

Chapter -1

Introduction

1.1 Background of the Research

This study aims at explaining the relationship between after-sales service and customer satisfaction based on the after-sales service attributes performance in the context of consumer electronic good industry within Kathmandu valley. A good understanding of after-sales service and its elements, such as delivery, installation and warranty, towards product performance represents the ongoing challenges for the corporate financial gains and losses. Firms consider enhanced customer relationship as a valuable asset to their core operation.

After-Sales (AS) service processes play an integral role in many companies. Even though these processes are not the core business of engineering companies, services are increasing in importance. For many manufacturing companies, AS service is an increasingly important part of the business and is more complex than manufacturing products. Unlike products, it is not possible to produce services in advance and inventory these for future consumption. Instead an unpredictable event such as a machine failure triggers a need for manufacturing of parts for replacement and allocation of resources for the service. As products in the global market become more and more similar, supply chain management and service are becoming key differentiators between companies. High quality service has become a necessity to retain customers for future sales.

In today's competitive markets, companies are shifting from a Product-centric to a Customer-centric view. The after-sale service can become a key differentiator and a major profit source. Thus, it cannot be considered simply a set of operative activities; rather it plays a strategic role, affecting the definition

of the product-service mix offered to the customer and the physical and organizational configuration of the overall logistics chain. Therefore, importance should be given to its strategic management and to the definition of a structured business performance measurement system.

The After-Sales activities – those activities taking place after the purchase of a product and to support customers in the usage and disposal of the goods – have become increasingly important since it differentiates the manufacturer from its competitor and positively affects profit for the manufacturers. A shift in emphasis is taking place, from a traditional product-centric view to a more innovative customer-centric view.

A firm must develop a set of advantages against the competition that are distinctive, and difficult to acquire. These characteristics will contribute to the long term success obtained through unique service or asset not obtainable in the market. The search for competitive advantages has become increasingly difficult due to the rapidly changing market place where traditional models are becoming outdated. The traditional asset based advantages are giving way to emerging advantages such as employees, marketing strategy, intellectual property, that are in greater accord a dynamic market. The focus has shifted from traditional competitive advantages such as assets and products to new areas such as knowledge, people, finance, human resource management and customer relationships.

Manufacturers and retailers of capital and consumer goods cannot consider their active role ends with the sale (Levitt, 1983, p. 87), but rather must provide their customers with a set of supporting after-sales services. These services can be installation, packages, technical advice for use, maintenance/repair, spare parts delivery, product upgrading, etc. The rationale for such needs and in general for integrating services into the core product offering is based on three main reasons, as pointed out by Oliva and Kallenberg (2003): (a) AS economics, (b) customer requirements, and (c) competitive arguments.

The key to build lasting customer relationship is to a superior value and satisfaction leads to lasting relationships with customers. Customer Relationship Management (CRM) involves building and maintaining profitable customer relationships by dealing with all the aspects of acquiring, maintaining and increasing customer. Most of the business organizations are not aware about the AS service factors affecting the customer satisfaction. Failing to realize these can lead to a disastrous and threatening business relationship. Dissatisfied customers will turn towards competitors offering better AS services. Any company must realize that profitable business relationship requires enormous efforts and costs to build it.

Many value-conscious consumers are demanding that a company's products must have more value than its competitor's products. This is true not only in its design and manufacturing, but also in delivery and support (Sherman, 1992). Increasingly, distribution and service support are key determinants in consumers' product purchase decision (Lele & Sheth, 1987). Levitt (1983) described that manufacturers and retailers cannot consider their active role ends with the sales, but, in fact, it continues on with AS service such as delivering spare parts and etc.

This study is based on the Nepalese market (Kathmandu valley) and will include different companies providing variety of branded electronics goods. In recent times, this market has become increasingly competitive where new brands are entering into the market with new marketing strategies. Attractive AS service strategies are included to attract the potential customers. These companies provide similar durable electronic goods, but AS services differ from each other, which provides competitive advantages affecting long term profit and making business sustainable.

1.1.1 The Present Scenario

Nepal is a growing economy, having a vast consumer class with increasingly high disposable incomes. This has made consumer durables one of the fastest growing industries in the country. Various drivers, like housing and real estate demand, an emerging retail boom, increase in the level of affluence of a part of the population, easy availability of finance, emergence of double-income families, fall in prices due to increased competition, government support, growth of media, improvements in technology, reduction in customs duty, and greater disposable income of people, have all contributed to the spectacular growth of this sector. Currently the Nepalese consumer electronics and household appliances market is dominated by major Indian and international brands, including LG, Samsung, Whirlpool, Videocon, Godrej, Onida, Blue Star, Bajaj, Panasonic, Haier, etc. LG and SAMSUNG, the two major Korean companies, are the leading players in this sector, with LG being the market leader in almost every product category of consumer electronics and household appliances.

1.1.2 Product Categories

The consumer durables sector can be segmented into two broad categories – Consumer Electronics and Consumer Appliances, which is further segmented into White and Brown Goods. The product line included under each of these categories is as follows:

Table 0-1: Electronic Product Categories

Product Categories	
Consumer Electronics	VCD/DVD, home theatre, music players, color televisions (CTV's), LCDs, Mobile Phones etc.
White Goods	Air Conditioners, Washing Machines, Refrigerators, etc.

Consumer Appliances	Brown Goods	Mixers, Grinders, Microwave Ovens, Chimneys, Cooking Range, Irons, Electric Fans, etc.
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1.2 Problem Statement and Research Questions

The best and the biggest international brands are here in Nepal, but, do they provide expected level of AS service to their customer? If not, so what is stopping the best companies from pulling out all the stops when it comes to providing the best service? Do customers expect too much? Or is it that in Nepal they don't really care? Take promise versus performance, and AS-service beats the worst performers on Local Street. Expectations are built up by the company itself – not only during pre-sale activity but also with promises made during the sale.

This study will focus on following research issues:

- (1) What variables under dealer-controlled delivery factors, dealer-controlled dealer repair outside warranty, company-controlled installation factors, and company-controlled warranty factors affects customer satisfaction?
- (2) What relationship exists between delivery and its impact on customer satisfaction?
- (3) What relationship exists between installation and its impact on customer satisfaction?
- (4) What relationship exists between warranty and its impact on customer satisfaction?
- (5) What are the possible reactions available for a customer after experiencing the after-sales service?

1.3 Objectives of the Study

The objective of the study is to discover the factors of AS service affecting customer satisfaction within Kathmandu valley in consumer electronics appliances. A better after-sales service is the key to customer retention. Most of the consumers assert that they will not make a repeat purchase or continue with a company's services in case of a bad experience. The majority of Nepalese consumers base their purchasing decision on better customer service since they desire on getting value worth for their investment.

Installation and delivery are important to the after-sales services that have an influence to the customer purchase (Rigopoulou, Chaniorakis, Lymperopoulos, & Siomkos, 2008, p. 512). This study will explore the relationship of post-sale support such as installation, warranties, extended warranties, maintenance service contracts, provision of spares, training programs, product upgrades and etc. with customer satisfaction.

To date, there are very few studies conducted regarding the after-sales service in the electronic industry in Nepal. The research will attempt to gather data and provide findings can benefit both industrial and academician.

The aim of this research study is to identify the factors of after-sales service that affect customer satisfaction in the context of consumer durables electronic goods market so as to help the companies competing in this sector to determine which aspect of after-sales service require more focus and investment. The main objectives of the study are as follows:

- (a) To identify the relationship between warranty and customer satisfaction.
- (b) To examine the relationship between delivery and customer satisfaction.
- (c) To explore the relationship between installation and customer satisfaction.

Relationship between Warranties of Product/Service with Customer Satisfaction

With a better warranty terms a customer can attain improved benefit of purchasing cost for repair or technical damage of the product this results in greater sale and profit. Long warranty time is also one of the bundles of satisfaction the consumer (Shaharudin, Yusof, Elias, & Mansor, 2009). A warranty is assumed an obligation for seller; it is a responsibility for seller and a satisfaction for the buyer that the product will run in long term (Udell & Anderson, 1968, p. 1). Many weak organizations offer better warranty terms than their competitors to gain competitive advantage. Organizations consider brand loyalty is result of customer satisfaction. Therefore, credibility gap can be filled through offering better warranty terms (Fisk, 1970). Valuable warranty terms and time increases satisfaction of customer.

To investigate these objectives, a literature review of after-sales service and the various aspects relating to it are presented in chapter two. The literature review will investigate the relationship between after-sales service attributes and customer satisfaction. The research hypotheses are discussed in the chapter two. This study proposes to investigate the relationship between the three after-sales attributes (delivery, installation and warranty) as presented in the conceptual model used for this study and customer satisfaction.

Relationship between Deliveries of Products/Service with Customer Satisfaction

Proper strategy for delivery of service towards the customer enhances the customer satisfaction and loyalty towards the product (K. & K., 2004, p. 310). Due to technological advancement the product life cycle time shrinks, so organizations must ensure timely delivery of the product, for this IBM introduces the integrated product delivery framework. Integrated delivery framework provides four options for managing delivery, product program

management, enterprise release management, quality and test lab management and definitive software library. Delivery of the product enhances the customer satisfaction excessively (Shaharudin, Yusof, Elias, & Mansor, 2009, p. 20). For delivery of service and product dealers, independent service center, franchised Service center and mobile service centers can be used. Delivery of the product characterized by two dimensions i.e. speed and reliability (Michael, 2001, p. 106) and ensuring that right product at right time in right quantity from right source delivered to right person at right price on right destination. Delivery of product and service within time to the customer increases customer satisfaction.

Relationship between Installations of Product/Service with Customer Satisfaction

Installation of the product at customers own destination enhances customer support activities so it further enhance the satisfaction of customer in a sense that within purchasing cost company offer installation services to customer which is beneficial to both customer and organization (Shaharudin, Yusof, Elias, & Mansor, 2009, p. 55). The basic reason for offering installation to consumers is after sale economies, to take competitive advantage and customer demand (Oliva & Kallenberg, 2003). Installation of the product at customer's doorstep increases customer satisfaction.

1.4 Hypotheses

The purpose of this study is to explore the factors in after-sales service affecting customer satisfaction in the context of consumer durable electronic appliances market. This study explores the proposition that after-sales service can create sustainable competitive advantages by increasing customer by providing through better after-sales service. Given the preceding problem statement and defined research objectives, the following null hypotheses are:

Null Hypothesis (H1₀): There is no significant difference between dealer-controlled delivery factors towards customer satisfaction.

Null Hypothesis (H2₀): There is no significant difference between dealer-controlled warranty factors towards customer satisfaction.

Null Hypothesis (H3₀): There is no significant difference between company-controlled post-delivery installation factors towards customer satisfaction.

Null Hypothesis (H4₀): There is no significant difference between company-controlled post-delivery warranty factors towards customer satisfaction.

1.5 Significance of the Study

For customer loyalty and retention, excellence in after-sales service and better customer relationship are required. In today's competitive markets, Nepalese companies are also shifting from a product-centric to a customer-centric view. Companies, such as Neoteric, Chaudhary Group, MC Group, and HIM Electronics, are providing wide range of durable electronic appliances. These companies need to understand the perception of its customer towards the services offered. In this section, the importance of this study is discussed within a practical, strategic and theoretical context.

Practical Context:

Measuring the effects of after-sales service in customer satisfaction is of critical interest. The senior executives are responsible because it relates to corporate assets and long-term survival of a company. Managers are constantly under pressure to deliver short term results which creates an unhealthy focus on

short term financial measures. If after-sales service in customer satisfaction is established as competitive advantage, management will have a replicable and applicable framework.

There are number of factors that are easy to replicate and have been copied because of the competition. The current ranges of products offered by commercial companies are very similar in appearance, functionality, price, and after-sales service. These factors included: finance, free installation, extended warranties, extended trading terms etc.

The study explores the factors that affect the relationship between customer satisfaction and after-sales service. The companies can utilize these factors to satisfy and retain customers, and improve profitability.

Strategic Contribution:

In the strategic planning phase, firms are searching for factors that will create a competitive advantage for their service or product. This study will attempt to demonstrate relevance of after-sales service in customer satisfaction from a strategic planning perspective.

The relevance of AS service is demonstrated by the profit it generates, often higher than the one obtained with the products' sales: the service market can be four or five times larger than the market for products (Bundschuh and Dezvane, 2003) and may generate at least three times the turnover of the original purchase during a given product's life cycle (Alexander et al., 2002; Wise and Baumgartner, 1999), contributing about 40%–50% of the total revenue, and a profitability of up to 20%–25% (McClusy, 2002).

These figures explain the change in the role attributed to AS function, traditionally seen only as a cost generator, in favor of a more proactive one, which considers the after-sale as the source of competitive advantage and business opportunity. Therefore, the AS service should not be viewed simply as

a set of operational activities, but rather as an integrated process to be managed with a systemic approach. Consequently, a significant effort should be devoted to the strategic management of AS and to the definition of a structured performance measurement system.

This study will attempt to demonstrate that customer satisfaction increases through AS service, which will be significant implications for strategic management in all industries.

Theoretical Context:

There is a little research work on AS service in customer satisfaction in Nepalese context. Lots of research have been carried on this topic abroad and have significant implication on marketing plans. The research into after-sales service and customer satisfaction faces number of challenges and provides further discussion to contribute possible answers and alternatives.

There have been lots of theoretical works on the relationship between after-sales service and customer satisfaction. Investigating the relationship between a set of construct defining after-sales service and customer satisfaction provides a valuable contribution to the theory of AS and customer satisfaction. This study will contribute to the economic value of AS by attempting to identify the constructs that will relate positively to the customer's satisfaction.

1.6 Limitation of the Study

The scope of the study is limited for a number of reasons:

It is assumed that the research and the findings will be industry specific and cannot be generalized to other industries; further research replicating the same model of customer satisfaction and after-sales service will be required using the same scales.

The methodology is based on a positivist approach using quantitative statistical analysis to test a predetermined set of hypotheses. While this methodology is scientifically accepted and robust, the inclusion of qualitative method will enrich the research.

Throughout all the literature review, the words customer, user and consumer and durables electronic goods and electronic appliances have been used alternatively and as quasi-synonyms. It is true that their exact meaning is different and the terms belong to distinct areas. However, after-sales service concerns customers, users and consumers all together.

1.7 Operational Definition

This section provides conceptual definitions used in the research. As Perry (2002) pointed out, researchers often have different definitions of key terms so it is important to define them in the study. These definitions will be further discussed and explained in chapter two.

After-Sales Service:

After-sales service is activities organized by business organizations after the purchasing stage and is a part of customer relationship management. After-sales services are often referred to as “product supports activities”. It is also being defined as “customer support” elements where all the activities that ensure that a product is available to consumers over its useful lifespan for trouble-free use.

