the y axis, in which the x-axis defines whether or not the client dreams were met and to what volume (the x-axis can be understood as the goods overall performance or feature) and the y axis is the extent of client reaction to the product: end up the client delighted or disillusioned The client reaction and the volume of meeting expectations is split into three classes:

• Basic needs or what we can call "should be requirements". The necessities in this category are pivotal – on the off chance that they're met it approach that there's no uncommon pleasure for the client, they're performing very fair-minded. But in case those necessities are not met, the clients are disenthralled and the item isn't continuously likely to be advertised.

• Overall performance needs. Those are wishes that the client can outline and the producer/manufacturers can conversation almost. The requirements are a concern to the "more is better" rule. Wants that may be met here are the as it partitioned one benefit or item from any other. That's the lesson that gives the partition among competitors. In this lesson, the benefit or item gives an arrangement to questions counting what the level of benefit is. What is the charge execution? What capabilities does an item have?

• Appealing (delight) desires. These are ordinarily the implicit needs that the clients can't characterize or layout. Those wants are not anticipated by utilizing the customer– so on the off chance that the item or the benefit does not give them, the clients are unbiased, in see that they have been not looking ahead to them within the, to begin with, locale. In any case, on the off chance that the item or benefit gives them, the clients are excited. These 3 classes can be utilized for characterizing our item or benefit necessities and plan. When planning a new item, it miles expected that

each one of the necessities from the primary lesson is met – there may be no alternative to miss them. Whereas taking the moment lesson (execution needs) into the center, it's miles clean that during this lesson the items or administrations and its region between competition is defined. That is wherein the right degree of capabilities and properties are portrayed to guarantee an alluring and competitive item.

The third class is in which the "wow" effect is portrayed. Each item or benefit ought to have at least one or such capabilities which if you don't mind the client and thus offer the exceptionally final separation of the item from the resistance. Utilizing coordination such capacities into our benefit or item implies adorning the items or administrations when we are characterizing them.

Application of the Kano Model

The strategy of applying the Kano model examination is to inquire the client two questions for each service quality attribute:

1. The functional question "How do you feel if this feature is present?" and

2. The dysfunctional question "How do you feel if this feature is not present?"

For each question, the customer is expected to reply as one of them:

I like it

I expect it (must be)

Neutral

Live with (I can tolerate)

Dislike

The service attributes are classified into six categories as Kano et al., (1984) states: Must be (M), one dimensional (O), Attractive (A), indifferent (I), questionable (Q), or Reversal(R).

Attractive quality: attributes are attributes that are not necessarily communicated. It is an appealing quality that creates the item more attractive; in any case, it was not inquired for. In case these are displayed, they are a source of satisfaction. However, in their nonappearance, there's no dissatisfaction.

One - Dimensional quality: Not at all like the last point,-one dimensional quality attributes ordinarily fulfill the client when they are show and are a source of dissatisfaction when absent.

Must-Be quality: Must-be quality attributes may not result in more noteworthy client satisfaction when fulfilled, in any case in case cleared out unfulfilled they can be a cause for customer disappointment.

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Indifferent quality: As the title recommends, indifferent quality alludes to certain traits that can be categorized not one or the other as neither great nor terrible. Hence, they may not result in either client fulfillment or dissatisfaction.

Reverse quality: This alludes to attributes that are of predominant quality but conclusion upcoming about in dissatisfaction or bad habit versa. For occurrence, a few individuals may favor buying items that are progressed and high-tech, though others may discover it simpler when utilizing fundamental items. The last-mentioned bunch of individuals may be disappointed or discover it badly arranged in case the item comprises of a few extra features. The taking after assessment table clarifies how these service qualities have been classified. One of the awesome things around the Kano model is that it accounts for both having and not having a few usefulness. This appears the degree to which something is needed, required, or indifferent for our customers.

This is often done through an assessment table that combines the useful and dysfunctional answers in its columns and columns (respectively) to urge one of the already depicted categories. Each answer match leads to one of those categories. If a client answers the primary address (functional) as "neutral" and the moment address (dysfunctional) as "dislike" at that point it could be a "must be quality attribute " (not result in more noteworthy fulfillment when satisfied, be that as it may, in case cleared out unfulfilled it may well be a cause for dissatisfaction) for this customer.

Table 2.2. KANO evaluation table

By combining the two answers in the evaluation table given below, product features can be classified into six categories:

A Attractive	O One Dimensional	
M Must-be	Q Questionable	
R Reverse	I Indifferent	

Evaluation Table

Customer Requirement		Dysfunctional (Negative) Question				
		1.Like	2. Must be	3. Neutral	4. Live with	5. Dislike
Functional (Positive) Question	1. Like	Q	A	A	A	O
	2. Must be	R	I	I	I	M
	3. Neutral	R	I	I	I	M
	4. Live with	R	I	I	I	M
	5. Dislike	R	R	R	R	Q

Cassandra Naji (2017)

Table 2.3. Summary table for respondents answer

	A	O	M	I	R	Q	TOTAL
F1							
F2							
F3							
F4							

Source: Modified from Zacarias D.

For a given need, Berger et al. (1993) established the customer satisfaction coefficient (CS). The CS describes if meeting the requirements of a product/service can boost customer satisfaction or whether meeting the requirements of a product/service simply prevents customers from being pleased (Berger et al., 1993). Customer Satisfaction provides the average effect of a product/ service requirement on the satisfaction of all users or customers. It indicates how strongly a product/service feature may affect the user or customer satisfaction or on the other hand, how strongly the non-fulfillment of a product/service requirement or feature may influence user or customer dissatisfaction. The satisfaction index (SI) is the first, while the dissatisfaction index (DI) is the second (Matzler et al., 1996). The CS-coefficient SI is positive, while the CS-coefficient DI is negative. As stated by (Berger et al., 1993), the next is the calculation formula for SI (extent of satisfaction) and DI (extent of dissatisfaction):

$SI = (A + O) (1) (A + O + M + I)$ ….. Equation 1

$DI = (−1) (O + M) (2) (A + O + M + I)$……. Equation 2

The positive CS-coefficient (SI) is a number that varies from 0 to 1. The closer the value is to one, the greater the impact of the assembly of the prerequisite on client fulfillment, but the closer the esteem is to zero, the lesser the impact. Moreover, the negative CS-coefficient (DI) ranges from zero to minus one. The closer the value is to minus one, the greater the impact of non-compliance with the prerequisites on customer dissatisfaction. The minus sign before Eq. (2) is the negative impact of not assembly prerequisites on client fulfillment. A 0 score indicates that whether the condition is met or not has no impact on customer satisfaction (Matzler et al.1996). Client satisfaction isn't as it was affected by seen quality but too by the desire. All needs are not broken even with; diverse clients have diverse needs and meaning joined to their requirements. Among the client fulfillment models, the analyst has

chosen the Kano model, since this model categorizes and prioritizes customer needs and gives the organizations rules where to center. By doing so, the investigated address "is there a mismatch between client prerequisite and the company's service conveyance "could be explored.

2.2.Empirical Literature Review

In this section, the researcher has reviewed various studies work been done by authors/researchers within the area of customer satisfaction in the fashionable and vehicle service sector in particular.

The results of Hussain, Bhatti & Jilani (2011) with the title "An empirical assessment of after-sales service and customer satisfaction" confirmed that customer satisfaction will increment with higher service conveyance information the causal relationship between After-sales administrations and customer satisfaction has captured the intrigued of promoting for well over a decade presently. Client satisfaction got to be the struggle cry of companies looking to compete in a recently globalized marketplace.

In that way, Rigopoulou & et al (2008) examined the effects of after-sales services on customer satisfaction in Greece. The consequences display that after-sales service has a significant and effective effect on customer satisfaction. They suggested that service advertising managers should understand the impact of after-sales service on consumer satisfaction and behavioral intentions.

Further, Bundschuh & Dezvane (2003) studied the effect of after-sales service on customer satisfaction, and that they located that after-sales service seems like a vital factor that affects organizing excellent relationships with customers.

Then Gaiardelli, Saccani & Songini (2007) additionally popular declare that returning customers are the maximum worthwhile ones, as they require less advertising attempt and dating constructing and that they agreed that after-sales service acquires a vital position to attain customer satisfaction. In that way, (Ehinlanwo and Intl, 2014studied whether After-sales service is enough for long dating with clients. Their findings showed the After-sales service is an advertising tool that creates and sets up a relationship with customers through excellent communication and flexibility. In a long time, it results in customer satisfaction. Yuen & Chan (2010) indicated that companies are dedicating increasingly recourses to after-sales and a big number of

firms have an after-sales department with personnel focusing only on providing after-sales services and growing after-sales services.

Via supplying different after-sales services all through the various tiers of the primary product lifecycle, the provider can make sure product functionality and thereby customer satisfaction. This may lead to fruitful dating among the issuer and the customer through the years, taking into consideration more transactions Ahn & Sohn (2009). After-sales service can establish sustainable relationship with customers and make great contributions to customer satisfaction Kurata & Nam (2010). Repeat customers are the most valuable because they need less advertising and marketing work and construction appointments. Hoffman & Bateson (2010). Therefore, after-sales services have acquired an essential role to satisfy and maintain customers. Mainly in a time while companies are experiencing increased strain to downsize operations and to grow to be extra especially specialized in their core competencies, they call for extra tailor-made services.

Kindye Essa (2011) studied the impact of after-sales service provided by Moenco & Holland on the customer satisfaction and loyalty of Toyota and Lifan owners in Ethiopia. As the result, he founds after-sales service components have an impact on customer satisfaction.

Goofin and fee (1996) have studied the significance of after-sales services, and located the after-sales service leads to increasing the product quality and gaining aggressive benefit and profitable opportunities, and as the result will increase sales and income for the company.

Seyed Mohammad Sadeq Khaksar et. al. (2007) has studied the impact of technical and digital after-sales services on entrepreneurial opportunities (this is, cost leadership, marketplace improvement, product development, diversification, and differentiation). They have a look at was a descriptive study that normally used the information derived from questionnaires (a researcher-made questionnaire for amassing of facts). The population for this take a look at produced from all Soren ELX vehicle proprietors in Tehran, who bought their motors in 2009. Soren is a brand new version of Samand (unveiled in 2008), and Samand is an Iranian car logo synthetic with the aid of Iran Khodro (IKCO) using nearby producers for its elements. The consequences of this examination show that technical, after-sales services in Iran-Khodro organization affect entrepreneurial opportunities based on marketplace and product.

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Flynn et. al. (2010) have supplied that communicational services are directly related to customer satisfaction. Customers can also have doubts in their minds after purchasing the goods which may also about their decision making, and the most effective way to manage this uncertainty is to establish a long-term relationship with customers via proper communicational services like after-sales service.

Ming Wang and Chich-Jen Shieh (2006) in their look at have explored usual person customer satisfaction. A questionnaire survey of famous customers 'views on service fine through the use of five dimensions: tangibles, responsiveness, reliability, warranty, and empathy. The results indicate that general service satisfaction has a giant positive effect on overall user satisfaction. Amongst these 5 dimensions besides responsiveness, they all have a drastically positive effect on overall customers' satisfaction.