Customer Relationship Management:

Customer relationship management (CRM) is a widely-implemented strategy for managing a company’s interactions with customers, clients and sales prospects. It involves using technology to organize, automate, and synchronize business processes-principally sales activities, but also those for marketing, customer service, and technical support. The overall goals are to find, attract,

and win new clients, nurture and retain those the company already has, entice former clients back into the fold, and reduce the costs of marketing and client service. Customer relationship management describes a company-wide business strategy including customer-interface departments as well as other departments (The free dictionary).

Customer Service:

Customer service is the provision of service to customers before, during and after a purchase. According to Jamier L. Scott (2002), "Customer service is a series of activities designed to enhance the level of customer satisfaction – that is, the feeling that a product or service has met the customer expectation." (The free dictionary)

Customer Satisfaction:

Customer satisfaction, a business term, is a measure of how products and services supplied by a company meet or surpass customer expectation (The free dictionary). Organizations are more customers oriented they have to satisfy their customers, the satisfied customer enables organization to retain more customers, which results in high sale turnover, higher productivity and profit to the organization. Customer satisfaction is related with loyalty of the customer and financially stable performance of the firm (Loveman, 1998, p. 18). Customer satisfaction must be the primary objective of the organization for success and growth (Pertson & Willson, 1992, p. 61).

Delivery:

Many organizations provide delivery services to its consumers at their doorsteps; they note the address and deliver the product to consumer's destination. Many researcher and authors discuss delivery of the product to be influential and results in increased sale and productivity. Delivery of the product characterized by two dimensions i.e. speed and reliability (Michael,

2001, p. 106) and ensuring that right product at right time in right quantity from right source delivered to right person at right price . Organization with no strategic plan for delivery of product or service is similar to that person who starts his/her journey without knowing the final destination (K. & K., 2004, p. 310).

Installation:

Installation is to fix product, installation is first component of after sale or delivery of the product and is considered to generate more profitable sale. The basic reason for offering installation to consumers is after sale economies, to take competitive advantage and customer demand (Oliva & Kallenberg, 2003). When installation goes wrong then it may cost more to the organization as the customer may go for case and organization may have to pay high amount to the customer or spent a lot on the case.

Service Quality:

Service quality is measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis (Lewis and Booms, cited from (Parasuraman, Zeithaml, & Berry, 1985, p. 41)).

Warranty:

A warranty is a manufacturer's assurance to a buyer that a product or service is or shall be as represented. It may be considered to be a contractual agreement between the buyer and manufacturer entered into upon the sale of the product or service (Murthy & Djameludin, 2002). A warranty may be implicit or it may be explicitly stated. In broad terms, the purpose of a warranty is to establish liability among the two parties (manufacturer and buyer) in the event that an item fails. An item is said to fail when it is unable to perform satisfactorily its intended function when properly used. The contract specifies both the

performance that is to be expected and the redress available to the buyer if a failure occurs (Murthy & Djameludin, 2002, p. 231).

1.8 Organization of the Study

This research consists of five chapters based on a commonly accepted dissertation framework suggested by Tribhuvan University. A graphical representation of the study structure is shown in Figure 1-1.

This chapter presents the background of the research study followed by problem discussion that will guide reader to get the over-all purpose. From the purpose, some specific research objectives, hypotheses were posed. At the end of this chapter the contribution of this research is also presented.

Chapter two provides relevant literature review, theoretical and conceptual model. Existing theories and works related to after-sales service and customer satisfaction are discussed. Theoretical concept to after-sales service is explained in details. Similarly, proposed conceptual model describes the three attributes delivery, installation and warranty are all reviewed along with their sub-elements. This chapter, also, develops the research hypotheses used for statistical testing to address the various research issues and objectives.

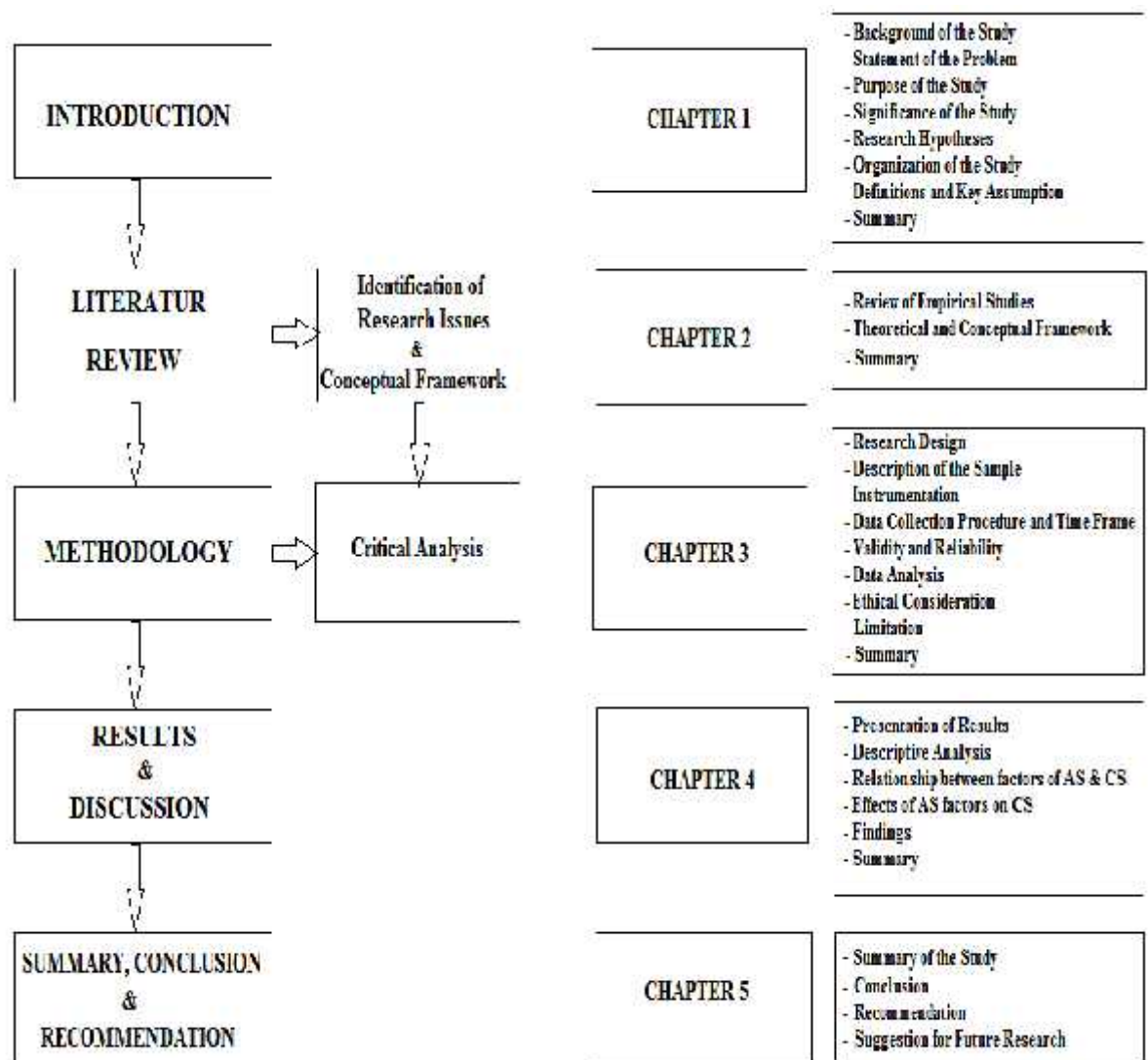
Chapter three justifies and explains the research methods and designs used in the study. The research plan and design is introduced and the quantitative research method is justified. The data sampling, collection, instruments and preparation procedures are also discussed. Self-administered questionnaires were developed and distributed to 200 individual customers within Kathmandu valley. The statistical tools and techniques that are deployed for data analysis are explained, and validity issues are also addressed.

Chapter four presents and analyses the raw data collected through questionnaire. The data will be analyzed in three steps. Firstly, a descriptive analysis of the questions will be conducted. Secondly, relationship between

factors in after-sales service and customer satisfaction will be established. Thirdly, effects of after-sales service on customer satisfaction will be examined to test the hypotheses.

Finally, Chapter five discusses the results and findings. It will, also, include the theoretical and managerial implications. Strategies to help these private companies to both increase and maintain their current market share. The chapter concludes with a discussion of the research recommendations.

Figure 0-1: Organization of the Study



Chapter – 2

Research Methodology

2.1 Research Plan and Design

Developing an effective research design is a fundamental part of any research activities. A clear understanding of the research design will make the study relevant to the research problem and help the research procedures to be parsimonious and economical.

The objective is to examine, the factors in after-sales service that affect customer satisfaction in consumer electronics appliances within Kathmandu valley, as a guideline in developing the discussion of research design in this paper.

For the validity and reliability of the research, the research methodology undertaken is as follow:

-) Chose the suitable research approach.
-) Identified the research purpose.
-) Investigated different research strategy.
-) Discussed the data collection method.

This study is a quantitative research where sources of information are gathered from questionnaire. Instrument utilized was through the self-administered questionnaire containing closed-ended and scales to matrix questions. This study was interested in describing the characteristics of a population or phenomenon, thus the study was a descriptive study. This study also used hypotheses testing to determine the influence of delivery, installation and warranty towards customer satisfaction. The type of sampling was probability sampling. Data collected were based on random sampling method since the respondents were selected randomly from every department with different

occupation of respondents. The population was decided to be all the customer or consumer of electronic appliances within the Kathmandu valley. Out of the total population, 200 respondents are expected to respond to the research survey. Pre-testing of the questionnaire was made during the pilot study. The scale was piloted amongst a sample of thirty (30) student of permanent resident of Kathmandu.

2.1.1 Research Purpose

The primary purpose of this study was about finding out the relationship between the three categories of after-sales service i.e. delivery, installation, and warranty and customer satisfaction – are assumed to be most essential factors within Kathmandu valley in electronic appliances market to ensure customer. The findings of this study might be able to be the purpose for documentation, discovery, interpretation or the research and development of methods and systems for the advancement of human knowledge.

Research can be divided into different categories of studies. Classifying the business research on the basis of purpose or function allows us to understand how the nature of the problem influences the choice of research method.

Considering the nature of the research study, both descriptive and conclusive research was carried out to collect and analyze data in accordance with the objective. Conclusive research was then carried out to identify various factors affecting customer satisfaction in after-sales service.

2.1.1.1 Descriptive Research

Descriptive studies are more formalized studies that are typically structured with clearly stated hypotheses. This study was about factors in after-sales service that affect customer satisfaction in durable electronic appliances within Kathmandu valley. This study featured hypotheses testing proposed in chapter two. This study investigates the relationship between a numbers of variables,

the factors in after-sales service (dealer-controlled delivery, company-controlled post-delivery, dealer-controlled warranty factors) contributing to customer satisfaction. This study is oriented towards describing the characteristics of population or phenomenon, thus qualifying as a descriptive study.

2.1.2 Research Approach

The research approach will determine how the data is obtained which is an important consideration in the research process. Ultimately, the research design will depend on the nature of the research objectives and the environment in which the research is conducted. There is no single best research design and the researcher has a number of options available. The two different types of approaches are: deductive and inductive approach.

In this study, hypotheses were developed and a research strategy was designed to test the factors in after-sales service that affects customer satisfaction in durable electronic appliances which refers to deductive approach. The data was collected and analyzed from randomly selected consumer to develop the theory and refers to inductive approach. Therefore, this study has combining research approaches (deductive approach and inductive approach).

2.1.3 Research Strategy

After the method of data collection has been established, the next step was to select appropriate research strategy. The strategy will be a general plan of how researcher will go about answering the research questions / testing research hypotheses that has been set by the researcher. It will contain clear objectives, derived from research questions specify the sources from which researcher intend to collect data and consider the constraints that researcher will inevitably have such as access to data, time, location and money, ethical issues.

2.1.3.1 Survey Research

The survey strategy is popular and common strategy in business research that is usually associated with the deductive approach. Survey research was the most suitable for this study, as this study attempts to investigate and analyze the different factors in after-sales service that affects customer satisfaction within Kathmandu valley of electronic appliances. The data/information was obtained from a general study of a large number of respondents, eliciting direct responses to specific questions. It was the most popular method as they allow collecting large amount of data from a sizeable population in a highly economical way. Using this strategy gives the researcher more control over the research process and it was possible to generate findings when sampling was used, which gives a representative of the whole population.

2.1.3.2 Pilot Test

A pilot test was conducted to detect the weaknesses in design and instrumentation and to provide proxy data for selection of a profitability sample. It should, therefore, draw subjects from the target population and simulated the procedure and protocols that have been designated for data collection.

2.2 Description of the Sample

2.2.1 Population

The aim of a sample is to gain information about a population therefore it is important to have a clear prior understanding of the population that the sample is intended to represent. It is also important that the sample is representative of the population so that the characteristics of the population can be approximated.

In this study, the unit of analysis is the individual who will provide information about their past experience in buying and using electronic appliance.

Heterogeneous sample was selected based on the conceptual model and its applications to all people in the population. In this study the population was Nepalese individuals of all races, age group, gender, educational and occupation, who uses durable electronic appliances, within Kathmandu valley.

2.2.2 Sampling Procedure

Selecting the sample was the next step after collecting data. There are several ways to of choosing the sample for the research study. An individual having durable electronic appliances, within Kathmandu valley was selected for this study. Time and money was saved by selecting a sample to be studies rather than attempting to study the entire population i.e. each and every market within Nepal. Obtaining data from the population of durable electronic appliance as well as interpreting vast amount of data would have been impossible to accomplish within the time constraints and with the limited financial resources which were available for conducting this research.

Probability Sampling Methods was adopted for this study which was most commonly associated with survey-based research where the researcher needed to make inferences from the sample about a population to meet the research objectives. In probability sampling, sampling elements were selected randomly and the probability of being selected was determined ahead of time by the researcher.

The Convenience Sampling was adopted to draw the sample from the consumer. Selection of sampling units is totally based on the convenience of the researcher. Participants are selected on the basis of their willingness and availability to respond. This sampling technique was selected due to the reason; it is easier, less expensive, and timelier than probability sampling techniques.

According to Pant (2009), **sample size** larger than 30 and less than 500 are appropriate for most research. Because statistical analysis is based on probability, the use of smaller numbers can make it difficult to show statistical

significance. The **randomly selected sample size** for this study was 200 individual, within the Kathmandu valley. The sample size chosen were from different age groups, gender, and occupation.

2.3 Instrumentation

2.3.1 Research Instrument

Survey research was conducted in this study with an aim to collect information on the perceptions and opinions of a sample of people which adequately represent the population of interest. The research was conducted within Kathmandu valley, as discussed above in research strategy.

2.3.2 Data Collection Instrument

Questionnaires are preferred in most surveys because they are less expensive. In many situations an interviewer's presence is not essential. Self-administered questionnaire that was filled by the respondent rather than by an interviewer was adopted for this research study.

A questionnaire on the aforementioned 16 aspects (delivery, dealer repair, installation and warranty) of after-sales service was constructed on a Reverse 5-point Likert scale, with 5 indicating Unsatisfied and 1 indicating Extremely Satisfied. Similarly, other 19 question was constructed featuring closed-ended regarding other aspects of after-sales service and customer profile. Questionnaires consist of a series of questions for respondents to answer. There are several reasons why a questionnaire is the choice for surveying: (1) questions can be asked in exactly the same manner (e.g. the same words and sequence), which enable data comparison; (2) it is easier to control the questionnaire compared to controlling surveys using interviewers; (3) it can be designed to cover everything in an exact manner as required by the researcher to meet the research objective; and (4) there is an efficient and correct data input. Furthermore, the data obtained can be recorded in the same way in the data processing.

2.3.3 Statistical Instrument

2.3.3.1 SPSS

SPSS (Statistical Program for the Social Science) version 18.0 is a software program that was used for the preliminary data analysis for this study. The data were tabulated and appropriate statistical values like mean, standard deviation and percentage were calculated. Similarly, coefficient analysis was done to see the relationship between two variables and regression analysis was done to test the stated hypotheses.

2.3.3.2 Microsoft Excel & Word

Software developed and manufactured by Microsoft Corporation that allows users to organize, format, and calculate data with formulas using a spreadsheet system broken up by rows and columns (Business dictionary).

The data obtained were recorded in a spreadsheet format using Microsoft Excel. Similarly, graphical representations of the data table, pie chart etc. are used. Analysis is descriptive as well as statistical. The mathematical techniques were used to facilitate the interpretation of numerical data secured from respondents.

The results obtained in this study were presented in the form of a written format as a thesis as well as in an oral presentation for defense of this study finding. The details regarding conclusion and recommendation can be seen in chapter five for this research study.

2.4 Data Collection Procedure and Time Frame

2.4.1 Data Collection Procedure

There are two major approaches to gathering the information about a situation, person, problem or phenomenon. Sometimes, information required is already available and only need to be extracted. However, there are times when the

information must be collected. Selecting the most appropriate method of data collection is fundamental to the research process. The research study uses both primary and secondary data for fulfilling the research objectives. The two procedure of data collection are:

2.4.1.1 Primary Data

For this study, the primary data was collected by making personal visits to different consumer from different market places within Kathmandu valley. In this study primary data was collected via survey methods and within that survey, respondents took part in questionnaires. To avoid ambiguities the targeted population was electronic appliances users who were aware of after-sales service. For the data collection from respondent's self-administered questionnaire featuring close-ended and likert scale questionnaires were used.

2.4.1.2 Secondary Data

The primary advantages of secondary data is that obtaining secondary data is almost always less expensive than acquiring primary data and it can usually be obtained rapidly.

2.4.1.2.1 Sources of Secondary Data used in this study

It would be impossible to identify all possible purposes of business research using secondary data. Two general categories of research objectives include fact finding and model building (Zikmund, 2003). Secondary data used in this research are:

) Books and Periodicals

Books and periodicals found in Neoteric Pvt Ltd, National Data Center, Pilgrims, AVON library was considered in this study for literature review to be quintessential secondary data source.

Professional journals, such as the Harvard Business Review, International Journal of Productivity and Performance Management,

Journal of Marketing Research, International Journal of Physical Distribution & Logistics Management, Journal of Marketing, International Journal of Service Industry Management etc. was review as a source of secondary for this study.

) **Web documents and sites**

Different web documents from different WWW (World Wide Web) were reviewed for literature review as a source of secondary data. Web sites like www.google.com, www.wikipedia.com, www.scholar.google.com, www.emeraldinsight.com, www.jstor.com etc. was reviewed. Similarly, internet journals, news, magazine, bibliographic indexes (available in print and web versions) etc. was also reviewed for collection of relevant secondary data.

2.4.2 Time Frame

On the basis of time limit Saunders, Lewis, & Thronhill (2003) proposed two types of studies: Cross-sectional studies and longitudinal studies. This research was completed in a given time constraint. So, the cross-sectional approach was appropriate for this study. These types of studies are used in research projects where there is a time constraint and the research is designed as snapshots where phenomena are not studies over time either continuously or repeatedly. The demerit of this cross-sectional study is that the researcher cannot investigate if there have been any changes or developments within a certain time frame.

2.5 Validity and Reliability

In order to reducing the possibility of getting the answer wrong, attention need to be paid to two particular on research design: validity and reliability.

2.5.1 Validity

It is concerned with whether the findings are really about what they appear to be about (Saunders, Lewis, & Thornhill, 2003). Similarly, Pant (2009)

describes validity as to the extent you are measuring what you hope to measure. This indicates the accuracy of a measure.

The result of the research questions (questionnaire) were used to increase the construct validity. The outcomes and traits have been tested and tried earlier for this study. The primary results were presented for the information and the correct measures of feedback had been used in order to increase validity. Number of different steps was taken to ensure the validity of the study:

-) Data was collected from the reliable source, from respondents who are more experienced to use electronic appliance;
-) Survey question were made based on literature review and frame of reference to ensure the validity of the result;
-) Questionnaire has been pre-tested by the responded before starting the survey. Questionnaire was tested by thirty (30) respondents;
-) Data was collected through three weeks, within this short period of time no major event has been with the related topic.

2.5.2 Reliability

Reliability means the consistency between measurements in a series. A measurement device is reliable when it will consistently produce about the same results when applied to the same samples or to different samples of the same size drawn from the same population (Pant, 2009). Reliability is a necessary contributor to validity but not a sufficient condition for validity.

In order to make sure the reliability of this research, the researcher used SPSS version 18.0 tool. SPSS software offer “Reliability Analysis Statistics”. Reliability analysis allows studying the properties of measurement scale and the items that make them up. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationship between individual items in the scale. Number of different steps was taken to ensure the reliability of the study:

-) Questionnaire was divided into two parts in order that responders could concentrate more on each question;
-) The theories that have been selected for the study was clearly described and research question also has been formulated on the based on previous research study. Data has been collected based on the frame reference that was drawn from the discuss theory. The objective was to make sure that if another researcher will follow the same procedures and used the same questionnaires objects, the same conclusion would be made.

2.6 Data Analysis

To compute all the data gathered from questionnaires and carry out descriptive and regression analysis, the Statistical Software Package for Social Sciences (SPSS) Version 18.0 was used. The techniques of analysis used in this study were descriptive (mean, standard deviation) and inferential analysis (regression) to sum up the data collected. The questionnaires used were developed by researcher as well as developed by the past researchers.

The techniques of analysis used in this study were descriptive (mean, standard deviation) and inferential analysis (regression) to sum up the data collected. In order to help to describe the sample characteristics in the data analysis report, demographic data such as age, gender, occupation were included in the questionnaire. These data are structured in a range of response option, rather than seeking exact figures. In the subsequent section, all the study variable scales are measured using reverse Likert scale rated varying from (1=Extremely Satisfied; 2=Satisfied; 3=Neutral; 4=Less Satisfied; 5=Unsatisfied).

Dealer-controlled delivery was constructed in five measurement items, Company-controlled Post-delivery was constructed in ten measurement items, and dealer-controlled warranty was constructed as a single item. Pre-Testing of the questionnaire was made during the pilot study.

Four types of analysis were proposed for this study. First, in order to provide a description of the sample from which data was collected, descriptive information on age, gender, education, and occupation setting were described, as well as the means and standard deviations for the after-sales service factors and customer satisfaction. Second, to determine the relationship between after-sales service factors and customer satisfaction, Pearson product moment correlation coefficients were determined. Third, to determine any differences in AS factors and CS, t-tests, and analysis of variance were used to examine for any significant differences among them.

To sum up, the research design provides a foundation for the research methodology adopted in this study. Given the aim of this study is to identify the factors of after-sales service that affect customer satisfaction in consumer electronics appliances market. A quantitative survey is employed to test the hypotheses that have been developed in chapter two. A self-administered questionnaire was chosen as the method for data collection. The combining approach (inductive and deductive) was selected in order to collect both qualitative and quantitative data. The proposed study for this research is descriptive study. Survey method followed by convenience and random sampling technique were chosen for the study in order to reduce the sampling error. The sample size for the study was 200 respondents. Cross-sectional approach was selected for the study so as to complete this study on time. Regression analysis, ANOVA was selected as an appropriate statistical method for testing the related hypotheses (at 0.05, level of significance).

The following chapters will present discussions on the results of the statistical analysis to answer the research objectives and hypotheses.

Chapter – 3

Results and Discussion

3.1 Presentation of Results

The presentation of results includes respondents' profile, customer behavior and after-sales service profile and factors within after-sales service and customer satisfaction.

3.1.1 Respondents' Profile

The following part of the study deals with the respondents' profile which is gender, age, education, occupation, and family category. The information about the respondents profile is found in the last part of the questionnaire. The responses are presented in Table 3-1, Table 3-2, Table 3-3, Table 3-4 and Table 3-5.

3.1.1.1 Gender of the Respondents

Table 3-2: Gender of Respondents

Gender of Respondents		
Gender	Frequency	Percent (%)
Female	61	33.00
Male	123	66.50
Total	184	99.50
Do not answer	1	00.50
Total	185	100.00

Figure 3-2: Distribution of Respondents on the basis of Gender

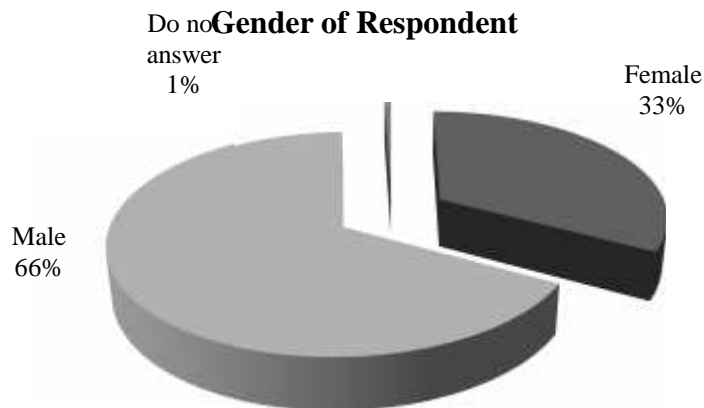


Table 3-1 and Figure 3-1 presented here show the gender of the respondents. The number of male who participated in this research were just double than that of female respondents. The total respondents were 185 among from which 123 were male respondent and 61 were female respondent and there were one respondent who did not respond to this question. Since the analysis is concerned with the after-sales service and surveys were mostly done in different organization, the involvements of male respondent were more than that of female respondent. There were 66.50% of male and 33.00% of female respondents, involve in this research. This also shows that along with female respondents, male respondents were also concerned about the after-sales service in Nepalese context.

3.1.1.2 Age of the Respondent

Table 3-3: Age of Respondents

Age Group of Respondents		
Age Group	Frequency	Percent (%)
Under 30 Years	101	54.60
30 - 50 Years	81	43.80
Above 50 Years	1	0.50
Total	183	98.90
Do not answer	2	1.10
Total	185	100.00

Figure 3-3: Distribution of Respondents on the basis of Age

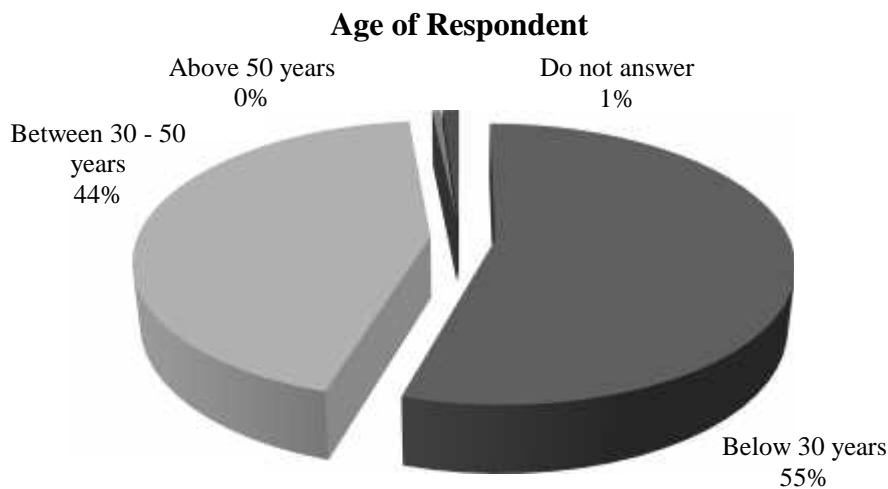


Table 3-2 and Figure 3-2 show the age groups of the respondents seeking for after-sales service in consumer durables electronic appliances. The age of the respondents were divided into three groups for this research. They were grouped as Under 30 year, 30 – 50 years, and above 50 years of age which

represent 101, 81, and 1 respondent respectively. Among these groups, 54.60% of the respondents belong to less than 30 years of age and 43.80% of the respondents belong to 30 – 50 years of age. The shows that the respondents of this age were more interested to go for after-sales service than that of age above 50 years which show only 0.50% of respondents. This was because these groups of people were much more aware of the after-sales service provided by the companies and also they had knowledge and experience regarding products supports and services.

3.1.1.3 Education of the Respondents

Table 3-4: Education of Respondents

Education Qualification of Respondents		
Education Level	Frequency	Percent (%)
Certificate Level	17	9.20
Intermediate / (+2)	26	14.10
Bachelor Degree	113	61.10
Master Degree	28	15.10
Total	184	99.50
Do not answer	1	0.50
Total	185	100.00

Figure 3-4: Distribution of Respondents on the basis of Education

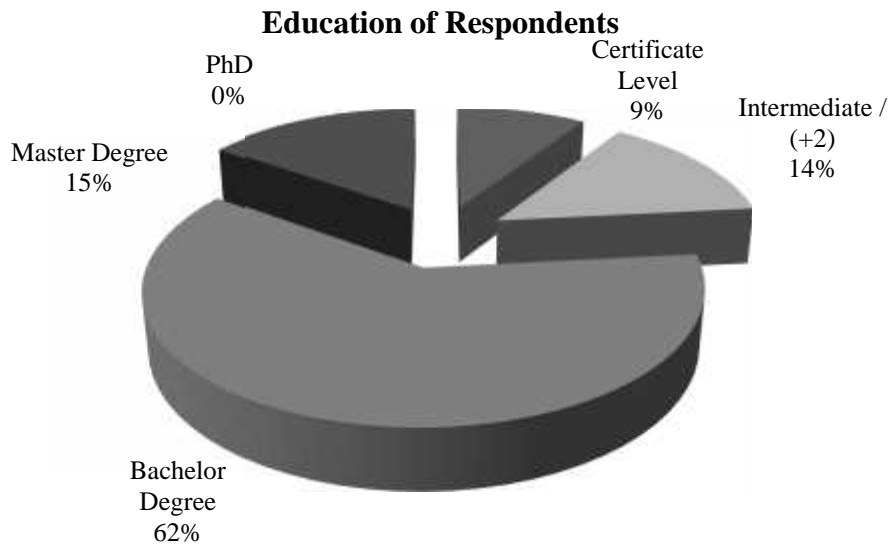


Table 3-3 and Figure 3-3 present below shows the education level of the respondents. The education of respondents were divided into five levels namely Certificate Level, Intermediate / (+2) Level, Bachelors Level, Masters Level and PhD Degree which shows 17, 26, 113, 28, and 0 respondent respectively. The analysis shows that 61.10% of respondents were Bachelor degree holder, 15.10% of respondents were Master degree holder, 14.10% of respondents were Intermediate / (+2) level and 9.20% of respondent were Certificate level. This shows that respondents having Bachelor degree were more concern and were seeking after-sales service than that of other respondent having different education qualification. This also shows that respondents going after-sales service were educated enough to understand the technical know-how of the product.