Mohd et al., (2009) have defined after-sales service as the provision of services to customers before, during, and after a purchase. It is one of the organizational approaches that groups carry out in considering the growing opposition of the marketplace and for attracting entrepreneurial opportunities for increasing profitability and higher get entry to the market, as well as growing the customer satisfaction stage. It's been typically used to describe services that can be provided to the customer after the products have been added.

Ahmed & Minuir (2014) have studied service quality and its dating with customer satisfaction and Loyalty in a Saudi Arabian automobile business enterprise (SAACO) the use of SERVQUAL. They observed that most people of SAACO customers are exceptionally satisfied and are unswerving to the employer and concluded that the result is truly useful for SAACO to stay ahead of its competition and develop its market share.

Ahmed (2019) explored the effect of after-sales service components on customer satisfaction of Volvo truck clients of Equatorial Business Group Plc. He gets that after-sales service affects customer satisfaction. His findings also show it is necessary to pay attention to the quality of after-sales service and the issues related to measure and monitor it appropriately. It is important to implement good after-sales service management to secure customer satisfaction.

2.3. Conceptual Framework

Customers are the belongings of every enterprise. After-sales professionals need to attempt their stage first-class to fulfill customers and cause them to come lower back again to their organization.

After-sales service alludes to various procedures which make certain clients are satisfied with the products and offerings of the enterprise. The wishes and needs of the customers must be satisfied for them to spread a positive expression of mouth. Within the contemporary circumstance, sublime word of mouth plays a fundamental work in promoting producers and stock. The conceptual or theoretical system is a layout of the system which recognizes investigate factors and clarifies how the exact factors in look at related with each diverse. Associated to the bother assertion, the conceptual framework „units the level" "for the introduction of the particular studies address that drives the investigate being said William et, al. (2001) Conceptual framework proposes the impact of unbiased factors on a based variable. An independent variable is a factor that has an impact on or alters the dependent variable. Based completely on the past discourse which permits you to get the association between after-sales service added substances and customer satisfaction, the conceptual framework is given underneath.

Figure 2.2. Conceptual framework of the study

After-sales components (independent variables) — Dependent variable

Spare parts supply
Maintenance
Warranty
Online support
Branches
Inspection
Training

CUSTOMER SATISFACTION

Activate W
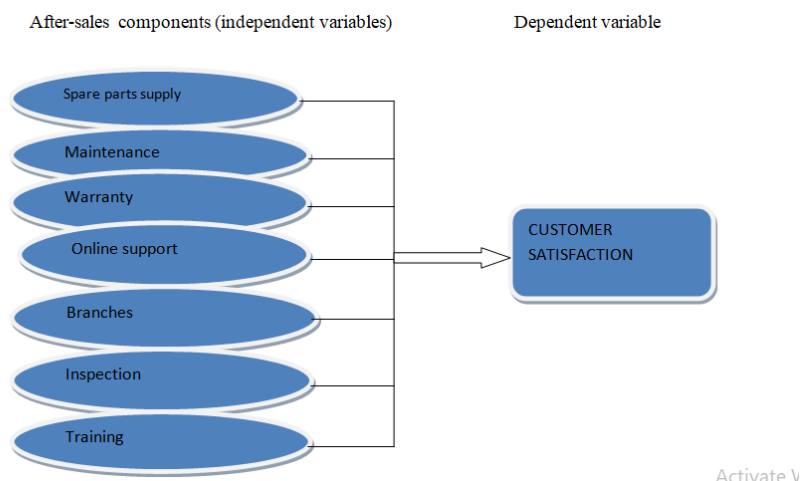
2.4.Model Specification

The model which specifies that customer satisfaction is significantly influenced by after-sales service indices (Spare part supply, maintenance, warranty, online service, branch, inspection, and training) is formulated as follows.

$CS=f$ (SP, Mnt, Wa,Os,Br,In,Tr),

$LnCS=\beta_0+\beta_1 lnSP+\beta_2 lnMnt+\beta_3 Os+\beta_4 Br+\beta_5 In+\beta_5 In+\beta_6 Tr$

Where; lnCS= Customer Satisfaction, lnSP= Spare part, lnMnt=Maintenance, lnWa=Warranty, lnOs=Online service, lnBr=Branch, lnIn=Inspection, lnTr=Training

Note: all variable are in their natural logarithm

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Research Design And Approach

According to John (2015), it is possible to use mixed methods (the combination of qualitative and quantitative) by using qualitative first (identifying the issues) and then quantitative (measuring responses for the identified issues).

The way used in this study is a blend of qualitative and quantitative. First, an interview was made with after-sales service managers and service receptionists of the National Motors Corporation in question to identify the components of after-sales service and know the nature of service being provided in NMC. Then the result obtained from the interview is used as an input to adopt and generate a sound questionnaire which helps to study the level of customer satisfaction.

In the way of studying the problems, both primary and secondary data collection procedures were employed. To achieve this goal interviews, article reviews, and questionnaires were used.

3.2. Population

To study the effect of after-sale services on customer satisfaction and the study population conducted based on the annual report of NMC (2019) and units constituted 97 national motors corporations after-sale service customers who get after-sale service more than two times, which the NMC light vehicles are considered as luxuries vehicles in Ethiopia and the most NMC customers are the organizations and the one organizations will buy a large number of NMC vehicles product as well as the assessment is considering as one customer but the trucks which ISUZU NPR&FSR owners are individuals and collect the data from those after-sales service customers.

3.3. Sampling Method/ Technique

This has a look at has used purposive sampling technique, that's a non-probabilistic sampling technique. The reason to use the purposive sampling technique is due to the fact it's far greater appropriate for this examination since it enabled the researcher to choose the sample based on his judgment about some traits required from the sample

detail, for example, a respondent ought to be customers who have were given after-sales service at least two times.

3.4. Sample Size Determination

Based on the formula and by using a 5% margin of error (the amount of error that the researcher can tolerate), 95 % confidence level (tells how sure the researcher can be) (Yamane, 1967). According to the annual report of NMC (2019), 97 after-sales service customers got after-sales service at least two times in 2019. From these after-sales service customers of the companies, this study determines the sample size of the study that was.

$n= N /1+Ne^2$

Where:

n= Sample Size for proportion

N = Total population of the study =97

P = proportion (expressed as decimal)

e= Margin of Error (allowable error)

$n=97/1+97(0.05)^2= 78.06$ approximately 78

3.5. Data Source

3.5.1. Data type

This research used qualitative and quantitative reactions to recognize the impact of Independent Factors on subordinate factors. On this consider, the reason why the researcher collects quantitative information in this study is to analyze The Impact of after-sale services on Client satisfaction in NMC. Quantitative investigations tend to measure "how often" or "how much" (Johnston, 2006).

3.5.2. Data Sources

The data that is utilized includes elaborated data on after-sale service components and the satisfaction of customers within the automotive business using each primary and secondary source. The first source of data was collected from after-sales managers and sample respondents concerning the components of after-sale services, however after-sale service is offered, challenges sweet-faced in implementing after-sale service, and therefore the satisfaction of customers in the after-sale services. The

secondary source of data has been collected from the kinds of literature found concerning the topic and from both company profiles and documents.

3.6. Data Collection Method

To examine the effect of after-sales service on customer satisfaction in NMC, this study used the Primary source of data. The questionnaire was designed and pre-tested before the actual conduct of the study. The questionnaires had been developed from a comprehensive literature review related to the effect of after-sale service on customer satisfaction and used a Likert scale. The Likert scale was applied because it allows participants to provide their perceptions and opinions both in terms of direction (positive or negative) and intensity (degree of agreement or disagreement). The questionnaire was divided into two sections. Section one was concerned with the general information about the respondent. Section two dealt with the after-sales variables and their effect on customer satisfaction. The data were collected from sample customers which included the light vehicles owners (the most organizations) and the trucks (NPR&FSR) owners and customers who were available at national motors after-sales service station through self-administered questionnaires and the researcher arranged time and distributed the questioner with the help of national motors staffs who work in the company after-sales service workshop which is located in Mexico and Kality. The data collecting procedure is the concurrent procedure which is converging quantitative data to provide a comprehensive analysis of the research problem.

3.7. Data Analysis Technique

To analyze the demographic data, this study has used descriptive analysis (percentage, frequency and mean), to understand the relationship between the dependent variable (customer satisfaction) and independent variable (after-sale services offered by National motors) regression and correlation analysis were computed supported by STATA software version 13.

3.8. Method of Data Analysis

To examine the sample of respondent's historical past together with age, gender, instructional historical past descriptive evaluation like Frequency, percentage, mean has been used. The evaluation of quantitative records gathered from sample customers changed into computed through Statistical Package for STATA version 13. To

understand the connection between the structured variable (customer satisfaction) and independent variable (after-sale services provided through National Motor Corporation PLC), inferential analysis (more than one regression, component analysis, ANOVA) has been used. All the study variable scales are ranked in five Likert scales. Finally, also, evaluation changed into additionally completed the usage of Kano model analysis.

Validity: validity in a survey is associated with the extent to which the survey measures proper elements that want to be measured. In easy terms, validity refers to how nicely a tool measures what it is intended to degree (Kothari, 2004). A wide variety of measures are used for analyzing the appropriateness of records, KMO (Kaiser-Meyer Olkin) measures of sampling adequacy is a famous diagnostic measure. It is the measure of homogeneity of the variable. It is stated to be a suited degree if the KMO is 0.6 or better cost (Sharma 1996). The researcher performed component analysis (KMO) in STATA version 13 and the result determined is 0.824, extra than 0.6 and as a result, its miles suited.

Reliability: if a study's device is regular and stable, as a result, predictable and accurate, its miles are stated to be dependable. The extra the measures of consistency and balance in a tool, the extra its reliability. Therefore, the study is dependable to the volume that repeat measurements made through it below steady situations will supply the equal result' (Moser & Kalton 1989). To test the reliability of variables used within the side they have a look at, the researcher employed reliability analysis on STATA vversion13. The most common measure of internal consistency ("reliability") test is Cronbach's alpha is. It is most commonly used if you have more than one Likert question in a questionnaire that shapes a scale and also you want to decide whether or not the size is dependable. According to Hair et al. (1998), in case you determined alpha value over 0.6 which suggests excessive internal consistency, in our case, α = 0.787, which shows the questionnaire is reliable.

3.9.Ethical Consideration

When the research performing, the name of the respondents and other identifying information was not used in the questioner explained the study benefits well and it saves the convenience of respondents. The researcher also protected all evidence

related to the respondents. Their privacy, identity, and confidentiality are maintained by assigning them code numbers instead of names (anonymity).

CHAPTER FOUR

4. RESULT AND DISCUSSION

4.1. Demographic Characteristics of Respondents

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

Table 4.1. Gender respondents

Gender	Freq.	Percent	Cum.
Male	78	100.00	100.00
Total	78	100.00	

As can be seen from the table above, among the total respondent of 78, where all the respondents are male. This represents 100% male which means all the respondents are male. The research is not requiring the respondents to be male but unfortunately, all respondents are male, Most in Ethiopia the drivers are male as well as the respondents are the car owners which are driving their vehicles.