3.1.1.4 Occupation of the Respondents

Table 3-5: Occupation of Respondents

Occupation of Respondents		
Occupation	Frequency	Percent (%)

Student	44	23.80
House Wife	18	9.70
Engineer	48	25.90
Administration	19	10.30
IT Professional	17	9.20
Manager	7	3.80
Government Employee	13	7.00
Others	18	9.70
Total	184	99.50
Do not answer	1	0.50
Total	185	100.00

Figure 3-5: Distribution of Respondents on the basis of Occupation

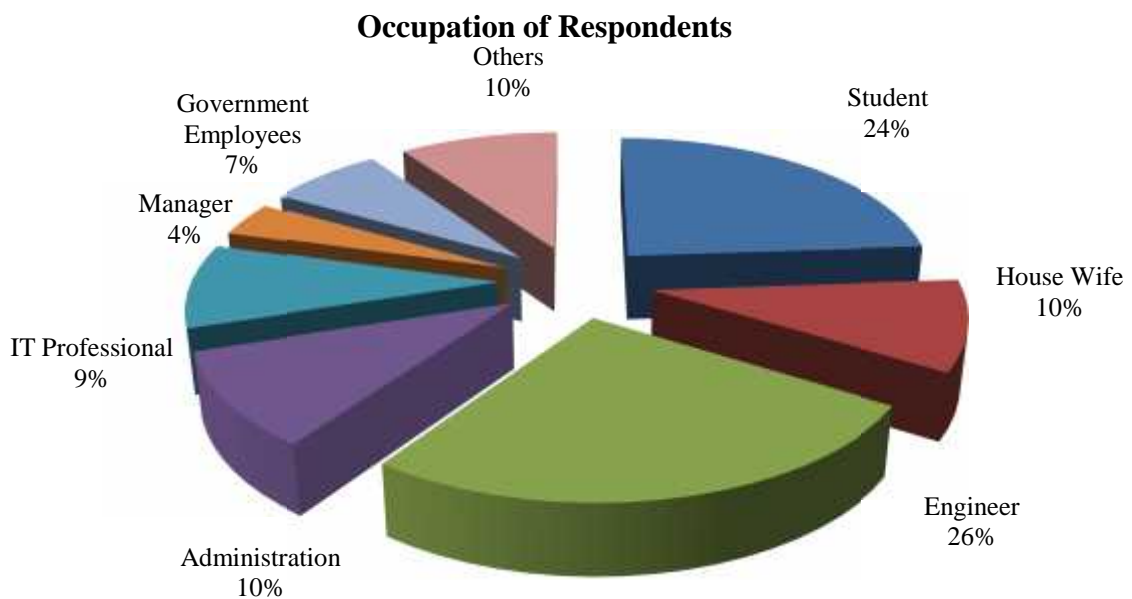


Table 3-4 and Figure 3-4 presented show the occupation of the respondents. Respondent having different occupation like students, housewife, engineers, administration, IT professional, managers, and government employee were

selected for this study which are 44, 18, 48, 19, 17, 7, and 13 respectively. This show the respondents were covered from all sector to support empirical findings more concrete. The figure in table shows that the highest respondents were 25.90% engineer, students with 23.80%, employee working in administration with 10.30% and so on.

3.1.1.5 Family Category of Respondents

Table 3-6: Family Category of Respondents

Family Category of Respondents		
Family Category	Frequency	Percent (%)
Single, Living Alone	18	9.70
Single, Living with Friends	41	22.20
Couple (Single Income)	3	1.60
Couple (Double Income)	26	14.10
Nuclear Family, Small Kids	5	2.70
Nuclear Family, Grown-up Children	59	31.90
Nuclear Family, Retired Couple	3	1.60
Joint Family	30	16.20
Total	185	100.00

Figure 3-6: Distribution of Family Category of Respondents

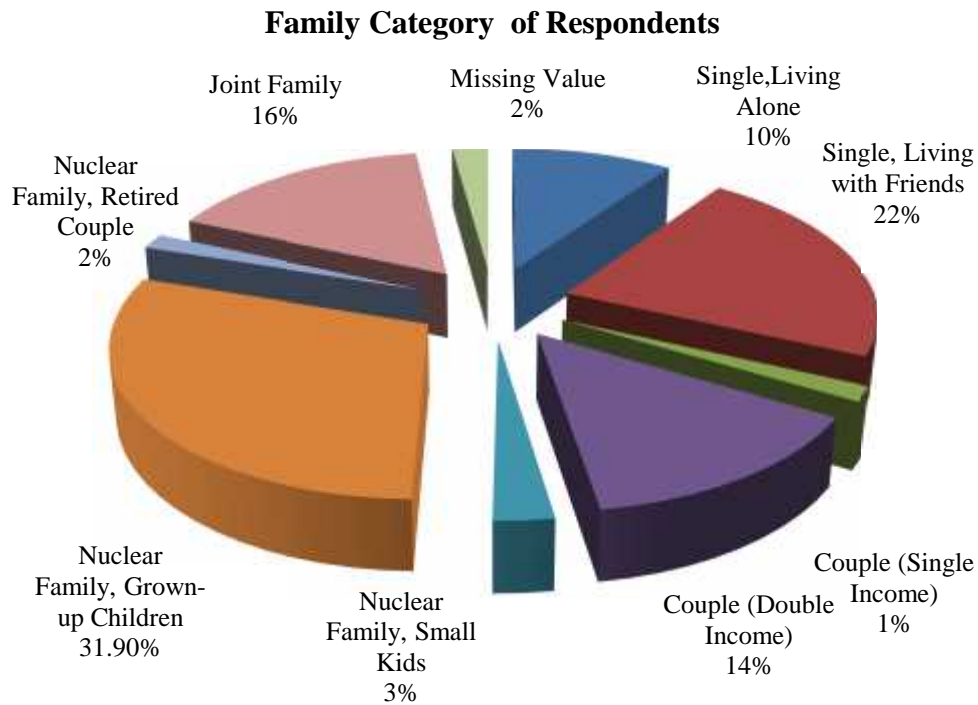


Table 3-5 and Figure 3-5 presented below shows the family category of respondents. The respondents were categorized into eight different family categories namely Single (Living Alone), Single (Living with Friends), Couple (Single Income), Couple (Double Income), Nuclear Family with Small Kids, Nuclear Family with Grown-up Children, Nuclear Family, Retired Couple, and Joint Family which shows 18, 41, 3, 26, 5, 59, 3, and 30 respectively. Among these categories, 39.90% represent Nuclear Family with Grown-up Children, 22.20% represent Single (Living with Friends), 16.20% represent Joint Family, 14.10% represent Couple with Double income, 9.70% represent Single (Living Alone). Similarly, 2.70%, 1.60% and 1.60% are Nuclear Family with Small Kids, Couple (Single Income), and Nuclear Family (Retired Couple) respectively. This shows that respondents were included from different categories of families.

3.1.2 Customer Behavior and After-Sales Service Profile

Under this study, the customer behavior is defined in terms of purchase decision and experiences (usage) about the products. Similarly, the after-sales

service profile is based on knowledge about products, supports and performance, handling problems and re-complaint by the companies.

3.1.2.1 Analysis of Purchase Decision and Experience

3.1.2.1.1 Product Used by the Customers

Table 3-7: Products Uses by the Customer

Products Uses by the Customers		
Product Verities	Frequency	Percent (%)
T.V	165	89.20
LCD	81	43.80
AC	40	21.60
DVD Player	109	58.90
Mobiles	176	95.10
Refrigerators	127	68.60
Washing Machine	64	34.60
Microwave Oven	48	25.90
Others	170	91.90

Table 3-6 represents the product usage by the customer. Out of 185 respondents, 165 respondents (89.20%) had T.V, 109 respondents (58.90%) had DVD Player, 176 respondents (95.10%) had Mobile Phones, 127 respondents (68.60%) had Refrigerators, 81 respondents (43.80%) had LCD, 64 respondents (34.60%) had Washing Machine, 48 respondents (25.90%) had Microwave Oven, 40 respondents (21.60%) had AC, and 170 respondents (91.90%) also had other electronic goods other than this. This shows that respondents might have good experience regarding after-sales service, in the past days, according to the verities of electronic good they have.

3.1.2.1.2 Latest Appliance Purchased

Table 3-8: Latest Appliance Purchased by the Customers

Latest Appliance Purchased		
Time Frame	Frequency	Percent (%)
In Last 6 Months	101	54.60
Last 6 Months - 1 Year	56	30.30
1 - 2 Years	9	4.90
More than 2 Years	19	10.30
Total	185	100.00

Table 3-7 represents the latest appliance purchased by the respondents. The collected data shows that 54.60% of respondents (101) have purchased electronic appliance in last 6 months. Similarly, 30.30 % of respondents (56), 9.00% of respondent (9), 10.30% of respondent (19) have purchased some kind of electronic appliance between 6 months and 1 year, between 1 year and 2 years, and more than 2 years respectively.

3.1.2.1.3 Purchase Decision

Table 3-9: Purchase Decision made by Individual

Purchase Decision		
Decision Maker	Frequency	Percent (%)
Wife	82	44.30
Husband	33	17.80
Kids	45	24.30
Grandparents	25	13.50
Total	185	100.00

Table 3-8 represents the decision made by individual at the time of purchase. From the table below, 44.30% of purchase decision is made by wife which is 82 respondents, 17.80% purchase decision is made by husband where

frequency is 33 respondents. Similarly, 24.30% and 13.50% of purchase decision is made by kids (45) and grandparents (25) respectively. This shows that most of the purchase decision in household electronic is influenced by wife and kids, in Nepalese market.

3.1.2.2 Product Knowledge, Support and Performance

3.1.2.2.1 Aware of Product Functionality

Table 3-10: Aware of Appliance Functionality

Aware of Appliance Functionality		
	Frequency	Percent (%)
No	19	10.30
Yes	166	89.70
Total	185	100.00

Table 3-9 shows the awareness regarding the product functionality. The data shows that 166 respondents (89.70%) were aware of appliances' functionality they have while 19 respondents (10.30%) do not know about the appliance functionality. This shows that the customer had full knowledge about the products and its functionality. The reason behind not knowing about the functionality of product can be seen in table 4-10.

3.1.2.2.2 Reason behind Unaware of Functionality

Table 3-11: Reason behind Unaware of Functionality

Reason Behind Unaware of Functionality		
	Frequency	Percent (%)
Not interested in knowing the function of related appliances	11	57.90
Will learn at the time of operation	8	42.10
Total	19	100.00

Table 3-10 represents reason behind unaware of appliance functionality. Out of 19 respondents from Table 3-9, 11 respondents (57.90%) were not interested in knowing the function of related appliance. This might increase the chance of breakdown of appliance. Similarly, 8 respondents (42.10%) will learn at the time of operation, referring the product catalog. The data shows that 166 respondents (89.70%) have full knowledge about the product they have (Table 3-9).

3.1.2.2.3 Problem in Appliance after Immediate Purchase

Table 3-12: Problem in Appliance Usage after Immediate Purchase

Problem in Usage after Immediate Purchase		
	Frequency	Percent (%)
No	121	65.40
Yes	64	34.60
Total	185	100.00

Table 3-11 represents the problem in appliance after immediate purchase. Most of the time, customers face problem in appliance immediately after they purchase. This may be due to unaware of products' functionality. From the table below; 64 respondents (34.60%) faced problem in usage after immediate purchase while 121 respondents (65.40%) did not faced any problem while using the product for the first time. This may be because the respondents know all the functionality or might have used the product before.

3.1.2.2.4 Solution for usage after Immediate Purchase

Table 3-13: Solution for Usage after Immediate Purchase

Solution for Usage after Immediate Purchase		
Reasons	Frequency	Percent (%)
Called the seller to know the procedure	27	42.20
Asked the help from friend or neighbor	16	25.00

Read the product catalog to know about the using product	21	32.80
Total	64	100.00

Table 3-12 represents the solution for the problem faced in usage. Customers do behave in different ways when they have problem in product immediate after purchase. In earlier table, 64 respondents had problem in appliance after immediate purchase (Table 3-11) and 122 respondents did not have problem in usage after immediate purchase. Out of 64, 21 respondents (32.80%) refer the product catalog to know about using the product. Similarly, 16 respondents (25.00%) asked the help from their friends or neighbor which quite familiar in Nepalese context. 27 respondents (42.20%) who had problem after immediate purchase, called the seller to know the procedure without referring the product catalog.

3.1.2.2.5 Referring Product Catalogue after Purchase

Table 3-14: Refer Product Catalog before using the Appliance

Refer Product Catalog before using the Appliance		
	Frequency	Percent (%)
No	23	12.40
Yes	162	87.60
Total	185	100.00

Table 3-13 represents initiative to refer product catalogue. Product catalogue contains detail technical and functionality information regarding product and its usage. Customers having any difficulties regarding the operation of products can easily refer to the product catalogue for the solution. From the table below, 162 respondents (87.60%) refer product catalog before using the appliance while only 23 respondents (12.40%) do not refer product catalog before using the appliance.

3.1.2.2.6 Reason behind Product Catalog not easily Understandable

Table 3-15: Product Catalog not easily Understandable

Product Catalog not easily Understandable		
Reasons	Frequency	Percent (%)
The language in the catalog	18	9.70
Font is not readable	7	3.80
Not explained clearly	81	43.80
The code and symbols are not understandable	50	27.00
What needed to know was not mentioned	29	15.70
Total	185	100.00

Table 3-14 represents the reason behind not understanding catalogue. The product catalog must be full of information regarding products' functionality and remedies to a problem. Factors like language, font, symbols and codes etc. have effects on attractiveness of catalog. From the table below; 81 respondents (43.80%) believe that the explanation regarding solution to a problem or information regarding products were not explained in details. Also, 50 respondents (27.00%) believe that the codes and symbol used in catalog are not understandable and 29 respondents (15.70%) feels that what needed to know were not mentioned in the catalog. Similarly, 18 respondents (9.70%) and 7 respondents (3.80%) believe that catalog were not easily understandable due to language and font in the catalog respectively.