Table 4.2 Educational background of respondents

Educational qualification	Freq.	Percent	Cum.
Primary school	8	10.26	10.26
Secondary school	10	12.82	23.08
Certificate or Diploma	16	20.51	43.59
First degree	36	46.15	89.74
Master's degree and above	8	10.26	100.00
Total	78	100.00	

When we see the respondents' profile related to educational background, respondents with primary school category represented about 10.26% of all replies, the respondents with secondary school 12.82%, Certificate or diploma 20.51%, first degree 46.15% and the master's degree and above 10.26%. This indicates the degree holder

respondents has a highest and first rank percentage and the next is certificate or diploma, the third is the secondary school respondents and the last small number respondents are the primary and master's degree and above respondents which both labels respondent percentages are equal even if the masters respondent cumulates is 100%.

Table 4.3. Lengths of the year as customers in NMC

Length of years as a customer of NMC PLC	Freq.	Percent	Cum.
Less than 2 year	1	1.28	1.28
2-3 year	6	7.69	8.97
3-4 year	8	10.26	19.23
4-5 year	63	80.77	100.00
Total	78	100.00	

When we see the industry experience of the respondents, the respondents with 4-5 years of experience in the automotive industry represents 80.77% of all replies, followed by the 3-4 years group of respondents about 10.26 %, the 2 -3 years of industry experience group represented about 7.69% of the respondents and the last is the smallest number of the group which is 1.28%. The result shows the most customers stay for a long time with the company.

Table 4.4 Frequency of visit to dealer shop of respondents

How many times have you used the after-sales service from NMC PLC?	Freq.	Percent	Cum.
Two times	28	35.90	35.90
Three times and above	50	64.10	100.00
Total	78	100.00	

According to the above table, 64.10% of the total respondents are used three and above times from the NMC after-sales service, and 35.90% is used the after-sales service two times. Most customers respond they have used the after-sales service of the NMC three and above times this indicates most sold of the NMC vehicles are using the company after-sales service.

Table 4.5. The most using after-sales components

From the following after-sales service of NMC PLC which type of after-sales service	Freq.	Percent	Cum.
Spare Part supply	16	20.51	20.51
Maintenance and repair	41	52.56	73.08
Warranty	10	12.82	85.90
Two or more after-sales services are used	11	14.10	100.00
Total	78	100.00	

The above table is describing the after-sales service components of NMC which are mostly used by the customers. Accordingly, 52.56% of the total respondent is use maintenance and repair and most customers are using this component of after-sales service, the next after-sales components which the customers are using also spare parts supply the percentage is 20.51%, the third after-sales components using the respondent is two or more after-sales service users which means they will use inspections, spare parts, maintenance or others in the NMC and 14.10%, and the last small number user of after-sales components which warranty is 12.82%.

4.2. Analysis Measure

The data collected is analyzed using STATA, Version 13, and descriptive statistics. The data analysis techniques used in this research are reliability test, factor analysis, multiple regression, and ANOVA, mean, standard deviation, etc.

4.3. Customer Overall Satisfaction

The sample respondent was asked to express their overall satisfaction on after-sales service being delivered by National Motors Corporation PLC. The result is shown in the next table.

Table 4.6. Overall after-sales customer satisfaction of NMC

Customer satisfaction	Freq.	Percent	Cum.
Strongly Disagree	7	8.97	8.97
Disagree	9	44.62	20.51
Neither agree nor disagree/Neutral	27	11.54	55.13
Agree	10	12.82	67.95
Strongly Agree	25	22.05	100.00
Total	78	100.00	

Based on the above table the total respondents are 78 from this, the percentages 11.54% neither agree nor disagree/neutral, 22.05% strongly agree, 12.82% agree, 44.62% disagree and 8.97 is strongly disagreed.

The NMC customers are responding to the overall customer satisfaction based on considering the different parameters which using different satisfaction indicators like I feel safe and satisfied when using after-sales services from NMC PLC, The employees of NMC PLC was able to render the after-sales service according to my expectations, I am satisfied with the amount I paid for after-sales services I received from NMC PLC, I am satisfied with the time it took to after-sales services or the delivered speed of after-sales services by NMC PLC, I am satisfied with the work-wise and the capability staffs on the department of NMC PLC and I am satisfied with the overall after-sales services offered by NMC PLC and the response is on the above table on the customer satisfaction column. Due to this most customers are responding dis agree which means they are not satisfied by the NMC after- sales service.

4.3.1. Components Of After-Sales Service And The Customer Satisfaction Label Of Each Element

Table 4.7. After-sales user customers' satisfaction of NMC

Independent variables(After-sales service components)	User customers' satisfaction label (%)			%
	Agree in percent	Neutral in percent	Disagree in percent	
Spare part supply	46.15%	1.28%	52.57%	100%
Maintenance and repair	8.97%	30.77%	60.25%	100%
Warranty	12.82%	39.74%	47.44%	100%

Online support	23.08%	19.23%	57.69%	100%
Branch	24.36%	29.49%	46.15%	100%
Inspection	30.05%	29.49%	40.46%	100%
Training	20.52%	8.97%	70.51%	100%

Spare parts supply

Spare parts supply is one of the NMC after-sales service components and the respondents are expressed their satisfaction on the questionnaire.

From the above data, the total respondents are 78 which is 100% from this 46.15% agrees, 1.28% is neither agreed nor disagree/neutral, 1.28%, and 52.57% disagrees. Accordingly above the half of spare parts user of NMC customers are respond disagree and questionnaires is including about the spare parts availability, price of spare parts, the genuinely of spare parts, Competence & courtesy of parts staff , Waiting time to purchase available spare parts and the suitability of Overall spare part supply.

Maintenance and repair

In National Motors Corporation also Maintenance and repair are the main elements of product support, which has required companies to invest significant resources. Preventive maintenance is undertaken to clean, refurbish, or replace parts of equipment that otherwise would be liable to fail. For example, Mechanical parts are normally requiring regular maintenance as in the case of motors.

As shown in the above table all the respondents are expressed their label of satisfaction regarding the maintenance and repair. Therefore 60.25% is disagreed, 30.77% neither agree nor disagree/Neutral and 8.97% agree. The respondents are responding based on the NMC PLC Maintenance & repair service Solution capability, the time it takes for maintenance & repair in NMC PLC workshop, Knowledge of technicians, staffs working on maintenance is polite and courteous, Price for

maintenance service, Waiting time for w/shop appointment, Performance of vehicle after maintenance and Overall maintenance and repair service.

Warranty

Is a type of guarantee that NMC makes a promise to buyer to repair or replace in the event that the product doesn't function as originally described during selling within 20,000 km for heavy duty vehicles and 50,000km for light duty vehicles.

As per the above table, the respondents are responding to three satisfaction label.47.44% disagree, 39.74% neutral and 12.82%agree. The customers are responding about the warranty considering Duration of warranty coverage, Reimbursing warranty claim, Clearness of information on warranty, Willingness to accept a warranty claim and overall of the warranty.

Online support

Online telephone advice in National Motor Corporation is a major element of customer support. The NMC is mostly used telephone support for the announcing the service time of vehicles schedules for customers, for when the vehicles repair works is completed, for announcing another vehicles related issue.

The above table's data has shown the respondents expression which 23.08 agreed, 19.23% neither agree nor disagree/neutral, and 57.69% disagree. The NMC online support users are responding the questionnaires considering Easiness to get/ communicate service staff and get advice/help, Easiness to get/ communicate parts staff get advice/help, Explanation on cost & details of maintenance, Status update on maintenance and immediate notification after, Notification of arrived parts (imported) and overall of online service.

 Branches

 As stated on the literature one of the most important decision faced by after-sales management is dividing the entire product/ customer locations in the region to sub-regions and open optimum branches which gives maintenance service, spare parts supply, warranty service, etc. to the customer by optimizing the company's total cost

and customer's service level. These branches are responsible to provide after-sales service to all vehicles and customers within the assigned territory. Branch locations have a direct effect on a company's operational performance and customer satisfaction (Simmon, 2001). Assigning dedicated technicians, tools, spare parts and faculties has high cost unless designed and managed efficiently, on the other hand far branches from customer increase downtime of equipment and reduce the profitability of customer and accordingly satisfaction. The NMC has two branches in Addis Ababa which the heavy-duty around Kality and the light vehicles around Mexico.

As it can be understood in the above table among the respondent percentages 24.36% agree, 29049% neutral, and 46.15% agree. The NMC customers are responding about branches considering Availability of workshop and spare parts outlet shops, Location of workshop and spare parts outlet shops, Opening hours of w/shop and parts counter and overall about the branches service.

Inspection

Vehicles inspection in NMC is conducted when the vehicles are entered to maintenance which for diagnosing the problem and identifying the repairable parts and additionally, when completed the repair work for assuring the problem is solved.

As it can be seen from the above table regarding the inspection of respondent satisfaction label, 30.05% agree, 29.49% neutral and 40.46% disagree. The considerations of the respondents are recording system of Vehicle History Report, The Vehicle Inspection Checklist of NMC PLC, The Scheduled of inspection of NMC PLC, The inspectors of NMC PLC are skill full, The Inspection staffs in NMC PLC are polite and courteous, and NMC PLC makes a reliable and prompt inspection service and Overall Vehicle Inspection of NMC PLC.

Training

The National Motor Corporation has provided the training based on their customer demands on the difficulty of some type of equipment demands that manufacturers deliver good training for users. Many computers based and complex products include functions that help users learn to use them more competently.

As per the above tables, the respondents are replies on the satisfaction label of training, 20.52% agree, 8.97% neutral, and 70.51% disagree. When the customers are responding about the training service they are considering Availability and notification of training, Duration of the training provided, The relevance of available

training, Competence of the trainer, Facilities of the training center and overall of the training service.

4.3.2. After-Sales Service Components And Satisfaction

Table 4.8 Descriptive statics of NMC after-sales service components

Variable	Mean	Std. Dev.	Min	Max
Spare part	3.666667	1.135801	1	5
Maintenance	3.807692	1.217382	1	5
Warranty	3.730769	.6775256	3	5
Communication	3.730769	.8165985	2	5
Branches	3.525641	1.21382	1	5
Inspection	4.025641	.7891202	3	5
Training	3.064103	1.241488	1	5
Satisfaction	3.474359	1.296593	1	5

When we see the descriptive statistics of after-sales services in the above table, the mean ranking indicates the existing after-sales service being delivered by NMC from the customer perspective, the company is placing more emphasis on inspection, maintenance, warranty & communication, spare parts, branches, and the last training respectively.

4.3.3. Reliability Tests

Table 4.9. Summarized reliability statistics of after-sales

Average inter-item covariance:	.504352
The number of items on the scale:	7
Scale reliability coefficient:	.8605

According to the above table, the average covariance of the seven after-sales components are positively related, the scale of reliability coefficient is 0.8605 which is reliable.

Table 4.10. Detailed reliability Statistics for after-sales components

Item	Obs.	Sign	item-test correlation	item-rest correlation	Average inter item-test correlation	Alpha
spare part	78	+	0.8733	0.8158	0.4832	0.8487
Maintenance	78	+	0.8883	0.8369	0.4778	0.8459
Warranty	78	+	0.7351	0.6294	0.5327	0.8724
Communication	78	+	0.9203	0.8825	0.4664	0.8398
Branches	78	+	0.6417	0.5107	0.5662	0.8868
Inspection	78	+	.8574	0.7936	0.4889	0.8516
Training	78	+	.4582	0.2927	0.6319	0.9115
Tests scale					0.5210	0.8839

The higher the alpha clonbach, the better the correlation between the observed value and the actual value will be better. The ruler of experience is considered considerably more than 80 of them. In this case, according to the previous table, the Cronbach Alpha test scale is 0.8839, which is considered pretty good. The idyllic range of average inter-item correlation is 0.15 to 0.50. Less than this and the items do not correlate well, and the same syntax or ideas cannot be measured very well (at all). More than 0.50 elements are very similar, but almost repetitive. According to the table mentioned above, the average inter-item correlation is 0.5210, which is close to each subsequent rate component.

4.3.4. Validity

Several measures are used to investigate the adequacy of data for factorial analysis. KMO measurement of sampling validity is a general diagnostic measure KMO provides a means to evaluate the degree to which the index of the structure belongs. If KMO is 0.6 or more (Sharma 1996), it is said to be an acceptable measure. In general, KMO returns a value between 0 and 1. KMO values between 0.6 and 1 indicate the sampling is adequate.

- The value of KMO less than 0.6 indicates that sampling is not appropriate and the repair operation must be taken. Some authors have this value 0.5, so researchers can use those discretions to the values between 0.5 and 0.6.

- KMO values close to zero mean that there is a large partial correlation compared to the sum of correlations. In other words, there is a wide range of correlations that are a major problem of factor analysis (Sharma 1996).

Table 4.11. Kaiser-Meyer-Olkin and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy KMO	0.578
Chi-square	656.952
Degrees of freedom	21
p-value	0.000

As per in the above table, the Kaiser-Meyer-Olkin measure of sampling adequacy is 0.6 for after-sales components with a value of 0.578 hence we can conduct factor analysis (or a principal components analysis).

Table 4.12. Factor analysis of the after-sales components

Variables	Factor1	Factor2	Factor3	Uniqueness
Spare part	0.6723	0.7094	-0.2115	0.0000
Maintenance	0.6520	0.7077	0.2721	0.0000
Warranty	0.4647	0.4075	0.3705	0.4807
Communication	0.8491	0.3292	0.2282	0.1186
Branches	0.6473	-0.0905	0.5218	0.3006
Inspection	0.9994	-0.0347	0.0002	0.0000
Training	0.4052	0.2532	-0.8096	0.1162

Bartlett's test equates the observed correlation matrix with the uniqueness matrix. In other words, it checks whether there is some redundancy between variables that we can summarize by several factors. If the variables are completely correlated, only one factor is sufficient. If they are orthogonal, we want as various factors as variables. In the latter case, the correlation matrix is the same as the identity matrix. A humble strategy is to imagine the correlation matrix. If the values outside the main diagonal are usually high (absolute values), some variables are relevant; If most of these values are close to zero, PCA (Principal Component Analysis) is not useful.

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4.3.5. **Effect of Demographic Variables On Customer Satisfaction**

The analysis of variance test is used to determine whether there is a statistically significant difference in respondents' satisfaction.

Table 4.13. ANOVA result of Demographic variables and their effect on customer satisfaction

		Sum of Squares	Df	Mean Square	F	Prob > F
Gender	Between groups	0	0			
	Within groups	129.448718	77	1.68115218		
	Total	129.448718	77	1.68115218		
education	Between groups	97.3931624	4	24.3482906	55.45	0.0000
	Within groups	32.0555556	73	.439117199		
	Total	129.448718	77	1.68115218		
Length of years as a customer of NMC	Between groups	43.2264957	3	14.4088319	12.37	0.0000
	Within groups	86.2222222	74	1.16516517		
	Total	129.448718	77	1.68115218		
How many times have you used the after-sales service from NMC PLC?	Between groups	15.5715751	1	15.5715751	10.39	0.0019
	Within groups	113.877143	76	1.49838346		
	Total	129.448718	77	1.68115218		
Which type of after-sales service you have used so far?	Between groups	10.2292058	3	3.40973525	2.12	0.1054
	Within groups	119.219512	74	1.61107449		
	Total	129.448718	77	1.68115218		

The above table reveals the relationship between demographic variables and customer satisfaction. Based on the results of the analysis of variance in the above table, the survey results show that there is no significant difference in the satisfaction of different groups in terms of demographic characteristics. Therefore, it can be concluded that gender, number of times of using after-sales service, and education level have no significant influence on measuring NMC's customer satisfaction.

4.3.6. Effect of after-sales service components on customer satisfaction

Multivariate regression was performed to observe the relationship between after-sales service factors (independent variables) such as spare parts supply, maintenance, warranty, training, branches, inspections and communication, and overall satisfaction (dependent variable).

Table 4.14. Regression analysis of independent variables as predictors to customer satisfaction

Model	Root MSE	R square	Adjusted R square	Std. An error of the Estimate
1	0.7457	0.8926	0.8818	0.3651053

The result from the regression analysis based on the seven independent variables: Spare parts supply, Maintenance, Training, branches, Warranty, communication, and inspection, which are included in the structure of the connection beside customer satisfaction, can be seen in Table. Based on the 'Model Summary', it can be inferred that the independent variables that entered into the correlation of the seven independent variables with the dependent variable, customer satisfaction. The independent variables explained the dependent variable by 89.26% (R square).

In the table below, the ANOVA test, it is noticed that the F value of 83.09 and significant value (0.000) less than 0.05 indicates that the after-sales service components have a significant effect on customer satisfaction.

Table 4.15. ANOVA result: Independent variables as predictors to customer satisfaction

Model	SS	Df	MS	F	Sig
Regression	115.542389	7	16.5060556	83.09	0.000
Residual	13.9063288	70	.19866184		
Total	129.448718	77	1.68115218		

4.3.7. Do The Components of After-Sales Services Vary in The Degree To Which They More Contribute To Customer Satisfaction?

Table 4.16. Regression Coefficients (Independent variables as a predictor to customer satisfaction)

Satisfaction	Coef.	Std. Err.	T	P>|t|	[95% Conf. Interval]	
spare part	0.498	0.290	0.76	0.007	0.479	0.763
Maintenance	0.464	0.322	1.44	0.003	0.107	0 .177
Warranty	0.319	0.128	2.48	0.006	0.062	0 .576
Communication	0.578	0.194	2.97	0.004	0.189	0.966
Branches	0.106	0.085	1.25	0.002	-0.063	0.2770
Inspection	0.877	0.168	0.21	0.035	0.241	0.521
Training	0.105	0.153	0.68	0.000	0.201	0 .411
Cons	0.430	0.365	0.40	0.000	0.1587	0.702

If the coefficient of the independent variable X is positive, it means that every time the independent variable increases by one unit, the dependent variable will increase the value of the coefficient. This also means that for every unit reduction in the independent variable, the coefficient value of the dependent variable will decrease. On the other hand, if the coefficient of the independent variable X is negative, the coefficient value of the dependent variable will decrease every time the independent variable increases by one unit. Therefore, for each unit of decrease in the independent variable, the dependent variable will increase the coefficient value

The above Table presents the coefficients of the predictors of customer satisfaction of seven variables. In the regression analysis table, all explanatory variables significantly and positively affect the dependent variable customer satisfaction at p0.05 As we can see from the Beta coefficient inspection has the highest contribution to customer satisfaction followed by communication, spare part, maintenance, warranty, branch, and training respectively.

The coefficient table for after-sales service components indicates the beta values of then-independent variables. From this the regression equation is derived as:

$$Y_i = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \Sigma$$

Where, Y= Customer satisfaction α= Y-intercept/constant

β_1= the beta weight or regression coefficient of Spare part

β_2= the beta weight or regression coefficient of Maintenance and repair

β_3= the beta weight or regression coefficient of Warranty

β_4= the beta weight or regression coefficient of online support or communication

β_5= the beta weight or regression coefficient of the number of branches

β_6= the beta weight or regression coefficient of Inspection

β_7= the beta weight or regression coefficient of user training…

$$CS = 0.430 + 0.498SP + 0.464Mant + 0.319Wa + 0.578Comm + 0.106Bra + 0.877In + 0.105Tr$$

Where, CS = Customer satisfaction Sp = spare part, Mant =Maintenance, Wa =Warranty, Comm =Communication, Bra = Branch, In=Inspection, Tr=Training

Table 4.16 presents the coefficients of the predictors of customer satisfaction of seven variables. The coefficient indicates how much the dependent variable changes with the independent variable when all other independent variables remain unchanged. For example, consider the effect of the spare part, the coefficient, B, is0 .498. This means that for each unit increase in spare part, there is an increase in 0.498 unit of customer satisfaction. As table 4.16 indicates, all seven after-sales service components have positive signs. This indicates that the independent variables influence customer satisfaction positively.

4.4. Kano Model Analysis

According to the review of the literature, seven components of after-sales service which are being delivered by National Motors Corporation PLC were identified and Kano questions are set and presented. From the 78 distributed questionnaires, 78 were filled and returned, all 78 filled questionnaires are found valid (understood by the respondents) for the Kano question part. These 78 responses are examined and the outcome is presented in the table below

Table 4.17. Tabulation of Questionnaire Response of NMC after-sales customers (Functional/Dysfunctional)

		Attractive	One-dimensional	Must be	Indifferent	Reverse	Questionable	Total	Final Category
Maintenance	Response	6	39	0	0	0	33	78	One dimensional
	Percentage	7.692%	50%	0%	0%	0%	42.307%	100%	
Inspection	Response	7	33	0	7	0	31	78	One dimensional
	Percentage	8.974%	42.307%	0%	8.974%	0%	39.743%	100%	
Online communication	Response	6	33	8	15	0	15	78	One dimensional
	Percentage	7.692%	42.307%	10.256%	19.230%	0%	19.230%	100%	
Branches	Response	33	20	0	8	0	17	78	Attractive
	Percentage	42.307%	25.641%	0%	10.256%	0%	21.794%	100%	
Spare part	Response	14	1	26	0	13	24	78	Must be
	Percentage	17.948%	1.282%	33.333%	0%	16.666%	30.769%	100%	
Warranty	Response	8	7	39	0	0	24	78	Must be
	Percentage	10.256%	8.974%	50	0%	0	30.769%	100%	
Training	Response	29	7	10	8	0	24	78	Attractive
	Percentage	37.179%	8.9743%	12.820%	10.256%	0%	30.769%	100%	

The outputs of the data on the above table display that maintenance, inspection, and online communications are fell under the one-dimensional category which means a requirement for NMC customers and the basis of direct competition as well as these features, characteristics, or benefits consequence in acceptance when present and rejection when absent.

The other after-sales service component regarding the Kano model value is branch and training it falls on the attractive category, which means service acceptance when completely present, but does not cause rejection of the service when not present.

On the other hand, spare parts and warranty are must be a requirement for NMC after-sales customers, these customers believe spare part warranties are essential for the services as a whole to work as expected. Overall these values are taken for granted when present but result in rejection of the service components when absent.

A more comprehensive interpretation is needed to answer the question of how significant is a particular dimension to customer satisfaction. For example, training and branches belong to the attractive quality, with the realistic constraint, which dimension should the vendor adopt to increase customer satisfaction? The Customer Satisfaction Coefficient (CS Coefficient) comes into the picture. The CS Coefficient tells the satisfaction if the quality exists and the dissatisfaction when it absent (Berger, et al., 1993). CS coefficient is the indicator of how strong a presence of a quality dimension may influence satisfaction or vice versa (Sauerwein et al., 1996).