3.1.2.2.7 Referring Warranty Card before Purchase

Table 3-16: Referring Warranty Card before Purchase

Read Warranty Card before Purchase		
	Frequency	Percent (%)
No	56	30.30
Yes	129	69.70
Total	185	100.00

Table 3-15 represents the respondents referring warranty card before purchase. Warranty is an assurance by a company to its customer that specify facts or conditions, under which anything goes wrong with the product within certain time frame, then they have right to claim for it and the company will provide free service, free of cost. A detail understanding of warranty terms and condition is necessary so as to be free from misunderstanding. From the table below; 129 respondents (69.70%) refer or read warranty card before purchase and this gives them detail understanding about terms and condition relating product and its warranty. On the other hand, 56 respondents (30.30%) do not read or refer warranty before making purchase. This may be because they do not care about warranty issues, or have positive view about the product. Table 3-16 further explains the reason behind not going through warranty card before purchase.

3.1.2.2.8 Reason behind not going through Warranty Card

Table 3-17: Reason behind not going through Warranty Card

Reason behind not going through Warranty Card		
Reasons	Frequency	Percent (%)
After making a purchase and getting home	20	35.70
When it's time for to go for servicing	31	55.40
When product stop functioning	5	8.90
Total	56	100.00

Table 3-16 represents the reason behind not going through warranty card before purchase. Most of the customer reacts when they face a problem. They usually go through warranty issues when they need to go for servicing, or have technical problem, or when service is free of cost, or after making a purchase. From the Table 3-15, 56 respondents did not refer the warranty card. Reason behind not referring the warranty card is that, 31 respondents (55.40%) believe that they will go through warranty card when they think it's time for to go for servicing, 20 respondents (35.70%) believe that they will go warranty card

after making a purchase and getting home, and 5 respondents (8.90%) believe they would go through warranty card when product stop functioning.

3.1.2.3 Problems Handling by the Companies

3.1.2.3.1 Problem encounter within Product and Solution to It

Table 3-18: Problem while using Appliance

Problem while using Appliance		
	Frequency	Percent (%)
No	67	36.20
Yes	118	63.80
Total	185	100.00

Table 3-17 represents if customer had encounter any problem while using their products. From the table below; 118 respondents (63.80%) encounter with problem while using product and 67 respondents (36.20%) experience that their electronic product is working well.

After the customer experience the problem with their product, their initial approach towards the problem were either call company’s toll free number, or call the seller from where the product was bought, or call family technician, or contact service center. From the table 3-18 below; 83 respondents (70.30%) called the seller (dealer) from where products were bought. In general, most customers contact the seller from where they bought the product. Similarly, 15 respondents (12.70%) called the toll free number so as to better understand the problem or solution to it. There were also 11 respondents (9.30%) who called the service center which was mentioned in the warranty card and 9 respondents (7.60%) called the family technician for the help. This shows that customer before had experience the problem and knows the procedure regarding warranty issues.

Table 3-19: Choice of Approach to Solve Problem

Choice of Approach to Solve Problem		
Reasons	Frequency	Percent (%)
Called the Toll Free Number	15	12.70
Called the seller from where the product was bought	83	70.30
Called the family technician	9	7.60
Called the service center which was mentioned in the warranty card	11	9.30
Total	118	100.00

When the product does not function, the customer has alternative choice of approach to solve problem. The reason behind if product does not function, may be due to problem in appliance, or product break-down, or inefficient to product expected or promised result. From the Table 3-19 below; 67 respondents (56.80%) had problem in their appliance. This shows that the product had problem before or may be due inefficient handling by the customer. Also, 31 respondents (26.30%) had a problem in product due to technical break-down which might be because of power fluctuate, coil burn, spare-part beak-down etc. Similarly, 20 respondents (16.90%) believe that the product were inefficient to product expected or promise result. This might be because of limited functionality in the product.

Table 3-20: Appliance (s) Problem

Appliance (s) Problem		
Reasons	Frequency	Percent (%)
Problem in appliances	67	56.80
Product broke down technically	31	26.30
Inefficient to produce expected or promised result	20	16.90

Appliance (s) Problem		
Reasons	Frequency	Percent (%)
Problem in appliances	67	56.80
Product broke down technically	31	26.30
Inefficient to produce expected or promised result	20	16.90
Total	118	100.00

If the products break-down within warranty period, the company provides solution to a problem either through replacement of the product with the new one, or through replacement of spare parts, or through technicians help. As explained in table 3-19, 118 respondents had problem with their appliance. From Table 3-20, 63 respondents (53.40%) problem were solved through replacement of spare parts. Similarly, 47 respondents (39.80%) problem were solved through the technicians help and 8 respondents (6.80%) problem were solved through the replacement of the product with the new one. Products are replaced only if spare parts are not available or when the technical solution is not feasible. This shows that overall warranty related terms and conditions are implemented effectively as 81.90 % respondents problem are handled by the company.

Table 3-21: Solution for the Problem

Solution for the Problem		
Reasons	Frequency	Percent (%)
Through replacement of the product with new one	8	6.80
Through replacement of spare parts	63	53.40
Through technicians help	47	39.80
Total	118	100.00

3.1.2.4 Re-complaint and Word-of-Mouth

3.1.2.4.1 Re-complain and Problem Handling

From the Table 3-21 below; 115 respondents (62.20%) had made re-complaint when the problems were not solved satisfactorily whereas 70 respondents (37.80%) did not re-complaint when the problems were not solved satisfactorily.

Table 3-22: Re-complaint regarding the Problems

Re-complaint		
	Frequency	Percent (%)
No	70	37.80
Yes	115	62.20
Total	185	100.00

From the Table 3-22 below; 58 respondents' (54.40%) problems were handled properly when the problems were not solved satisfactorily. Similarly, 57 respondents' (49.60%) problems were not handled and solved. This may be due to unavailability of spare parts, or not able to identify the problem, or may be if the product is out of warranty and need to confirm the customer for required payment and so on.

Table 3-23: Problem Handling

Handle Problem Properly		
	Frequency	Percent (%)
No	57	49.60
Yes	58	54.40
Total	115	100.00

3.1.2.4.2 Re-purchase of the same Brand

Table 3-23 represents for re-purchase of the same brand if customers' complaint or re-complaint regarding appliance problem are handled properly. From the table below, 102 respondents (55.1%) believe that they do not purchase the same brand if there problems or complains are not handled properly where 83 respondents (44.9%) will re-purchase the same brand.

Table 3-24: Re-purchase the same Brand

Re-purchase the same Brand		
	Frequency	Percent (%)
No	102	55.10
Yes	83	44.90
Total	185	100.00

3.1.2.4.3 Word-of-mouth Intention

Table 3-24 represents suggestion to others to buy the same brand incase if there problems and complaints are handled properly by the companies. From the table below, 88 respondents (47.6%) will suggests others to buy the same brand, the one they are using. Similarly, 97 respondents (52.4%) will not suggests to other to buy the same brand of appliance they are using.

Table 3-25: Suggestion to others to buy the same Brand

Suggest others to Buy the same Brand		
	Frequency	Percent (%)
No	97	52.40
Yes	88	47.60
Total	185	100.00

3.1.3 Factors within After-Sales Service and Customer Satisfaction

Under this study, delivery, and dealer repair outside warranty are dealer-controlled factors of after-sales service and installation, and warranty are company-controlled post-purchase factors of after-sales service.

3.1.3.1 Different Aspects of Delivery

3.1.3.1.1 Reception of Proper Invoice / Delivery Papers

Table 3-25 represents the satisfaction level of respondents regarding the reception of proper invoice or delivery papers, after the purchase of products. From the table below; 57 respondent level of satisfaction were neutral which is 30.80%, 45 respondent were extremely satisfied which is 24.30%, 40 respondent were satisfied which is 21.60%, 37 respondent were less satisfied which is 20% and 6 respondent were unsatisfied which is 3.20%. This shows that most of the respondent has received the accurate invoice after the purchase of products.

Table 3-26: Satisfaction level regarding Invoice and Delivery Papers

Reception of Proper Invoice / Delivery Papers (X1)		
Scale	Frequency	Percent (%)
Extremely Satisfied	45	24.30
Satisfied	40	21.60
Neutral	57	30.80
Less Satisfied	37	20.00
Unsatisfied	6	3.20
Total	185	100.00

3.1.3.1.2 Transfer of Product at Customer Place

Table 3-26 represents the satisfaction level of respondents regarding the transfer of product at customer place, after the purchase. Customers are

satisfied or neutral when the dealers provide the free delivery services at customer place and are less or unsatisfied when the dealer do not provide such facilities, after the purchase. From the table below; 64 respondent were satisfied which is 34.60%, 55 respondent were neutral which is 29.70%, 12 respondent were extremely satisfied which is 6.5%, 19 respondent were less satisfied which is 10.30% and 35 respondent were unsatisfied which is 18.90%.

Table 3-27: Satisfaction level regarding Delivery of Products

Transfer of Product to your place (X2)		
Scale	Frequency	Percent
Extremely Satisfied	12	6.50
Satisfied	64	34.60
Neutral	55	29.70
Less Satisfied	19	10.30
Unsatisfied	35	18.90
Total	185	100.00

3.1.3.1.3 Reliability in Delivery Time

Table 4-27 represents the reliability in delivery time. Customers are more likely to extremely satisfied or satisfied or neutral when the delivery of product is reliable and on time and less or unsatisfied in the absence of reliability in delivery and on time. From the table; 80 respondents are neutral which 43.20% was, 47 respondents are satisfied which is 25.4%. Similarly, in the absence of this service, 23 and 34 respondents which are 12.4% and 18.4% are less satisfied and unsatisfied respectively.

Table 3-28: Satisfaction level regarding Delivery Times

Reliability in Delivery Times (X3)		
Scale	Frequency	Percent (%)
Extremely Satisfied	1	0.50
Satisfied	47	25.40

Neutral	80	43.20
Less Satisfied	23	12.40
Unsatisfied	34	18.40
Total	185	100.00

3.1.3.1.4 Quality of Product when delivery at Home

Table 3-28 represents the quality of product when delivery at home. Customers are extremely satisfied or satisfied or neutral when the product delivered at customer place is free of wear and tear or damage and less satisfied or unsatisfied in the case of damage. From the table; 86 respondents which are 46.50% are satisfied with this service whereas 29 respondents which are 15.7% are unsatisfied. Similarly, 43, 26 and 1 respondent which are 23.20%, 14.10% and 0.50% are neutral, extremely satisfied and unsatisfied respectively.

Table 3-29: Satisfaction level regarding Quality of Delivery at Customer's Home

Quality of Product when Delivery at Home (X4)		
Scale	Frequency	Percent (%)
Extremely Satisfied	26	14.10
Satisfied	86	46.50
Neutral	43	23.20
Less Satisfied	29	15.70
Unsatisfied	1	0.50
Total	185	100.00

3.1.3.1.5 Quality of the Product Packaging when Delivered

Table 3-29 represents the quality of the product packaging when delivered. Quality of packaging can prevent from damage of goods while delivering to customer place. Customer is extremely satisfied or satisfied or neutral when the quality of packaging is of higher standard and conversely less satisfied or unsatisfied. From the table; 70 respondents which are 37.80% are satisfied

which shows the packaging quality is of higher standard. Similarly, 65 respondents (35.10%) are neutral, 30 respondents (16.20%) are extremely satisfied, 16 respondents (8.60%) are less satisfied and 4 respondents (2.20%) are unsatisfied.

Table 3-30: Satisfaction level regarding Product Packaging

Quality of the Product Packaging when Delivered (X5)		
Scale	Frequency	Percent (%)
Extremely Satisfied	30	16.20
Satisfied	70	37.80
Neutral	65	35.10
Less Satisfied	16	8.60
Unsatisfied	4	2.20
Total	185	100.00

3.1.3.2 Different Aspects of Installation

3.1.3.2.1 Accurate Information about Installation (X6)

Table 3-30 represents the accurate information about installation. Generally, product and installation information are provided by the company sales person. Customer is extremely satisfied or satisfied when this information is provided to them and vice-versa. From the table below; 64 respondents (34.60%) are extremely satisfied which means they have been conveyed accurate information about product and installation whereas 24 respondent (13.00%) are unsatisfied and 20 respondent (10.80%) are less satisfied because of, information not provided to them regarding product and installation. Similarly, 55, and 22 respondents which are 29.70% and 11.90% are neutral and extremely satisfied respectively.

Table 3-31: Satisfaction level regarding Information about Installation

Accurate Information about Installation (X6)		
Scale	Frequency	Percent (%)
Extremely Satisfied	22	11.90
Satisfied	64	34.60
Neutral	55	29.70
Less Satisfied	20	10.80
Unsatisfied	24	13.00
Total	185	100.00

3.1.3.2.2 Time elapsed between Delivery and Installation (X7)

Table 3-31 represents the time elapsed between delivery and installation. Customer is extremely satisfied or satisfied when the time elapsed between delivery and installation is less and unsatisfied or less satisfied if the time elapsed is long. From the table; 70 respondents (37.80%) are neutral which shows sales person / technician arrival customer place is neither too fast nor too slow. Similarly, 44 respondents (23.80%) are extremely satisfied and 37 respondents (20.00%) are satisfied, with this service. And 27 respondents (14.60%) and 7 respondents (3.80%) are less satisfied and unsatisfied respectively.

Table 3-32: Satisfaction level regarding Time between Delivery and Installation

Time Elapsed between Delivery and Installation (X7)		
Scale	Frequency	Percent (%)

Extremely Satisfied	44	23.80
Satisfied	37	20.00
Neutral	70	37.80
Less Satisfied	27	14.60
Unsatisfied	7	3.80
Total	185	100.00

3.1.3.2.3 Attentiveness of Installation Personal to Avoid Damage (X8)

Table 3-32 represents the attentiveness of installation personal to avoid damage. Well-trained and experience technician are more efficient and effective. Customer is extremely satisfied or satisfied when damages are avoided at the time of product installation and conversely less or unsatisfied customer, if there exist any damages. From the table below; 54 respondents (29.20%) are satisfied and 53 respondents (28.60%) are neutral and 20 respondents (10.80%) are extremely satisfied with this service. Similarly, 39 respondents (21.10%) are unsatisfied and 19 respondents (10.30%) are less satisfied with this service provided by the company.

Table 3-33: Satisfaction level regarding Attentiveness of Installation Personnel

Attentiveness of Installation Personnel to Avoid Damage (X8)		
Scale	Frequency	Percent (%)
Extremely Satisfied	20	10.80
Satisfied	54	29.20
Neutral	53	28.60
Less Satisfied	19	10.30
Unsatisfied	39	21.10
Total	185	100.00

3.1.3.2.4 Advice and Demo / Instruction given by Technician (X9)

Table 3-33 represents the advice and demo / instruction given by technician to the customer. Proper handling and use of products depends on how the technician advice or instruct the customer. One best way is, to give demo regarding the functionality of product. Customer is extremely satisfied or satisfied when advice and demo is given by technician after the purchase of product and less satisfied or unsatisfied when this service provided by company lacks. From the Table; 54 respondents (29.20%) are satisfied and 10 respondents (5.40%) are extremely satisfied because of advice and demo given by technician. 52 respondents (28.10%) are neutral neither satisfied nor dissatisfied. Similarly, 41 respondents (22.20%) and 28 respondents (15.10%) are less satisfied and unsatisfied respectively because company lack is providing this service to customer.