Table 4.18.Customer Satisfaction coefficient result

After the sales component	Category	CS coefficient of Extent satisfaction $\dfrac{A+O}{A+O+M+I}$	CS coefficient of Extent dissatisfaction $-\dfrac{O+M}{A+O+M+I}$
Maintenance service	One dimensional	1	-0.86
Inspection	One dimensional	0.85	-0.70
Online communication	One dimensional	0.62	-0.66
Branches	Attractive	0.86	-0.67
Spare part supply	Must be	0.36	-0.02
Warranty	Must be	0.27	-0.12
Training	Attractive	0.81	-.015

We have used the formulas to calculate CS Coefficient by Berger et al., (1993):

Extent of satisfaction = (A+O)/ (A+O+M+I)

The extent of Dissatisfaction = - (O+M)/ (A+O+M+I) Using the result in Table above (functional dysfunctional), the CS coefficient is calculated for each dimension using the formulas above.

The extent of satisfaction tells the satisfaction level if the quality attribute present, while the extension of dissatisfaction tells the level of dissatisfaction if the attribute was absent.

CS-coefficient of customer dissatisfaction is marked with negative a sign which is its negative influence on customer satisfaction if this product quality is not fulfilled. The positive CS coefficient ranges from 0 to 1; the closer the value is to 1, the greater the impact on customer satisfaction. A positive value of the CS coefficient close to 0 indicates that the influence is small. But at the same time, the negative CS coefficient should also be considered. If it is close to 1, if the characteristics of the analyzed product are not met, the impact on customer dissatisfaction is particularly great. A value of approximately 0 means that if this function is not fulfilled, it will not cause dissatisfaction. In short, the value of a positive customer satisfaction coefficient ranges from zero to one; the closer the value is to 1, the greater the impact on customer satisfaction. Negative customer satisfaction works in the same way. A value of zero means that it will not cause dissatisfaction if the characteristic is not satisfied.

According to the above tables is showing the maintenance service is a negative CS-coefficient of -0.86   and the positive CS-coefficient of 1 this indicates the maintenance service is a higher influence on customer satisfaction and dissatisfaction in NMC.   Accordingly, the aftersales components which a positive CS-coefficient from higher to lower,   maintenance service, branches, inspection, training, online communication, spare part supply, and warranty respectively as well as negative CS-coefficient maintenance, inspection, branches, online communications, training, warranty and spare parts supply respectively.

According to Zacarias D., The general prioritization rule for Kano analysis is Must-be > Performance > Attractive > Indifferent. And hence based on the result of customer satisfaction coefficient result, the company should prioritize Inspection, Warranty, Maintenance, Spare part supply, online communication, branches, and training in descending order. However, as we can see from the mean scores of after-sales service components (table 4.8) the company is focusing on Inspection, maintenance, Warranty and Communication, spare part supply, branches, and training in descending order and there is a slight mismatch between what the customers require and what the company is focusing.

The research result aligns with empirical studies, as Kindye Essa (2011), Goofin and price (1996), Seyed Mohammed Sadeq et al., (2007), Ahmaed Temamu (2019), etc. showed after-sales service has an effect on customer satisfaction and so does this research.

Kindye Essa (2011) explores the effect of after-sales components on MOENCO customers and Holland car (Lifan) customers with the Kano model and bring into being that maintenance and spare parts supply are one-dimensional requirements, online/ telephone/ communication services is Indifferent requirements, warranty is must be requirement and training is Reversal requirement.

Ahmed Temam (2019) studies the effects of after-sales service components on EBG customers by using the Kano model and found that maintenance, spare parts supply service, communication, and manual (documentation) are a one-dimensional requirement for EBG (Volvo) customers, Warranty is Must be a requirement, and training is an attractive requirement.

On the other hand, the result in this research presented that maintenance, inspection, and online communication are a one-dimensional requirement for National Motors corporation customers, Branch and Training are an attractive requirement, spare parts supply and Warranty is must be a requirement.

From the three research results, we can see that customers NMC, EBG, MOENCO, and Holland Car, maintenance service and warranty is in the same requirements and the two studies Ahmaed Temam (2019) & Kindye Essa (2011), maintenance service and spare parts supply service are in the same requirements, this research and Ahmaed Temam (2019) on the online communication and training in the same requirement.

4.5. After-Sales Service Strategy of National Motors Corporation PLC

After-sales services strategies are one of the dynamic forces in the motor vehicle industry. An automotive company cannot be imminent if it doesn't apply the correct strategy to attain its goals and objectives. Because of the customer focus strategy, several automotive corporations can attract additional customers and increase their profits. One of the specific objectives of this research is to develop a customer focus strategy based on the findings.

The research presented that there is a mismatch between after-sales service delivered by the NMC and what the customer need. Therefore, National Motors Corporation needs a new customer focus strategy. Customer satisfaction is related to the use or implementation of a customer focus strategy. It regarding meeting the expectations and needs of the latest and potential customers by understanding what they need and so providing them perceived value. Customer focus is an approach to accomplishing success in a company by adjusting procedures, systems, and tasks around customers.

According to this research finding the most national motor after-sales service customers; overall satisfaction is disagreed or dissatisfied. Majorly the sources of dissatisfaction of the after-sales service customers can the problems of after-sales service quality, cost, and customers handling methodology and also the options focus on solving these problems.

Strong management is undeniably the secret to overcoming these obstacles as companies execute their strategies in the face of challenges and barriers; it prepares and executes emergent strategies to flexibly change their approach to achieving their vision.

The strategies should be based on the operational performance objectives of consistency, speed, dependability, flexibility, and cost to create competitive goods and after-sales service while meeting organizational targets without compromising safety or technology.

If a company's long-term goal is to produce excellent financial performance, it must coordinate the after-sales support process for its vehicles' products and services for clients to appreciate them.

As the Kano model result shows warranty is categorized in the must be attributed that essential for the service as a whole to work as expected, So the company should be emphasized warranty as an after-sales marketing strategy. The other after-sales component that needs an emphasis as customers tell in the Kano model is that spare parts supply, which is one of the satisfaction drivers, service delivered is very poor. This subtopic emphasizes giving some strategy on spare parts and warranty. The reason for that to focus on these two after-sales service components is that The research reveals that there is a mismatch in what the customer need and the company focuses on warranty and spare part.

To enhance the satisfaction level of the after-sales service customers, it is better to implement the following strategies.

Warranty Service

The first strategy to fulfill the customer's need and enhance their satisfaction regarding warranty service is pre-delivery Inspections. Pre-Delivery Inspection is one of the after-sales components and complementary to other components. So it reduces the cost of early repairs and returns. Make pre-delivery Inspections as a prerequisite for warranty registration will ensure that inspections are performed consistently by the dealers and channel partners. Providing mobile inspection applications can be simplified to capture the inspection results and improve the productivity of technicians. This inspection data can analyze to identify and resolve issues with manufacturing or shipping as soon as possible.

For prompt response and resolution enabling and train the service technicians with access to knowledge, parts, and other resources to diagnose and repair the products right during the first visit. This also minimizes product downtime while reducing the labor and parts costs for the company.

Recent customers are time-sensitive. Therefore, service centers need to reduce wait times at each step starting from scheduling to completion of the repair. To minimize the unnecessary wait time and paperwork to get the product up, and running faster digitizing and mobilizing is vital.

One of the main causes for delays in implementation warranty case repair is the unobtainability of necessary parts. To forecast and optimize parts availability at service centers, improve parts preparation based on warranty data analysis. Warranty claims can also be used to automatically produce parts orders and replace parts that were used in-warranty repairs. Collaboration with the parts department to prepare based on service promotions or recalls, product install base insights, and warranty repair trends will help ensure that the right parts are available for warranty repairs.

It might be worth doing some repairs outside of the normal policy limits to improve customer satisfaction in some scenarios. And even if the product is out of warranty, goodwill or policy allowance statements are used to divide repair costs. Channel partners may resolve any problems causing consumer confusion before they escalate by having an effective approval process for goodwill authorization and claims.

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Also, the duration of warranty coverage should be increased considering the product lifetime will satisfy the customer. A short period for warranty coverage discourages the customer. Therefore, the current warranty period should enlarge.

Providing adequate information about the warranty to the customer is the other strategy to enhance the satisfaction of the customer. Clarifying the information on the warranty helps to be on the same line with the customer in case of a claim. If the customers have clear and adequate information about the warranty at the right time decreases the customer dissatisfaction level.

Above all keeping the word or implementing all promised to make the satisfaction level high. Showing willingness to accept and reimburse warranty claim as per agreement the crucial part of warranty service. The pillars for all stated strategies are digital technology and empowering employees through on job training and the latest software and application.

Figure 4.1. Warranty service strategy
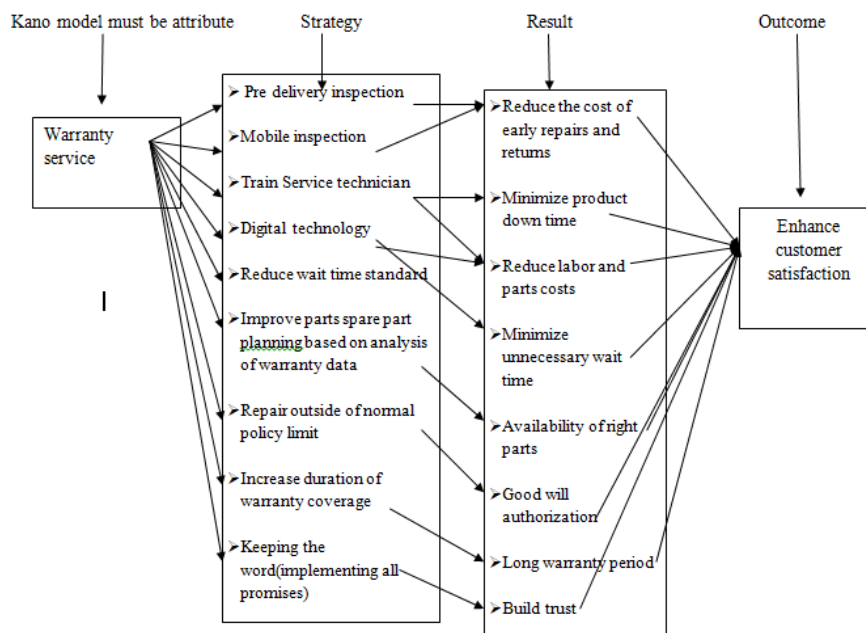
Spare part supply

The first strategy, for not to run risks like running out of stock and issuing faulty parts is operating strategy. Operating strategy includes data collection and analysis. Using spare part management software that allows to create and store purchase orders of spare parts, maintain warranty information, scan and store parts information, and keep

a complete track of their movement from storage to customer. This as a strategy helps to identify which parts are fast-moving items and slow-moving items. Understanding existing and projected consumption helps to categorize fast and slow-moving items. This helps to decide on the volume and lead time to order as per need and prevents excess and deficiency of part stock.

The other essential strategy is inventory management. Inventory management is used for better stock products and maximum consumption. It ensures that it be sufficiently stocked to prevent depletion and allows identifying and analyzing the excess and waste. By implementing better inventory management, it is possible to attain the objective of minimum space consumption at minimum effort and hassle.

The other is shelf-life management, as everything else spare parts have a limited shelf life. If that shelf life is exceeded and used, it has the potential to impact reliability. Some parts could potentially rust and develop brittleness. Some spare parts also need maintenance. If that is not done, the vehicle on which it is installed would be defective and lead to premature failure. To make sure that spare parts are preserved in the best possible way is to follow the manufacturer's recommendation.

In addition to operating strategy, inventory management, and shelf-life management excelling spare part staff in customer service to provide prompts and reliable service is vital. Besides, using software that is exploded drawing to help customers to identify parts that want uses to enhance spare part service.

Figure 4.2. Spare parts supply service strategy

Kano model must be attribute	Strategy	Result	Outcome

Kano model must be attribute

Spare part service

Strategy

➢Operational strategy
• Data collection and analysis
• Spare part management software

➢Inventory management

➢Shelf life management

➢Exploded drawing software

Result

➢Create and store purchase order of spare part
➢Maintaining warranty information
➢Keep a complete track of spare part movement
➢Identify fast and slow moving items
➢Decide in volume and lead time
➢Prevent excess and deficiency of part stock
➢Sufficient stocked
➢Identify and analyze excess and waste
➢Minimum space consumption at minimum effort and hassle
➢Reliability
➢Help customer to identify parts that wants.

Outcome

Enhance customer satisfaction

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1.Conclusions

Industry in Ethiopia is growing. Among fast and competitive industries in Ethiopia, one in the automotive industry. Technological advancement and product performance has improved in manufacturing. However, after-sales service provided by the Dealer Company is vital for customer satisfaction. For that reason, it is crucial to emphasize the quality of after-sales service and the concerns related to evaluate and monitor it properly. To provide sound customer satisfaction it is important that to employ excellent after-sales service management.

This research assesses the effect of after-sales service components on customer satisfaction of National Motors Corporation PLC. Similar researchers reveal that after-sales service plays a significant role in customer satisfaction. This study also revealed that after-sales service affects customer satisfaction.

ANOVA test was performed to examine after-sales service has a significant effect or not on customer satisfaction the result showed that, after-sales service components have a significant effect on customer satisfaction. Multiple regressions was done to observe the relationships of after-sales service components which are Maintenance, Inspection, spare parts supply, warranty, Training, branches, online communication against overall satisfaction (dependent variable) and overall satisfaction. The result of the R-value of 0.7457 shows that there is a high degree of relation between the dependent and independent variables. R2 value also shows the independent variables explained the dependent variable by 89.26% (R square).

As we can see from the Beta coefficient, inspection has the highest contribution to customer satisfaction followed by communication, spare part, maintenance, warranty, branch, and training respectively. Thus, the components of after-sales service which independent variables vary in their effect to which they drive customer satisfaction.

As descriptive statistics mean value of the existing after-sales service being delivered by NMC showed, we can conclude that, from the customer perspective, the National Motor Corporation PLC is placing more emphasis on inspection, maintenance, warranty & communication, spare parts, branches, and the last training respectively.

Comparing the Kano model's customer satisfaction coefficient results in table 4.18 and the mean score of after-sales service components in table 4.8 we can see that there is a slight mismatch between after-sales service delivered by the company and what customer prefers. From the analysis result, we can also conclude that different after-sales service components have different degrees of effect on customer satisfaction.

According to the Kano model analysis of customer requirement, classification result shows that availability of branches and training fell under attractive category mean that not vital to the basic functionality but they positively add value. For NMC PLC customers maintenance, inspection, and online communication categorize under the one-dimensional category that means usually satisfies them when present and makes them dissatisfied when these components of after-sales service are not fulfilled. On the other hand spare part and warranty are fall under must be requirements for NMC after-sales customers, these customers believe warranty and inspections are essential for the services as a whole to work as expected, overall these values are taken for granted when present but when absent a cause for dissatisfaction.

5.2. Recommendations

This research has shown the effects of after-sales service on customer satisfaction in the National Motors Corporation. The results obtained confirm that seven of the after-sales service components which are spare parts supply, maintenance, inspection, Warranty, online communication, branch, have a significant impact on customer satisfaction.

According to the findings of this research and conclusion touched, the following recommendations are suggested to help develop the after-sales service delivery and enrich customer satisfaction:

- The research presented that there is a misalliance between after-sales service delivered by the company and what the customer need. Therefore, the NMC requires reexamining the focus areas to align with customer favorites.

- As per the result of the Kano model and Customer satisfaction coefficient result, the Warranty is categorized in the must be attributed that essential for the service as a whole to work as expected, so should be given due emphasis. The fulfillment of a warranty does not create great satisfaction to the customers but the absence will be a cause for customer dissatisfaction.

- As the customers tell in the kano model that spare parts supply is one of the satisfaction drivers, but the offered service delivery is illustrated as poor by customers. To improve service quality in an organization, managing gaps with customers is key. Hence to determine the strength and weaknesses areas, methodical and periodic evaluation of service delivery is vital. The company needs to carry out additional research to advance the spare part supply service to satisfy its customers.

- According to the after-sales service components customer satisfaction label table shows the most respondents are responding disagree this shows the most after-sales service customers are not satisfied. Due to this result, it needs a serious Customer focus strategy which is an approach to accomplishing success in the company by adjusting procedures, systems, and tasks around after-sales customers.

5.3.Direction For Future Researches

This study has covered only seven independent variables; from the regression result, the R^2 value shows other variables that describe customer satisfaction. Therefore, it would be better for any forthcoming researchers who want to investigate similar issues including more independent variables which are aftersales service components to find out other factors that can affect customer satisfaction.

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Appendix

Appendix I: Interview Questions for National Motors Corporation after- Sales Service Manager

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Bahir Dar University

Bahir Dar Institute of Technology

Faculty of Mechanical and Industrial Engineering

</div>

General Objective: To analyze the effect of after-sales service on customer satisfaction, the Case of National Motors Corporation (NMC) PLC

Specific Objective:

1. To identify components of after-sales services offered by NMC PLC

 Interview Questions for NMC PLC after Sales Service Manager

 1. Which one(s) of the following after-sales service methods NMC PLC is using?

1. Spare Part supply

2. Maintenance and repair

3. Warranty

4. Online support/communication

5. Branches

6. Inspection

7. User training

8. Documentation

2. Are there any other methods the company is using and not mentioned in the above list? Please mention them.

Appendix II: Questionnaire for National Motors Corporations PLC after-sale service customers.

Bahir Dar University

Bahir Dar Institute of Technology

Faculty of Mechanical and Industrial Engineering

Dear respondent,

I am Mesafint Assfaw a postgraduate student at Bahirdar University School of postgraduate studies. Currently, I am researching my master's thesis with a research title of " Effect of after-sale services on customer satisfaction: the case of NMC PLC.

The purpose of the study is to investigate the effect of after-sales service concerning customer satisfaction your genuine responses on this questionnaire are valuable for the quality and validity of the data to be used in the course of this study. Therefore, I kindly request you to voluntarily participate in filling out this questionnaire. Thank you in advance for your cooperation.

If you have any questions or concerns about completing the questionnaire, please contact me via the address provided below. Please note that your responses are confidential.

Mesafint Assfaw

Mobile: +251 967 28 18 61

Email: mabera97@gmail.com

- ✓ Instruction
- ✓ No need to mention the name on the questioner.
- ✓ The questioner includes both open and close-ended questions.
- ✓ Use the mark [√] for the close-ended and a brief answer for the open one

    I.   Demographic characteristics

1.   Gender:

A. Male [ ]   B. Female [ ]

2.   Educational qualification

Primary school [ ]

Secondary school [ ]

Certificate or Diploma [ ]

First degree [ ]

Master's degree and above [ ]

3. Length of years as a customer of NMC PLC

Less than 2 year [ ]

2-3 year [ ]

3-4 year [ ]

4-5 year [ ]

More than 5 year [ ]

4. How many times have you used the after-sales service from NMC PLC?

A. Two times [ ]

B. Three times and above [ ]

5. From the following after-sales service of NMC PLC which type of after-sales service you have used so far.

Spare Part supply [ ]

Maintenance and repair [ ]

Warranty [ ]

Online support /support/ communication [ ]

Branches [ ]

Inspection [ ]

User training [ ]

Two or more after-sales services are used [ ]

II. Questions related to after-sales service

Please tick [√] the appropriate box for your answers and rank each statement as follows:

5 I like it

4 I expect it (must be)

3 Neutral

2 Live with (I can tolerate)

1 Dislike

5 = strongly agree

4= agree

3 = neutral/ not sure

2 = disagree

1= strongly disagree

1. How do you feel the following after-sales service components are present in NMC?

After-sales service	How do you feel				
	I like it	I expect it	I'm neutral	I can tolerate	I dislike it
1. Maintenance					
2. Spare parts supply					
3. Online support					
4. Branches					
5. Inspection					
6. Warranty					
7. Training					

2. How do you feel the after-sales service components are not present in NMC?

After-sales service	How do you feel				
	I like it	I expect it	I'm neutral	I can tolerate	I dislike it
1. Maintenance					
2. Spare parts supply					
3. Online support					
4. Branches					
5. Inspection					
6. Warranty					
7. Training					

III. Depending on your experience, please rate the following after-sales services of NMC PLC

1. Spare parts supply	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. NMC PLC Spare part supply is available					
2. NMC PLC delivery of spare parts is punctual					
3. NMC PLC spare parts are genuine/original					
4. The price of NMC PLC spare parts is fair					
5. Competence & courtesy of parts staff					
6. Waiting time to purchase available spare parts					
7. Overall spare part supply of NMC PLC is suitable for me					

2. Maintenance & Repair	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. NMC PLC Maintenance & repair service Solve the problem of my car(Performing perfect repair job (without re-work))					
2. The Time it takes for maintenance & repair in the NMC PLC workshop is appropriate (Completing on time promised)					
3. NMC PLC maintenance and repair workshop has skill full technicians (Knowledge of technicians)					
4. NMC PLC staff working on maintenance is polite					
5. The Price for maintenance service of NMC PLC is reasonable (Service charge/ maintenance cost)					
6. Waiting time for w/shop appointment					
7. Performance of vehicle after maintenance					
8. Overall maintenance and repair service of NMC PLC is suitable for you					

3. Warranty	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. The length of warranty service that was provided by NMC PLC was appropriate for me (Duration of warranty coverage)					
2. The warranty of NMC PLC is implemented as promised (Reimbursing warranty claim as per the agreement)					
3. NMC PLC provides adequate information about the warranty (Clearness of information on warranty)					
4. Willingness to accept a warranty claim					
5. Overall I am satisfied with the warranty for my car provided by NMC PLC					

4. Online Support/ Communication (Easiness to get in contact with after-sales staff for support)	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. Easiness to get/ communicate service staff and get advice/help					
2. Easiness to get/ communicate parts staff get advice/help					
3. Explanation on cost & details of maintenance					
4. Status update on maintenance and immediate notification after					
5. Notification of arrived parts (imported)					
6. Update you on the service period					
7. Overall I am satisfied by the Online Support/ Communication provided by NMC PLC					

5. Branches	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. Availability (qty) of workshop and spare parts outlet shops					
2. Location of workshop and spare parts outlet shops					
3. Opening hours of w/shop and parts counter					
4. Overall I am satisfied by the branches provided by NMC PLC					

6. Inspection	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. NMC PLC has a good recording system of Vehicle History Report					
2. The Vehicle Inspection Checklist of NMC PLC (vehicle exterior, vehicle interior, tires and wheels, etc...) is condescend					
3. The Scheduled inspection of NMC PLC is suitable					
4. The inspectors of NMC PLC are skill full					
5. The Inspection staffs in NMC PLC are polite					
6. NMC PLC makes a reliable and prompt inspection service					
7. Overall Vehicle Inspection of NMC PLC is suitable for me					

7. User Training	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1.Availability and notification of training					
2.Duration of the training provided					
3.The relevance of available training for your need					
4.Competence of the trainer					
5.Facilities of the training center					
6.Overall I am satisfied by the Training provided by NMC PLC					

IV. Depending on your experience, how would you rate your overall satisfaction for the following companies of after-sale services of NMC PLC?