Table 3-34: Satisfaction level regarding Instructions given by Technician

Advice and Demo / Instructions given by Technician (X9)		
Scale	Frequency	Percent (%)
Extremely Satisfied	10	5.40
Satisfied	54	29.20
Neutral	52	28.10
Less Satisfied	41	22.20
Unsatisfied	28	15.10
Total	185	100.00

3.1.3.3 Different Aspects of Warranty

3.1.3.3.1 Company Respond to Complaints (X10)

Table 3-34 represents the company respond to complaints. Customer can complain for any reason. Customer is extremely satisfied or satisfied if

company respond to complaints is efficient and effective and less satisfied or unsatisfied if it does not respond to customer complaints. From the table; 51 respondents (27.60%) are satisfied with way the company is responding to their complaints and 49 respondents (26.50%) are neutral. Similarly, 44 respondents (23.80%) and 33 respondents (17.80%) are unsatisfied and less satisfied respectively due to not responding to their complaints by the company. Only, 8 respondents (4.30%) are extremely satisfied with this service provided by the company.

Table 3-35: Satisfaction level regarding Customers' Complaints

Company Respond to Complaints (X10)		
Scale	Frequency	Percent (%)
Extremely Satisfied	8	4.30
Satisfied	51	27.60
Neutral	49	26.50
Less Satisfied	33	17.80
Unsatisfied	44	23.80
Total	185	100.00

3.1.3.3.2 Time taken by Company to Respond to Complaints (X11)

Table 3-35 represents the time taken by company to respond to complaints. Lesser the time taken by company to respond to complaints more likely to have extremely satisfied or satisfied customer and longer the time taken, less satisfied or unsatisfied are the customer. From the table; 45 respondents (24.30%) and 35 respondent (18.90%) are satisfied and extremely satisfied due to timely handing and responding of complaints. 43 respondents (23.20%) are neutral to this service. Similarly, 38 respondents (20.50%) and 24 respondents (13.00%) are less satisfied and unsatisfied due to improper handling of complaints.

Table 3-36: Satisfaction level regarding Time taken to Customers' Complaints

Time taken by Company to Respond to Complaints (X11)		
Scale	Frequency	Percent (%)
Extremely Satisfied	35	18.90
Satisfied	45	24.30
Neutral	43	23.20
Less Satisfied	38	20.50
Unsatisfied	24	13.00
Total	185	100.00

3.1.3.3.3 Chance of Repeat Complaints and Satisfaction after Complaint Resolution (X12)

Table 3-36 represents chance of repeat complaints and satisfaction after complaint resolution. Customers can complaint for the same product again and again whether it is within warranty period or outside warranty period. Customer is extremely satisfied if there re-complaints are handled properly with effective resolution and unsatisfied in case of complaints not handled properly and with no resolution. From the table; 64 respondents (34.60%) are neutral indicating neither satisfied nor dissatisfied. Similarly, 32 respondents (17.30%), and 28 respondents (15.10%) are satisfied and extremely satisfied respectively due to effective handing and resolution of repeat complaints. And also 37 respondents (20.00%) and 24 respondents (13.00%) are less satisfied and unsatisfied respectively due to poor handling of repeat complaints and no resolution.

Table 3-37: Satisfaction level regarding Repeat Complaint and Resolution

Chance of Repeat Complaint and Satisfaction after Complaint Resolution (X12)		
Scale	Frequency	Percent (%)
Extremely Satisfied	28	15.10
Satisfied	32	17.30
Neutral	64	34.60
Less Satisfied	37	20.00
Unsatisfied	24	13.00
Total	185	100.00

3.1.3.3.4 Response Time to Attend Warranty Claim (X13)

Table 3-37 represents response time to attend warranty claim. Products within warranty period should be replaced or provide technical solution, free of cost. Customer is extremely satisfied or satisfied if response time to attend warranty claim less and less satisfied or unsatisfied if no response to attend warranty claim. From the table; 80 respondents (43.20%) are neutral with response time to attend warranty claim, 46 respondents (24.90%) are satisfied, and 17 respondents (9.20%) are extremely satisfied with this service in after-sales. Similarly, 29 respondents (15.70%) and 13 respondents (7.00%) are less satisfied and unsatisfied respectively due to poor response time to attend warranty claim.

Table 3-38: Satisfaction level regarding Time to attend Warranty Claim

Response Time to attend Warranty Claim (X13)		
Scale	Frequency	Percent (%)
Extremely Satisfied	17	9.20
Satisfied	46	24.90
Neutral	80	43.20
Less Satisfied	29	15.70

Unsatisfied	13	7.00
Total	185	100.0

3.1.3.3.5 Time taken to Rectify Failed Item (X14)

Table 3-38 represents time taken to rectify failed item. Efficiency to rectify failed item depends up on the skills of technician and resources provided by company. Customers are extremely satisfied or satisfy if less time is taken to rectify failed item and solution to it. Conversely, customers are less satisfied or unsatisfied is no solution given to a problem. From the table; 83 respondents (44.90%) are neutral indicating neither satisfy nor dissatisfy, 29 respondents (15.70%) are satisfied, and 18 respondents (9.70%) are extremely satisfy indicating positive response from the company in after-sales.

Table 3-39: Satisfaction level regarding Time to Rectify Failed Item

Time taken to Rectify Failed Item (X14)		
Scale	Frequency	Percent (%)
Extremely Satisfied	18	9.70
Satisfied	29	15.70
Neutral	83	44.90
Less Satisfied	31	16.80
Unsatisfied	24	13.00
Total	185	100.00

3.1.3.3.6 Ready Availability of Spare Part (X15)

Table 3-39 represents ready availability of spare part. Availability of spare parts on time for both new and old model of all product categories is essential for effective after-sales service. Customers are extremely satisfied or satisfied when there exist readily available of spare parts and unsatisfied or less satisfied because of unavailability of spare parts. From the table; 65 respondents (35.10%) are neutral indicating neither satisfied nor dissatisfied, 50 respondents (27.00%) are satisfied and, 17 respondents (9.20%) are extremely

satisfied concerning about the readily availability of spare parts when encounter with problems in product. Similarly, 33 respondents (17.80%) are less satisfied and 20 respondents (10.80%) are unsatisfied due to unavailability of spare parts at the time of need.

Table 3-40: Satisfaction level regarding Availability of Spare Parts

Ready Availability of Spare Part (X15)		
Scale	Frequency	Percent (%)
Extremely Satisfied	17	9.20
Satisfied	50	27.00
Neutral	65	35.10
Less Satisfied	33	17.80
Unsatisfied	20	10.80
Total	185	100.00

3.1.3.3.7 Dealer Repair Quality outside Warranty Claim (X16)

Table 3-40 represents dealer repair quality outside warranty claim. In case of warrant period is expired or void, the dealer may repair products so as to provide additional service to its customer. Customer are extremely satisfied or satisfied if dealer provide additional quality of service outside warranty claim and less satisfied or unsatisfied if no additional service or warranty claim provided to its customer. From the table; 51 respondents (27.60%) are less satisfied, and 30 respondents (16.20%) are unsatisfied due to reason that dealers do not repair the products outside warranty claim. Similarly, 50 respondents (27.00%) are neutral, 31 respondents (16.80%) are satisfied, and 23 respondents (12.40%) extremely satisfied indicating that dealer is providing quality of repair service outside warranty.

Table 3-41: Satisfaction level regarding Dealer Repair outside Warranty

Dealer Repair Quality outside Warranty Claim		
Scale	Frequency	Percent (%)

Extremely Satisfied	23	12.40
Satisfied	31	16.80
Neutral	50	27.00
Less Satisfied	51	27.60
Unsatisfied	30	16.20
Total	185	100.00

3.1.3.4 Aspect of Customer Satisfaction

3.1.3.4.1 Overall Customer Satisfaction in After-Sales Service (X17)

Table 3-41 represents overall customer satisfaction in after-sales service. From the table below, 82 respondents (44.30%) were moderate indicating neither satisfy nor dissatisfy in experiencing after-sales service. It also shows that only 12 respondents (6.50%) experienced excellent after-sales service and 50 respondents (27.00%) experienced good after-sales service. Similarly, 36 respondents (19.50%) experienced poor after-sales service and 5 respondents (2.70%) experienced very poor after-sales service.

Table 3-42: Overall Customer Satisfaction level in After-Sales Service

Overall Satisfaction in After-Sales Service (X17)		
Scale	Frequency	Percent (%)
Excellent	12	6.50
Good	50	27.00
Moderate	82	44.30
Poor	36	19.50
Very Poor	5	2.70
Total	185	100.00

3.2 Descriptive Analysis

The different after-sales service factors are dealer-controlled delivery and dealer repair outside warranty factors, and company –controlled installation and warranty factors. The analysis of sub-variables under each after-sales service’s factors based on mean, standard deviation and ranked according to highest mean value.

3.2.1 Dealer-Controlled “Delivery (C1)” Factors

On analysis of dealer-controlled delivery, the details can be seen in Table 3-42. The construct “C1” comprises of five different variables. On a scale of 1-5, the maximum scale rated by respondents was scale of 5 and minimum scale was scale of 1. The mean value for variables X4=2.42 and X5=2.43 which is closer to scale 2 (i.e. 2=Satisfied) indicate respondents are satisfied with the service issues regarding quality of product when delivered at home and quality of the product packaging when delivered. Mean value of variable X1=2.56 which is slightly greater than value of X4 and X5 and mean value of X2 = 3.01 both are closer to scale 3 (i.e. 3=neutral). Similarly, mean value of X3=3.23 which is also closer to scale 3 rather than scale 4 indicate respondents are indifference (neither satisfied nor less satisfied) with the current service regarding reception of proper invoice/delivery papers and reliability in delivery time.

Table 3-43: Descriptive analysis for Dealer-Controlled Delivery Factors

Factors	N	Mean	Std. Deviation	Rank
X1	185	2.56	1.155	3
X2	185	3.01	1.214	2
X3	185	3.23	1.044	1
X4	185	2.42	.936	5
X5	185	2.43	.936	4
Valid N (list-wise)	185			

3.2.2 Dealer-Controlled “Dealer Repair outside Warranty (C2)” Factor

Table 3-43 represents the descriptive values for dealer repair outside warranty. The total number of respondents (N) = 185. On rating scale 1-5, the maximum scale rated by respondents was scale of 5 and minimum scale was scale of 1 and mean value of X6=3.18 which is closer to scale 5 (i.e. 3 = neutral) indicate that respondents are neither satisfied nor less or unsatisfied with the current service regarding dealer repair quality outside warranty claim.

Table 3-44: Descriptive analysis for Dealer-Controlled Dealer Repair outside Warranty Factor

Factor	N	Mean	Std. Deviation	Rank
X6	185	3.18	1.251	1
Valid N (list-wise)	185			

3.2.3 Company-Controlled “Installation (C3)” Factors

Table 3-44 represents the descriptive values for company-controlled installation factors which include four different variables X7, X8, X9, and X10. The total respondents (N) = 185 and on rating scale of 1 – 5, the maximum scale rated by the respondents was scale of 5 and minimum was scale of 1. The mean value for X8 = 2.55 which is closer to scale of 3 than scale of 2 (i.e. 2 = satisfied, 3 = neutral) indicate respondents were neither satisfied nor less unsatisfied with the service of time elapsed between delivery and installation. Similarly, mean value X7 = 2.78, X9= 3.02, and X10 = 3.12 which all are closer to scale of 3 refers that respondents are neutral regarding services like accurate information about installation, attentiveness of installation personnel to avoid damage, and advice and demo/instructions given by technician.

Table 3-45: Descriptive analysis for Company-Controlled Installation Factors

Factors	N	Mean	Std. Deviation	Rank
X7	185	2.78	1.187	3
X8	185	2.55	1.118	4
X9	185	3.02	1.296	2
X10	185	3.12	1.152	1
Valid N (list-wise)	185			

3.2.4 Company-Controlled “Warranty (C4)” Factors

Table 3-45 represents company-controlled warranty factors which include 6 different aspects related to warranty. The total number of respondents (N) = 185 and on scale rating of 1 – 5, the maximum scale rated by the respondents was scale of 5 and minimum scale was scale of 1. The mean value of X11 = 3.29, X12 = 2.84, X13 = 2.98, X14 = 2.86, X15 = 3.08, and X16 = 2.94 where all mean values are around scale of 3 (i.e. 3 = neutral) indicating that respondents level of satisfaction is neutral relating to service issues like company response to complaints, time taken by company to respond to complaints, chance of repeat complaints and satisfaction after complaints resolution, time taken to rectify failed item, and readily availability of spare parts.

Table 3-46: Descriptive analysis for Company-Controlled Warranty Factors

Factors	N	Mean	Std. Deviation	Rank
X11	185	3.29	1.225	1
X12	185	2.84	1.307	6
X13	185	2.98	1.227	3
X14	185	2.86	1.021	5
X15	185	3.08	1.111	2
X16	185	2.94	1.119	4

Factors	N	Mean	Std. Deviation	Rank
X11	185	3.29	1.225	1
X12	185	2.84	1.307	6
X13	185	2.98	1.227	3
X14	185	2.86	1.021	5
X15	185	3.08	1.111	2
X16	185	2.94	1.119	4
Valid N (list-wise)	185			

3.2.5 Overall Customer Satisfaction in After-Sales Service

Table 4-46 represents the descriptive analysis of overall customer satisfaction in after-sales service. The total number of respondent (N) = 185 and on rating scale of 1 – 5, the mean value of X17 = 2.85 which is close to scale of 3 (i.e. 3 = moderate) indicate that their experience in after-sales service is moderate rather than good or poor.

Table 3-47: Descriptive analysis for Overall Customer Satisfaction in AS Service

Factor	N	Mean	Std. Deviation
X17	185	2.85	.902
Valid N (list-wise)	185		

3.2.6 Mean Rating of Factors of AS Service and Customer Satisfaction

On calculating the mean rating, the component were independent variables dealer-controlled “Delivery” (C1), dealer-controlled “Dealer Repair” (C2), company-controlled “Installation” (C3), company-controlled “Warranty” (C4), and dependent variable customer satisfaction in after-sales service. The following results were obtained.

Table 3-47, a close observation of the average ratings of these factors affecting customer satisfaction in after-sales service suggests that the overall satisfaction

in after sales service was “less unsatisfied”. While the satisfaction in dealer-controlled deliveries and warranty was found to be rated from satisfied to less unsatisfied. The company controlled installation and warranty, was rated from Neutral to Less Unsatisfied, and needed improvement.