Satisfaction Indicator	Level of agreement				
	5	4	3	2	1
	SA	A	N	D	SD
1. I feel safe and satisfied when using after-sales services from NMC PLC					
2. The employees of NMC PLC was able to render the after-sales service according to my expectations					
3. I am satisfied with the amount I paid for after-sales services I received from NMC PLC					
4. I am satisfied with the time it took to after-sales services or the delivered speed of after-sales services by NMC PLC					
5. I am satisfied with the work-wise and the capability staff in the department of NMC PLC					
6. I am satisfied with the overall after-sales services offered by NMC PLC					

V. : information on after service and customer satisfaction

1. Please State factors that you think could help improve on the after-sales of NMC PLC in the satisfaction of the customer_____

_____

_____

_____

2. Please state the after-sales service that was disappointing/challenging for you by overall the companies after-sales service_____

_____

_____

_____

_____

3. If you have any additional comments please state _____

_____

_____

Appendix III: Amharic questionnaire

ባሕርዳር ዩኒቨርሲቲ

ኢንደስትሪያል ማኔጅመንት ት/ክፍል

መጠይቅ

የተከበራችሁ አስተያየት ሰጪዎች እኔ መሳፍንት አስፋዉ በባሕርዳር ዩኒቨርሲቲ የኢንደስትሪያል ማኔጅመንት ት/ክፍል የድህረ ምረቃ ተማሪ ስሆን መስፈርቶችን ለማሟላት የሚካሄድ የምርምር ጥናት በመስራት ላይ እገኛለሁ። የጥናቴ ርዕስ ድህረ ሽያጭ አገልግሎት በደንበኞች እርካታ ላይ ያለዉን ተፅዕኖ በናሽናል ሞተርስ ኮርፖሬሽን የመኪና አቅራቢ ድርጅት ላይ ሲሆን፣ ከዚህ በታች ለተቀመጡት መግለጫዎች የሚሰጧቸዉ ምላሾች ለጥናታዊ ፁሁፌ ታላቅ ጠቀሜታ ስላላቸዉ ጥያቄዎቹን በጥንቃቄ እና በሀቀኝነት እንዲመልሱ በትህትና እጠይቃለዉ። መልሶ ሚስጥራዊነቱ ተጠብቆ ለትምህርት ዓላማ ብቻ እንደሚዉል ለማረጋገጥ እወዳለሁ፣ ማንኛዉም ጥያቄ ካለዎ እባክዎን ከዚህ በታች ባለ አድራሻ ያገኙኛል።

መሳፍንት አስፋዉ

ስልክቁጥር+251 967 28 18 61

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መመሪያ

> ስምዎን በመጠይቁ ላይ መፃፍ አይጠበቅቦትም

> መጠይቁ ማብራሪያ የሚያስፈልጋቸዉን እና አጫር ጥያቄዎችን አካትቷል.

> እባክዎ ለአጫጭር ጥያቄዎች [√] ምልክትን፣ ማብራርያ ለምፈገኑ ጥያቄዎች ግልፅ መልሶችን ይሙሉ።

ክፍል አንድ፦

1. ፆታ፡ሀ. ወንድ [ ] ለ. ሴት [ ]

2. የት/ደረጃ

1.የመጀመሪያ ደረጃ [ ]

2.ሁለተኛ ደረጃ [ ]

3.ዲፕሎማ [ ]

4.ዲግሪ [ ]

5.ማስተርስ ዲግሪ እና ከዘ በላይ [ ]

3. የናሽናል ሞተርስ ኮርፖሬሽን ደንበኛ ከሆኑ ምን ያህል ግዜ ሆኖት

1. ከሁለት አመት በታች[ ]

2. ከ 2-3አመት[ ]

3. ከ 3-4አመት[ ]

4. ከ 4-5አመት[ ]

4. በናሽናል ሞተርስ ኮርፖሬሽን ከድህረ ሽያጭ አገልግሎት ምን ያህል ጊዜ ተጠቅመዉ ያዉቃሉ

ሀ. ሁለት ጊዜ [ ]   ለ. ሶስት ጊዜ እና ከዘበላይ [ ]

5. ከታች ከተዘረዘሩት የናሽናል ሞተርስ ኮርፖሬሽን ከድህረ ሽያጭ አገልግሎት የትኛዉን እስከ አሁን ተጠቅመዉ ያዉቃሉ

1.የመለዋወጫ እቃ አቅርቦት

2.የሰርቪስ እና ጥገና

3.ዋስትና

4.የመስመር ላይ (ስልክ እና ኢንተርኔት)

5.ከዋና መሰሪያ ቤት ዉጪ ባሉ ቅርንጫፍ ድህረ ሽያጭ መስርያ ቤቶች

6.የተሽከርካሪ ፍተሻ

7.የተጠቃሚዎች ስልጠና

ክፍል ሁለት፦ እባክዎ በሳጥኑ ዉስጥ ትክክለኛዉን መልሶን በደረጃቸዉ መሰረት ያስቀምጡ፦

5 እወዳለዉ

4 እጠብቃለሁ

3 ምንም አይመስለኝም

2 እችለዋለዉ

1 ደስ አይለኝም

1. ናሽናል ሞተርስ ኮርፖሬሽን የሚከተሉትን ድህረ ሽያጭ አገልግሎት ቢኖረዉ ምን ይስማዋታል

	የድህረ ሽያጭ አገልግሎቶች	ስሜትዎ				
		እወዳለዉ	እጠብቃለሁ	ምንም አይመስለኝም	እችለዋለዉ	ደስ አይለኝም
1	የመለዋወጫ እቃ አቅርቦት					
2	የሰርቪስ እና ጥገና					
3	ዋስትና					
4	የመስመር ላይ (ስልክ እና ኢንተርኔት)					
5	ከዋና መስሪያ ቤት ዉጪ ባሉ ቅርንጫፍ ድህረ ሽያጭ መስርያ ቤቶች					
6	የተሸከርካሪ ፍተሻ					
7	የተጠቃሚዎች ስልጠና					

2. ናሽናል ሞተርስ ኮርፖሬሽን የሚከተሉትን ድህረ ሽያጭ አገልግሎት ባይኖረዉ ምን ይስማዋታል

	የድህረ ሽያጭ አገልግሎቶች	ስሜትዎ				
		እወዳለዉ	እጠብቃለሁ	ምንም አይመስለኝም	እችለዋለዉ	ደስ አይለኝም
1	የመለዋወጫ እቃ አቅርቦት					
2	የሰርቪስ እና ጥገና					
3	ዋስትና					
4	የመስመር ላይ (ስልክ እና ኢንተርኔት)					
5	ከዋና መስሪያ ቤት ዉጪ ባሉ ቅርንጫፍ ድህረ ሽያጭ መስርያ ቤቶች					
6	የተሸከርካሪ ፍተሻ					
7	የተጠቃሚዎች ስልጠና					

ክፍል ሶስት፦ ካሉት ልምድ በመነሳት የናሽናል ሞተርስ ኮርፖሬሽን ድህረ ሽያጭ አገልግሎት ይመዝኑ፦

5 በጣም እስማማለዉ

4 እስማማለዉ

3 መካከለኛ

2 አልስማማም

1 በፍፁም አልስማማም

	1. የመለዋወጫ እቃ አቅርቦት	ደረጃ				
		በጣም እስማማለዉ	እስማማለዉ	መካከለኛ	አልስማማም	በፍፁም አልስማማም
1	በናሽናል ሞተርስ ኮርፖሬሽን የመለዋወጫ እቃ አቅርቦት አለ					
2	ናሽናል ሞተርስ ኮርፖሬሽን የመለዋወጫ እቃ በተፈለገ ወቅት በፍጥነት ያቀርባል					
3	የናሽናል ሞተርስ ኮርፖሬሽን የመለዋወጫ እቃዎች ኦሪጅናል ናቸዉ					
4	በናሽናል ሞተርስ ኮርፖሬሽን የሚገኙ የመለዋወጫ እቃዎች ዋጋ ተመጣጣኝ ነዉ					
5	የናሽናል ሞተርስ ኮርፖሬሽን የመለዋወጫ እቃ አቅርቦት ላይ የሚሰሩ ሰራተኞች ጥሩ ስነምግባር ያላቸዉ እና ትሁት ናቸዉ					
6	ከናሽናል ሞተርስ ኮርፖሬሽን መለዋወጫ እቃ ሲገዙ የሚጠብቁት ግዜ ምክኒያታዊ ነዉ					
7	በአጠቃላይ በናሽናል ሞተርስ ኮርፖሬሽን የመለዋወጫ እቃ አቅርቦት አገልግሎት ለእኔ ተስማሚ ነዉ					

	2. የሰርቪስ እና ጥገና	ደረጃ				
		በጣም እስማማለው	እስማማለው	መከከለኛ	አልስማማም	በፍፁም አልስማማም
1	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት የተሽከርካሪዬን ችግር ቀርፎልኛል					
2	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ተሽከርካሪዬን ባግባቡ ያለ ድጋሚ ስራ ጠግኖልኛል					
3	የናሽናል ሞተርስ የጥገና ክፍል ብቁ ዕውቀትና ክህሎት ያላቸው ቴክኒሻዎች አሉት					
4	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ክፍል ተሽከርካሪዬን ጠግሞ በተባለበት ወቅት አስረክቦኛል					
5	በናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ክፍል ብቁ ክህሎትና ችሎታ ያላቸው ቴክኒሻዎች ይገኙሉ					
6	የናሽናል ሞተርስ ኮርፖሬሽን ጥገና አገልግሎት ክፍል የሚሰጡ በራተኞች ጥሩ ከነምግባር ያላቸው እና ትሁት ናቸው					
7	በናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ክፍያ ምክነያታዊ ነው					
8	በናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ለማግኘት ቀጥሮ ለማስዘዝ የሚወስደዉ ግዜ ምክንያታዊ ነው					
9	ተሽከርካሪዬ በናሽናል ሞተርስ ኮርፖሬሽን ከተጠገነ ወይም ሰርቪስ ከተደረገ በኋላ ያለዉ አፈጻም ጥሩ ነው					
10	እጦቃላይ በናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት ለእኔ ተስማሚ ነው					

	3. ዋስትና	ደረጃ				
		በጣም እስማማለው	እስማማለው	መከከለኛ	አልስማማም	በፍፁም አልስማማም
1	በናሽናል ሞተርስ ኮርፖሬሽን ለዋስትና አገልግሎት የሚሰጠዉ የግዜ ገደብ በቂ ነው					
2	ናሽናል ሞተርስ ኮርፖሬሽን ዋስትናን በቃላቸዉ መሰረት ይፈፅማሉ					
3	ናሽናል ሞተርስ ኮርፖሬሽኖች ስለዋስትና የሚሰጡት መረጃ በቂ ነው					
4	ናሽናል ሞተርስ ኮርፖሬሽን የዋስትና ካሳ ለመቀበል ፈቃደኞች ናቸዉ					
5	በአጠቃላይ ከናሽናል ሞተርስ በሚሰጠዉ ዋስትና እረክቻለሁ					

	4. የመስመርላይ (የከልፅ እና ኢንተርኔት) እገዛ	ደረጃ				
		በጣም እስማማለው	እስማማለው	መከከለኛ	አልስማማም	በፍፁም አልስማማም
1	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት በራቸውን በከልፅ ወይም በኢንተርኔት ማግኘት ቀላል ነው					
2	የናሽናል ሞተርስ ኮርፖሬሽን የመላዋወጬ እቃ አቅርቦት በራቸውን በከልፅ ወይም በኢንተርኔት ማግኘት እና ከእነገሩ የፈላጋትን መረጃ እና አገልግሎት ማግኘት ቀላል ነው					
3	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት በራቸውን በመስመር ላይ በከልፅ ወይም በኢንተርኔት እና ከእነገሩ የፈላጋትን መረጃ እና አገልግሎት ማግኘት ቀላል ነው					
4	የናሽናል ሞተርስ ኮርፖሬሽን የመላዋወጬ እቃ አቅርቦት በራቸው የመላዋወጬ ዝርዝር እና ዋጋ በከልፅ ወይም በኢንተርኔት ያሳዉቃሉ					
5	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት በራቸው ተሻከርከረ ተጠግሞ ወይም ሰርቪስ ተደርጎ እንደለቀ በከልፅ ወይም በኢንተርኔት ወድያዉ ያሳዉቃሉ					
6	የናሽናል ሞተርስ ኮርፖሬሽን የመላዋወጬ እቃ አቅርቦት በራቸው መላዋወጬ እቃ እንደገባ በከልፅ ወይም በኢንተርኔት ወድያዉ ያሳዉቃሉ					
7	የናሽናል ሞተርስ ኮርፖሬሽን የጥገና አገልግሎት በራቸው ተሻከርከረ የሰርቪስ ወጪት ከመድረሱ በፊት በከልፅ ወይም በኢንተርኔት ወድያዉ ያሳዉቃሉ					
8	በአጠቃላይ በናሽናል ሞተርስ ኮርፖሬሽን የመስመርላይ (የከልፅ እና ኢንተርኔት) አገልግሎት ለእኔ ተስማሚነዉ					

	5. ድህረ ሽያጭ ቅርንጫፎች	ደረጃ				
		በጣም እስማማለዉ	እስማማለዉ	መከከለኛ	አልስማማም	በፍፁም አልስማማም
1	ናሽናል ሞተርስ ኮርፖሬሽን ከዋና መስርያቤቶች ዉጪ በተለያዩ ቦታዎች እና በበቂ ቅርንጫፍ የድህረ ሽያጭ አገለግሎት ይሰጣል					
2	የናሽናል ሞተርስ ኮርፖሬሽን ድህረሽያጭ ቅርንጫፎች የሚገኙበት ቦታዎቿ ነዉ					
3	የናሽናል ሞተርስ ኮርፖሬሽን ድህረ ሽያጭ ቅርንጫፎች የስራ ሰአት ተስማሚ ነዉ					
4	በአጠቃላይ የናሽናል ሞተርስ ኮርፖሬሽን ድህረ ሽያጭ ቅርንጫፍ አገልግሎት ለእኔ ተስማሚነዉ					

6. የተሸርካሪ ፍተሻ	ደረጃ				
	በጣም እስማማለው	እስማማለው	መካከለኛ	አልስማማም	በፍፁም አልስማማም
1 ናሽናል ሞተርስ ኮርፖሬሽኖች ጥሩ የሆነ የተሸከርካሪ ታሪክ መረጃ አያያዝ ዘዴ አላቸው					
2 የናሽናል ሞተርስ ኮርፖሬሽን የተሸከርካሪ ፍተሻ መመዘገቢያ ዝርዝር (የዉጭክፍል ፤ ዉስጣዊየመኪናክፍል፣ ጎማ፣ እናቸርኬወተ...)ያካትታል					
3 የናሽናል ሞተርስ ኮርፖሬሽን የተሸከርካሪ ፍተሻ መርሃግብር ወይም ጊዜ አጠቃቀም ተስማሚ ነዉ					
4 የናሽናል ሞተርስ ኮርፖሬሽን ተሸከርካሪ ፈታሾች ብቁ የፍተሻ ሙያ አላቸዉ					
5 የናሽናል ሞተርስ ኮርፖሬሽን የተሸከርካሪፈ ታሽዎች ጥሩ ስነምግባር ያላቸዉ እና ትሁት ናቸዉ					
6 ናሽናል ሞተርስ ኮርፖሬሽኖች አስተማማኝ እና ፈጣን የተሸከርካሪ ፍተሻ ይሰጣሉ					
7 በአጠቃላይ የናሽናል ሞተርስ ኮርፖሬሽን የተሸከርካሪ ፍተሻ ለእኔ ተስማሚ ነዉ					

7. የተጠቃሚዎች ስጠና	ደረጃ				
	በጣም እስማማለው	እስማማለው	መካከለኛ	አልስማማም	በፍፁም አልስማማም
1 ናሽናል ሞተርስ ኮርፖሬሽን ለተጠቃሚዎች ስልጠና የሚሰጥ ሲሆን ለተጠቃሚዎች ቀድሞ ያሰዉቃል					
2 ናሽናል ሞተርስ ኮርፖሬሽን ለተጠቃሚዎች የሚሰጠዉ የስልጠና ግዜ በቂ ነዉ					
3 ናሽናል ሞተርስ ኮርፖሬሽን የሚሰጠዉ ስልጠና ጠቃሚ ነዉ					
4 በናሽናል ሞተርስ ኮርፖሬሽን ለተጠቃሚዎች ስልጠና የሚሰጡት አሰልጣኞች ብቃት ያላቸዉ ናቸዉ					
5 በናሽናል ሞተርስ ኮርፖሬሽን ለተጠቃሚዎች ስልጠና በሚሰጥበት ወቅት የሚቀርቡት አቀርቦቶች በቂ ናቸዉ					
6 ናሽናል ሞተርስ ኮርፖሬሽን በተጠቃሚዎች የስልጠና ጥያቄ መሰረት ስልጠናይ ሰጣል					
7 በአጠቃላይ የናሽናል ሞተርስ ኮርፖሬሽን ለተጠቃሚዎች የሚሰጠዉ ስልጠና ለእኔ ተስማሚ ነዉ					

ክፍል አራት፦ ከልምዶ በመነሳት ከታች የተዘረዘሩትን ናሽናል ሞተርስ ኮርፖሬሽን የሚሰጣቸዉን ድህረ ሽያጭ አገልግሎት እርካታዎን በአጠቃላይ እንዴት ይለኩታል

	1. የእርካታዉ መግለጫ	ደረጃ				
		በጣም እስማማለዉ	እስማማለዉ	መከከለኛ	አልስማማም	በፍፁም አልስማማም
1	ከናሽናል ሞተርስ ኮርፖሬሽን በማገኘዉ የድህረ ሽያጭ አገልግሎት አስተማማኝነትና እርካታ ይሰማኛል					
2	የናሽናል ሞተርስ ኮርፖሬሽን ሰራተኞች ድህረ ሽያጭ አገልግሎቱን የሚያቀርቡልኝ እንደምብብቀዉ ነዉ					
3	ከናሽናል ሞተርስ ኮርፖሬሽን ላገኘሁት ድህረ ሽያጭ አገልግሎት እና በከፈልኩት ክፍያ እረካቻለዉ					
4	በናሽናል ሞተርስ ኮርፖሬሽን ድህረ ሽያጭ አገልግሎት በውሰደዉ ሰዓት እና ያቀርቡት ቅልጥፍና እረክቻለዉ					
5	በናሽናል ሞተርስ ኮርፖሬሽን ድህረ ሽያጭ ክፍሎች የሰራተኞች ስራዉን ከማወቅ እና ከአቅም አንፃር እርካታ ይሰማኛል					
6	በአጠቃላይ በናሽናል ሞተርስ ኮርፖሬሽን የሚሰጠዉ ድህረ ሽያጭ አገልግሎት እረክቻለዉ					

ክፍል አምስት፦ የደንበኞች እርካታ እና ድህረ ሽያጭ አገልግሎት መረጃ

1. እባክዎ በናሽናል ሞተርስ ኮርፖሬሽን ለደንበኞች እርካታ የሚሰጠዉን ድህረ ሽያጭ አገልግሎት ለማሻሻል ይረዳሉ የሚሏቸዉን ነገሮች ይዘርዝሩ_____

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2. እባክዎ በአጠቃላይ በቀረበሎ ድህረ ሽያጭ አገልግሎት ያልተደሰቱበትን እና አስቸጋሪ የነበሩትን ነገሮች ይዘርዝሩ_____

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3. እባክዎ ተጨማሪ አስተያየት ካልዎ ከዚህ በታች ያለዉን ቦታ ይጠቀሙ_____

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አመሰግናለሁ!!

Appendix .IV Components of after-sales service and the customer satisfaction label of each element

Spare part supply	Freq.	Percent	Cum.
Strongly Disagree	19	24.36	24.36
Disagree	22	28.21	52.57
Neither agree nor disagree/Neutral	1	1.28	53.84
Agree	29	37.18	91.02
Strongly Agree	7	8.97	100.00
Total	78	100.00	

Maintenance and repair	Freq.	Percent	Cum.
Strongly Disagree	30	38.46	38.46
Neither agree nor disagree/Neutral	24	30.77	69.23
Dis Agree	17	21.79	91.02
Strongly Agree	7	8.97	100.00
Total	78	100.00	

Warranty	Freq.	Percent	Cum.
Neither agree nor disagree/Neutral	31	39.74	39.74
Dis Agree	37	47.44	87.18
Strongly Agree	10	12.82	100.00
Total	78	100.00	

Online support	Freq.	Percent	Cum.
Disagree	45	57.69	57.69
Neither agree nor disagree/Neutral	15	19.23	76.89
Agree	8	10.29	87.18
Strongly Agree	10	12.82	100.00
Total	78	100.00	

Number of branches	Freq.	Percent	Cum.
Strongly Disagree	36	46.15	46.15
Neither agree nor disagree/Neutral	23	29.49	75.64
Agree	11	14.10	89.74
Strongly Agree	8	10.26	100.00
Total	78	100.00	

Inspection	Freq.	Percent	Cum.
Neither agree nor disagree/Neutral	23	29.49	29.49
Dis Agree	32	40.46	67.95
Strongly Agree	23	30.05	100.00
Total	78	100.00	

User training	Freq.	Percent	Cum.
Strongly Disagree	25	32.05	32.05
Disagree	30	38.46	70.51
Neither agree nor disagree/Neutral	7	8.97	79.48
Agree	8	10.26	89.74
Strongly Agree	8	10.26	100.00
Total	78	100.00	