Table 3-48: Summary of Mean Rating of Factors of AS Service and CS

Component	Factors	Mean	Rating
C1	X1 Reception of Proper Invoice/Delivery Papers	2.56	Neutral
	X2 Transfer of Product to Your Place	3.01	Neutral
	X3 Reliability in Delivery Times	3.23	Neutral
	X4 Quality of Product when Delivered at Home	2.42	Satisfied
	X5 Quality of the Product Packaging when Delivered	2.43	Satisfied
C2	X6 Dealer Repair Quality outside warranty Claim	3.18	Neutral
C3	X7 Accurate Information about Installation	2.78	Neutral
	X8 Time Elapsed Between Delivery and Installation	2.55	Neutral
	X9 Attentiveness of Installation Personnel to Avoid Damage	3.02	Neutral
	X10 Advice and Demo/Instructions given by Technician	3.12	Neutral
C4	X11 Company Response to Complaints	3.29	Neutral
	X12 Time Taken by Company to Respond to Complaints	2.84	Neutral
	X13 Chance of Repeat Complaint ; Satisfaction after Complaint Resolution	2.98	Neutral

	X14	Response Time to Attend Warranty Claim	2.86	Neutral
	X15	Time Taken to Rectify Failed Item	3.08	Neutral
	X16	Ready Availability of Spare Part	2.94	Neutral
Customer Satisfaction	X17	Overall Customer Satisfaction in AFS	2.85	Moderate

3.3 Relationship between Factors of AS Service and CS

3.3.1 Relationship between Delivery and CS

Table 4-48 represents the correlation between delivery factors as independent variable and customer satisfaction as dependent variable in after-sales service. The delivery factor includes five different aspects which were transformed into C1. The total number of respondent for this factor was (N) = 185. Level of Significant () = 0.01.

The Pearson's Correlation (r) for the correlation between delivery factors and overall customer satisfaction is 0.742. The value is close to 1. This means that there is a fair positive relationship between two variables i.e. delivery factors and customer satisfaction in after-sales service. Change in one variable is fairly correlated with change in another variable.

The Pearson's (P) value = 0.00 < = 0.01. Because of this, there is a statistically significant correlation between delivery factors and customer satisfaction in after-sales service.

Table 3-49: Relationship between Delivery and CS

	Overall Satisfaction in After-Sales Service	C1
Pearson Correlation	0.742**	1
Sig. (2-tailed)	0.000	

N

185

185

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

3.3.2 Relationship between Dealer Repair and CS

Table 3-49 represents the correlation between dealer repair outside warrant factor as independent variable and customer satisfaction as dependent variable in after-sales service. The dealer repair factors, dealer repair quality outside warranty claim were transformed into C2. The total number of respondent for this factor is (N) = 185. Level of Significant () = 0.01.

The Pearson’s Correlation (r) for the correlation between dealer repair outside warrant factor and overall customer satisfaction is 0.391. The value is close to 0. This means that there is a weak positive relationship between two variables i.e. dealer repair outside warrant factor and customer satisfaction in after-sales service. Change in one variable is weakly correlated with change in another variable.

The Pearson’s (P) value = 0.00 < = 0.01. Because of this, there is a statistically significant correlation between delivery factors and customer satisfaction in after-sales service.

Table 3-50: Relationship between Dealer Repair outside Warranty and CS

Overall Satisfaction in After-Sales Service C2		
Pearson	0.391**	1
C2 Correlation		
Sig. (2-tailed)	0.000	
N	185	185

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

3.3.3 Relationship between Installation and Customer Satisfaction

Table 3-50 represents the correlation between installation factors as independent variable and customer satisfaction as dependent variable in after-sales service. The delivery factor includes four different aspects which were transformed into C3. The total number of respondent for this factor is (N) = 185. Level of Significant () = 0.01.

The Pearson's Correlation (r) for the correlation between installation factors and overall customer satisfaction is 0.634. The value is close to 1. This means that there is a fair positive relationship between two variables i.e. installation factors and customer satisfaction in after-sales service. Change in one variable is fairly correlated with change in another variable.

The Pearson's (P) value = 0.00 < = 0.01. Because of this, there is a statistically significant correlation between installation factors and customer satisfaction in after-sales service.

Table 3-51: Relationship between Installation and CS

	Overall Satisfaction in After-Sales Service	C3
Pearson	0.634**	1
Correlation		
C3 Sig. (2-tailed)	0.000	
N	185	185

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

3.3.4 Relationship between Warranty and CS

Table 3-51 represents the correlation between warranty factors as independent variable and customer satisfaction as dependent variable in after-sales service. The warranty factor includes six different aspects which were transformed into C4. The total number of respondent for this factor is (N) = 185. Level of Significant () = 0.01.

The Pearson's Correlation (r) for the correlation between installation factors and overall customer satisfaction is 0.513. The value is close to 1. This means that there is fair positive relationships between two variables i.e. warranty factors and customer satisfaction in after-sales service. Change in one variable is fairly correlated with change in another variable.

The Pearson's (P) value = 0.00 < = 0.01. Because of this, there is a statistically significant correlation between warranty factors and customer satisfaction in after-sales service.

Table 3-52: Relationship between Warranty and CS

	Overall Satisfaction in After-Sales Service	C4
Pearson	0.513**	1
C4 Correlation		
Sig. (2-tailed)	0.000	
N	185	185

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

3.4 Effects of Factors in AS Service on CS

Table 3-52, Table 3-53, and Table 3-54 represents the regression analysis using customer satisfaction as the outcome variable and the variables C1, C2, C3, and C4 as predictors. These measure the factors in delivery (C1), factor in dealer repair outside warranty (C2), factors in installation (C3), and factors in warranty (C4) as factors in after-sales service. The study expect that there exist the relationship between dealer-controlled delivery factors and customer satisfaction, there exist the relationship between dealer-controlled dealer repair outside warranty claim and customer satisfaction, there exist the relationship between company-controlled installation factors and customer satisfaction, and there exist the relationship between company-controlled warranty factors and customer satisfaction.

Table 3-52 represents the summary of the model. The R value stand for the correlation coefficient which is the same as Pearson’s Correlation (r). The correlation between after-sales service and customer satisfaction is 0.787. The value is close to 1. This means that there is a strong positive relationship between two variables i.e. after-sales service and customer satisfaction in after-sales service. Change in one variable is strongly correlated with change in another variable. However, we cannot make any other conclusion about this relationship, based on this numbers.

Coefficient of Determination or R Square (R^2) = 0.62 (i.e. 62.00%) of the variation in customer satisfaction is explained by factors in after-sales service. Similarly, Standard Error of the Estimate is the variability of observed value of overall customer satisfaction around regression plain is 0.562.

Table 3-53: Model Summary of After-Sales Service using Regression Analysis

Model Summary			
R	R^2	Adjusted R^2	Std. Error of the Estimate
0.787	0.620	0.612	.562

a. Predictors: (Constant), C4, C2, C1, C3

In addition, Table 3-53 contains an analysis of variance (ANOVA) that tests whether the model is significantly better at predicting customer satisfaction when there is no visible pattern. In other words, a variation equal to 62.00% is a significant amount. The F-ratio represents the ratio of improvement in prediction that results from fitting the model. The sum of squares (SS_M) represents the improvement in prediction resulting from fitting a regression line to the data rather than using the mean as an estimate of the outcome. Residual sum of squares (SS_R) represents the total difference between the model and the observed data. The degrees of freedom (d.f=4) is equal to the number of predictors, and for SS_R is the number of observations (165) minus the number of coefficients in the regression model. The model has four coefficients; one for each of the four independent variables.

A regression analysis, predicting customer satisfaction from factors in after-sales service, was statistically significant as a whole, $p < 0.01$ ($p = 0.000 < 0.01$).

Table 3-54: An Analysis of Variance (ANOVA)

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	92.875	4	23.219	73.468	0.000
Residual	56.887	180	0.316		
Total	149.762	184			

a. Predictors: (Constant), C4, C2, C1, C3

b. Dependent Variable: Overall Satisfaction in After-Sales Service

Table 3-54 represents the coefficients related to regression. The focus was on four predictors, whether they are statistically significant and, if so, the direction of the relationship.

The delivery factors (C1, $b = 0.766$) is statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.000$). Reject $H1_0$.

The dealer-repair outside warranty (C2, $b = 0.015$) is not statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.702$). Accept $H2_0$.

The installation factors (C3, $b = 0.097$) is not statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.209$). Accept $H3_0$.

The warranty factors (C4, $b = 0.231$) is statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.000$). Reject $H4_0$.

Table 3-55: The model Summary of After-Sales Service Factors using Regression Analysis

After-Sales Service Factors	Unstandardized			
	Coefficients		t	Sig.
	B	Std. Error		
(Constant)	-0.259	0.194	-1.334	0.184
C1	0.766	0.080	9.597	0.000
C2	0.015	0.040	0.383	0.702
C3	0.097	0.077	1.261	0.209
C4	0.231	0.061	3.751	0.000

a. Dependent Variable: Overall Satisfaction in After-Sales Service

3.5 Findings

-) Majority of the purchase decision in electronic goods in Nepalese market is influenced by both wife and kids.
-) Most of the consumers were unaware of the appliance functionality because they were not interested in knowing the functionality and will learn at the time of operation. After having a problem in usage, most of the consumer preferred to call the seller to know the procedure or ask the friends, neighbor. There were also consumers who prefer the product catalog to know about the using product.
-) Most of the consumer refers the product catalog before using the appliance. But still they are unable to understand because they are not explained clearly, code and symbols are not understandable, language and font are not readable, and also what needed to know were not mentioned.
-) Most of the consumer read warranty card only when it is time for to go for servicing or when product stop functioning. There were also consumers who go through warranty card after making a purchase.

-) After the consumer experience the problem within their product, the initial approach towards the problem were calling the seller from where the product was bought.
-) Most of the problem encounter was within the appliances rather appliance broke technically or inefficient to produce expected or promise result. And these problems were solved through replacement of spare-parts.
-) Despite of re-complaint, majority of consumer's complaints were not handled properly by the company when the problems were not solved satisfactorily.
-) Considering the re-complaint and problem handling, most of the consumer would not prefer to buy the same brand of appliance and neither would suggest others to buy the same brand.
-) Delivery factors like quality of products when delivered at home and quality of product packaging when delivered mostly satisfied the consumer.
-) All other factors of delivery, repair warranty, installation, and warranty were neutral satisfaction within the consumer.
-) The dealer-controlled delivery factors ($r=0.742$ or 74.20%) shows a fairly positive (strong) relationship with customer satisfaction.
-) There exists a fairly weak relationship between dealer-controlled dealer repair outside warranty ($r=0.391$ or 39.10 %) and customer satisfaction.
-) The company-controlled post-delivery installation factors ($r=0.634$ or 63.40%) shows a fairly positive (strong) relationship with customer satisfaction.
-) The company-controlled post-delivery warranty factors ($r=0.513$ or 51.30%) shows a fairly positive (strong) relationship with customer satisfaction.
-) The delivery factors (C1, $b = 0.766$) is statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.000$)

-) The dealer-repair outside warranty (C2, $b = 0.015$) is not statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.702$)
-) The installation factors (C3, $b = 0.097$) is not statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.209$)
-) The warranty factors (C4, $b = 0.231$) is statistically significant ($p < 0.01$ or 0.05 i.e. $p = 0.000$)

Chapter – 4

Summary and Conclusion

4.1 Summary of the Study

The study proposes a framework for after-sale service – customer satisfaction. The context of the study was consumer durables electronics appliances. The study tests the interrelationship between after-sales service attributes (delivery, installation and warranty) and customer satisfaction. It attempts to highlight the role of customers in determining the strategies and of service design. When a customer complains, the actual value of business will probably decline, since the expected future earning from that customer may decline. It may be argued that a company's current sales and profit figures may not be the most suitable measure of success of their business. If customers experience high quality of service then they are likely to purchase services from the provider and recommend the service to others. On the other hand, unsatisfied customers may shift to other providers and also based on their experience may also discourage other to subscribe to the service. More importantly, these value transactions (creation or destruction) cannot be captured in simplistic financial analysis.

The study highlights the effects of after-sales' attributes on customer satisfaction. In chapter 2, the author reviewed the empirical literature, business trends, after-sales service strategy on after-sales service and customer satisfaction. The conceptual model and the hypotheses were discussed in chapter 2. In Chapter 3, justifies and explains the research methods and designs used in the study. The statistical tools and techniques that are deployed for data analysis are explained, and validity and reliability issues are also addressed. And finally in Chapter 4, the empirical data derived from the survey was used to test the hypotheses proposed in Chapter 2. The empirical findings confirmed that the relationship between after-sales service attributes and customer satisfaction.

The proposed conceptual model can be easily adopted by a broad range of industries for customer experience management (CEM), customer relationship management (CRM), strategic planning, resource allocation, and decision making processes.

4.2 Conclusion

The aim of this study was to identify the factors of after-sales service that affect customer satisfaction in the context of consumer durables electronic goods market so as to help the companies competing in this sector to determine which aspect of after-sales service require more focus and investment. In order to meet the aim of this research work, the following research issues objectives as well as were pursued:

Table 4-56: Summary of Research Issues

S. No.	Research Issues
(1)	What variables under dealer-controlled delivery factors, dealer-controlled dealer repair outside warranty, company-controlled installation factors, and company-controlled warranty factors affects customer satisfaction?
(2)	What relationship exists between delivery and its impact on customer satisfaction?
(3)	What relationship exists between installation and its impact on customer satisfaction?
(4)	What relationship exists between warranty and its impact on customer satisfaction?
(5)	What are the possible reactions available for a customer after experiencing the after-sales service?

Table 4-57: **Summary of Research Objectives**

Objectives of this Study
(a) To identify the relationship between warranty and customer satisfaction
(b) To examine the relationship between delivery and customer satisfaction
(c) To explore the relationship between installation and customer satisfaction

From the statistical result, it was found that dealer- controlled delivery, and company-controlled warranty to be significantly related to customer satisfaction whereas dealer controlled repair outside warranty and dealer control installation to be not significantly related to the customer satisfaction. All of these factors are important in delivering an acceptable after-sales service performance that will be able to make the customer satisfied and delighted. The following section provides an explanation for the research issues and also shows the entire hypotheses to achieve the purpose of the study:

4.1.1 Research Issue 1: What sub variables under dealer-controlled delivery factors, company-controlled installation factors, and company-controlled warranty factors affects customer satisfaction?

On the basis of descriptive analysis, the top three sub variables under dealer-controlled: (i) Reliability in delivery times; (ii) Transfer of product at consumer place; and (iii) Reception of proper invoice/delivery papers, were mostly concerned by the consumer for their satisfaction.

Under company-controlled installation: (i) Advice and demo/instructions given by technician; (ii) Attentiveness of Installation personnel to avoid damage; and (iii) Accurate information about installation, were concerned by the consumer and had impact on customer satisfaction.

Similarly, (i) Company response to complaints; (ii) Time taken to rectify failed item; and (iii) Chance of repeat complaint were mostly concerned factors by the consumer under company-controlled installation.

4.1.2 Research Issue 2: What relationship exists between delivery and its impact on customer satisfaction?

To understand the relationship between delivery and customer satisfaction, the relationship was based on correlation analysis. Similarly, to find out its impact on customer satisfaction following hypotheses were developed and tested:

Table 4-58: Statistical Summary of Research Issue 2

Hypothesis: One & Two			
	Statements	Remark	Correlation
H1 ₀	There is no significant difference between dealer-controlled delivery factors towards customer satisfaction.	Reject	0.742
H2 ₀	There is no significant difference between dealer-repair warranty factor towards customer satisfaction	Support	0.391

A research conducted in Malaysian market, it was found that delivery to be significantly related to the customer satisfaction (Shaharudin, Yusof, Elias, & Mansor, 2009).

The first objective of this study was to understand the relationship between delivery and its impact on customer satisfaction. The correlation ($r = 0.742$ indicating close to 1) shows that there exists a strong and positive relationship between dealer controlled delivery factors and customer satisfaction. And there is significant positive difference between dealer – controlled delivery factors towards customer satisfaction. Similarly, the correlation ($r = 0.391$) shows that there is a weak positive relationship between two variables i.e. dealer repair outside warrant factor and customer satisfaction in after-sales service. And

there is no significant difference between dealer-repair warranty factors towards customer satisfaction.

A good delivery system always derived from pull strategy where demand ‘pulls’ rather than ‘pushing’ the product through marketing channels to final customers. Customers require products to be delivered at the right place, time and at the right price. However, companies often pay too little attention to their distribution channels, sometimes with damaging results (Kotler and Armstrong, 2010).

4.1.3 Research Issue 3: What relationship exists between installation and its impact on customer satisfaction?

To understand the relationship between installation and customer satisfaction, the relationship was based on correlation analysis. Similarly, to find out its impact on customer satisfaction following hypotheses were developed and tested:

Table 4-59: Statistical Summary of Research Issue 3

Hypothesis: Three		
Statement	Remark	Correlation
H ₃₀ There is no significant difference between company-controlled post-delivery installation factors towards customer satisfaction	Support	0.634

The second objective of the study was to understand the relationship between installation and customer satisfaction. Research conducted by Shaharudin et al., (2009), it was found that installation to be significantly related to the customer satisfaction. There exists a fairly strong and positive relationship between post-delivery installation factors towards customer satisfaction. And there is no significant difference between company-controlled post-delivery installation factors towards customer satisfaction.

Apparently such circumstances can threaten to the existing seller-consumer relationship. Furthermore, factor such as the flawlessness of the installation process has an influence on customer satisfaction because it can reduce damages to the product as well as assurance for the product quality and reliability. Moreover, the installation task was carried out by an experience and expert employee of the company provider, thus creating delight and satisfaction post purchase environment. Manufacturers and retailers of capital and consumer goods cannot consider their active roles have ended with the sale (Levitt, 1983), but rather must provide their customers with a set of supporting after-sales services, such as installation packages, technical advice for use, maintenance/repair, spare parts delivery, product upgrading, etc.

4.1.4 Research Issue 4: What relationship exists between warranty and its impact on customer satisfaction?

To understand the relationship between warranty and customer satisfaction, the relationship was based on correlation analysis. Similarly, to find out its impact on customer satisfaction following hypotheses were developed and tested:

Table 4-60: Statistical Summary of Research Issue 4

Hypothesis: Four		
Statement	Remark	Correlation
H ₄₀ There is no significant difference between company-controlled post-delivery warranty factors towards customer satisfaction.	Rejected	0.513

Similarly, research conducted in Malaysian market, it was found that warranty to be significantly related to the customer satisfaction (Shaharudin, Yusof, Elias, & Mansor, 2009). The third objective of the study was to understand relationship between company-controlled post-delivery warranty factors and customer satisfaction. The correlation ($r = 0.513$) shows a fairly strong and positive relationship between warranty and customer satisfaction. And there is

significant difference between company-controlled post-delivery warranty factors towards customer satisfaction.

Lastly, offering better warranty terms convey greater assurance to buyers and can result in greater sales. Failure to deliver proper warranty service can have a negative impact on sales and hence negate the reasons for offering the warranty in the first place. This implies that product warranty logistic is very important from customer satisfaction as well from the manufacturer's profitability point of view (D. N. P. Murthy et al., 2004).

4.1.4 Research Issue 5: What are the possible behavioral reactions available for a customer after experiencing the after-sales service?

The study examines the relationship between after-sales services, customer satisfaction and to some extent customers' behavioral intentions. Based on the main findings of the literature review in the retailing context, it comes out that after-sales service quality affect satisfaction, which in turn affects behavioral intentions (Fazlzadeh, Bagherzaeh, & Mohamadi, 2011, pp. 7658-7664).

The study findings suggest that consumer will not prefer to buy the same brand in experiencing a poor after-sale service experience – re-purchase intention. And also, they will not suggest other (family, relative and friends) to buy the same brand – negative word-of-mouth.

Therefore, after-sales service is clearly important in satisfying consumer needs, an important factor in creating long term profitable relationship with the customer. After-sales may generate more than three times the turnover of the original purchase during a given product's life-cycle, and often provides profitability higher than product sales (Alexander, Dayal, Dempsey, & Vander Ark, 2002).

4.3 Future Research

This study has provided us with an idea of finding out factors in after-sales service that affect customer satisfaction and also after-sales service advantages which encourage firms for using it. It also tried to analyze factors, which helps a firm to have more effective service. We believed that this is a very vast and appealing topic, which can be, analyzed more from different angles for future research.

Further, what remains open is how the current framework could be applied to other after-sales services. So, the current focus on “delivery”, installation”, and “warranty” can give rise to new approaches to service quality aspects as well as to the services subject overall. This is because, the particular study is focused on three particular after-sales services, but a long cue of other services with notable value to the overall service is remaining unexplored. A comparison of the relevance of the different kinds of after-sales services to different product classes and to different business fields should create the necessary theoretical ground which in turn could be extended to other important constructs like this of “trust”.

It may be also useful to study customer satisfaction over time and apply a longitudinal design allowing extracting important conclusions regarding the dynamics of the relationship. Besides, another notable research extension is to investigate the interrelationships between the after-sales services and consequently their relative contribution to constructs like satisfaction, service overall value, usage of after-sales service in branding, effects of after-sales service on firms profit etc. As Brandy and Cronin (2001, pp. 34-49) also mention “there is a notable lack of discriminant validity between measures of perceived service quality and customer satisfaction”.

Finally, although the particular product setting can be characterized as quite interesting due to its high-involvement character, other product sectors with

differences regarding the customer involvement or effort required are also of high interest for further investigation. The discussion of the findings can be particularly relevant for services where that are “referral-driven” such as personal care or healthcare where after-sales services seem to be the proper vehicles for an effective referral management system.

4.4 Recommendation

It may be possible to draw conclusions from the results of the research and even to establish sound forecasts and predictions. It is up to the expertise of marketing management, however, to use the information effectively. To do this, it is necessary to go back to the research objectives (Table 5-1).

Practically this study will benefit the managers of organization related to home appliance industry; they can check customer trend towards after-sales service attributes like delivery, installation, and warranty. From this, they can see what mostly influence customer satisfaction and what should be properly valued. Future study may focus on factor like customer needs in after-sales service, customer loyalty etc. that enhance customer satisfaction. Due to limited time, all the areas of after-sales service attributes were not able to studied, that is why in this study researchers only considered some measureable characteristics of after-sale service that affects customer satisfaction.

Firstly, it is important that the company to adopt a good after–sales service management to enhance the effectiveness and efficiency to serve the customer. For example, by implementing extensive customer relationship management (CRM) with sophisticated software and analytical tools, this can help to integrate customer information and build stronger capabilities in delivery, installation and warranty.

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

possible as to meet the needs and wants of the customer. A good distribution system is required to ensure that the product can reach the customer at the right time and place.

Thirdly, pertaining to installation, the company must always train their staff to give cohesive and reliable services to the customers. Here, a good attitude towards working together throughout the installation process with the customer is needed so that the customer will be happy and delighted with the service.

Fourthly, there is a need to respond within a reasonable and acceptable period to the customer regarding the warranty claim. The company should not delay the claim made by a customer and try to fulfill its promises either by repairing or by replacing with a new product.

Fifthly, continuous improvement is required through integrated functional activities in order to produce high quality products that in turn can lead to customers' high satisfaction and confidence.

Finally, feedback from customer about the quality and service of the product is essential to convert the product line and service according to needs and wants of customers. All departments be it Marketing, Finance, Operations and Human Resource must work together to achieve the mission, vision and objectives of the company.

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Appendix A

Questionnaires

Dear Respondent;

*In this survey, we aim to measure the **After-Sales Service and Customer Satisfaction: A Study in the Context of Consumer Durables Electronic**. This survey is undertaken as a part of curriculum for the partial fulfillment of the requirement for the course on **Research Methodology** for the degree of **Master of Business Administration**. This questionnaire have been divided into two parts I & II.*

The information you will provide will help us better understand the overall scenario of customer satisfaction within the After-Sales Service. I, therefore request you to respond to the questions freely and honestly. Your contribution and valuable response will be highly appreciable and would be kept confidential.

PART I: CONSUMER SURVEY FOR ANALYZING THE MOST IMPORTANT PARAMETERS FOR SELECTION OF APPLIANCES

S. No.:.....

Area/City:.....

CUSTOMER PROFILE

Please tick only one of () the option that is most appropriate for you.

1. Which of the following categories do you belong to?

Single, Living Alone	<input type="checkbox"/>	Nuclear Family, Small kids	<input type="checkbox"/>
Single, Living with friends	<input type="checkbox"/>	Nuclear Family, grown up children	<input type="checkbox"/>
Couple (Single Income)	<input type="checkbox"/>	Nuclear Family, Retired Couple	<input type="checkbox"/>
Couple (Double Income)	<input type="checkbox"/>	Joint Family	<input type="checkbox"/>

2. How much is your monthly expenses (Rs.)?

Below 10,000	10,000- 20,000	20,000- 30,000	30,000- 40,000	40,000- 60,000	Above 60,000
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What is your annual income level?

Below 1 Lakh	1-2 Lakh	2-3.5 Lakh	3.5-5 Lakh	5- 7 Lakh	Above 7 Lakh
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Do you have an electronic appliance in your house?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If yes, which Products do you have in?

TV	LCD	AC	DVD P	MOBILES	REFRIGERATORS	WM	MO

Other (s),.....

5. When did you buy your latest appliances?

In Last 6 months	Last 6 months – 1 year	1-2 years back	More than 2 years back

6. Are you aware of all the function of your latest electronic appliances?

Yes	No

If no, what is the reason behind?

- (a) You know all the functions related to appliances
- (b) Not interested in knowing the functions of related appliances
- (b) Dealer / Sub-dealer too don't know the functions of appliances
- (c) Will learn at the time of operation
- (d) Other (s), Please specify:

7. Who made the final purchase decision for the latest appliances?

Wife	Husband	Kids	Grandparents

8. Are you satisfied with performance of the product?

Yes	No

9. Immediately, after the purchase of the product, have you faced any problems regarding the usage of appliance?

Yes	No

If yes, what was the next step you look for?

- (a) I called the seller to know the procedure.
- (b) I asked the help from my friend or neighbor.
- (c) I read the product catalog to know about the using product.

10. Do you read or refer the product catalog before using the product after immediate purchase?

Yes	No

If yes, are you able to understand the information for proper use and maintenance of the product?

Yes	No

If no, what is the reason?

- (a) I already knew everything about the product.
- (b) I am an expert at using technical products.
- (c) I was already been well explained by the sales people.
- (d) I had used the similar product before.

11. What makes the product catalog not easily understandable?

- (a) The language in the catalog.
- (b) Font is not readable.
- (c) Not explained clearly.
- (d) The code and symbols are not understandable.
- (e) What I needed to know was not mentioned.

12. What about the warranty card, do you make an effort to read it before purchase?

Yes	No

If no, when do you actually go through the warranty card?

- (a) After making a purchase and getting home.
- (b) When I have to go for servicing.
- (c) Where there is some technical problem in the product.

(d) When my product stops functioning.

(e) When I think service is free of cost, and after getting it done I come to know, it is not.

13. Did you ever face any problem when you were using the product?

Yes	No

If yes, what was your next step?

(a) I called the Toll free number.

(b) I called the seller from where I bought the product.

(c) I called our family technician.

(d) I called the service center which was mentioned in warranty card.

14. What was the problem?

(a) Problem in appliances.

(b) Product broke down technically.

(c) Inefficient to produce expected or promised result.

15. How was the problem resolved?

(a) Through replacement of product with new one.

(b) Through replacement of spare parts.

(c) Through technicians help.

16. Did you make a re-complaint, when your problem was not solved satisfactorily?

Yes	No

17. Was the problem then handled properly?

Yes	No

18. Would you like to re-purchase the same brand again?

Yes	No

19. Would you suggest others to buy the same brand?

Yes	No

PART II: CUSTOMERS' SURVEY FOR ANALYSING CUSTOMER SATISFACTION IN AFTER-SALES SERVICE OF ELECTRONIC APPLIANCES

1. Rate Overall Customer Satisfaction in After-Sales Service

1=EXCELLENT	2=GOOD	3=MODERATE	4=POOR	5=VERY POOR

FACTORS	ASPECT OF AFTER-SALES SERVICE	1	2	3	4	5
DELIVERY	Reception of Proper Invoice/Delivery Papers					
	Transfer of Product to your place					
	Reliability in Delivery Times					
	Quality of Product when delivered at home					
	Quality of the product packaging when delivered					
INSTALLATION	Accurate Information about installation					
	Time elapsed between delivery and installation					
	Attentiveness of installation personnel to avoid damage					
	Advice and demo/instructions given by technician					
WARRANTY	Company response to complaints					
	Time taken by company to respond to complaints					
	Chance of repeat complaint ; satisfaction after complaint resolution					
	Response time to attend warranty claim					
	Time taken to rectify failed item					

	Ready Availability of Spare Part					
	Dealer Repair Quality outside warranty Claim					

2. Rate the following aspects of after-sales service on a scale of 1-5, in terms of your/customers' satisfaction. (1=Extremely Satisfied; 2=Satisfied; 3=Neutral; 4=Less Satisfied; 5=Unsatisfied)

Personal Information:

Gender: Male () Female ()

Personal Information:

Gender: Male () Female ()
Age Under 30 years 30 – 50 years Above 50 years

Group:

Education: Certificate Level () Intermediate/(+2) Bachelor () Masters ()
PhD ()

Occupation:

Thank You.