



**WOLLEGA UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

**EFFECTS OF SERVICE QUALITY ON CUSTOMER SATISFACTION:  
IN CASE OF LIMU WOREDA PUBLIC HEALTH CENTERS, EAST  
WOLLEGA, OROMIA NATIONAL REGIONAL STATE**

**BY**

**GEBEYEHU GUDETA HULUKA**

**August, 2020**

**Nekemte, Ethiopia**



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**MA. RESEARCH THESIS**

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**August 2020**

**Nekemte, Ethiopia**

## **AUTHOR'S DECLARATION**

I hereby declare that the thesis entitled “Effects of Service Quality on Customer Satisfaction” the case of Limu Woreda Public Health Centers, East Wollega, has carried out by me under the guidance and supervision of **Professor.Ramasamy Kuselar**. This thesis is original and has not been submitted for the award of any degree or diploma to any university or institutions.

Researcher Name

**Gebeyehu Gudeta Huluka**

Signature \_\_\_\_\_

Date \_\_\_\_\_



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## **ABBREVIATIONS AND ACRONYMS**

**EHSDP:** Ethiopian Health Strategy Development Program

**BPR:** Business Process Reengineering

**BSC:** Balanced Score Card

**HSDP:** Health Service Development Program

**NBRI:** National Business Research Institute

**OPD:** Out Patient Department

**SERVQUAL:** Service Quality

**SERVPERF:** Service Performance

**SPSS:** Statistical Packages for Social Sciences

**UNDP:** United Nations Development Program

**PHC:** Primary Health Care

**PHCU:** primary HealthCare Unit

**MOH:** Ministry of Health

**WHO:** World Health Organization

**HSDP:** Health Sector Development Plan

**NBRI:** National Business Research Institute

**CLRM:** Classical Linear Regression Model

**AIDS:** Acquired Immune Deficiency Syndrome

## TABLE OF CONTENT

Content	Pages
<b>ACKNOWLEDGMENTS</b> .....	<b>i</b>
<b>ABBREVIATIONS AND ACRONYMS</b> .....	<b>ii</b>
<b>TABLE OF CONTENT</b> .....	<b>iii</b>
<b>LIST OF TABLES</b> .....	<b>vi</b>
<b>LIST OF FIGURES</b> .....	<b>vii</b>
<b>LIST OF FIGURES APPENDIX</b> .....	<b>viii</b>
<b>ABSTRACT</b> .....	<b>ix</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 Background of the Study .....	1
1.2 Statement of the Problem.....	5
1.3 Objectives of the Study.....	7
1.3.1. General Objectives.....	7
1.3.2 Specific Objectives .....	7
1.5 Significance of the Study .....	9
1.6 Scope of the Study .....	9
1.7 Limitation of the Study .....	10
1.8 Conceptual Definition of terms.....	10
1.9 Organization of the Study .....	12
<b>CHAPTER TWO</b> .....	<b>13</b>
<b>REVIEW OF RELATED LITERATURE</b> .....	<b>13</b>
2.1 Theoretical Literature Review .....	13
2.1.1 The Service World .....	13
2.1.2 Service Quality.....	16
2.1.4 Service Quality and Customer Satisfaction .....	24
2.1.5 Measuring Patient/customer Satisfaction in Medical Services .....	26
2.2 Empirical Literature Review.....	28
2.2.1 Empirical Literature Review in Worldwide.....	28

2.2.2 Empirical Literature Review in Africa .....	29
2.2.3 Empirical Literature Review in Ethiopia .....	31
2.3 Conceptual Framework.....	32
<b>CHAPTER THREE .....</b>	<b>34</b>
<b>RESEARCH DESIGN AND METHODOLOGY .....</b>	<b>34</b>
3.1 Research Design.....	34
3.2 Description of the Study Area.....	34
3.3 Population of the Study.....	35
3.3.1 Target Population.....	35
3.4 Sample Size and Sampling Technique.....	36
3.4.1 Sample Size.....	36
3.4.2 Sampling Technique .....	36
3.5 Source of Data and Collection Techniques.....	37
3.5.1 Source of Data.....	37
3.5.2 Methods of Data Collection .....	37
3.6 Procedures of Data Collection .....	38
3.7 Validity and Reliability Test.....	38
3.7.1 Validity .....	38
3.7.2 Reliability.....	38
3.8 Method of Data Analysis .....	39
3.9 Ethical Considerations .....	41
<b>CHAPTER FOUR.....</b>	<b>42</b>
<b>ANALYSIS OF DATA PRESENTATION AND DISCUSSION.....</b>	<b>42</b>
4.1 Response Rate.....	42
4.2 Demographic Information of the Respondents .....	42
4.2.2 Age of Respondents .....	43
4.2.3 Educational Status of the Respondent.....	44
4.2.5 Payment Status.....	45
4.2.6 Reason for Visit .....	46
4.2.7 Frequency of Visit.....	46
4.2.9 Travel Time Taken to Reach the Health Center .....	47

4.3 Descriptive Analysis of the Study Variable.....	48
4.3.2 Mean and Standard Deviation of Responses on Responsiveness .....	50
4.3.4 Mean and Standard Deviation of Responses on Assurance.....	51
4.3.5 Mean and Standard Deviation of Responses on Tangibility.....	51
4.3.6 Mean and Standard Deviation of Responses on Accessibility.....	52
4.3.7 Mean and Standard Deviation of Response on overall Service Quality Dimension .....	52
4.3.9 Frequency and Percentage Description of Overall Customer Satisfactions .....	55
4.4 Pearson Correlation Analysis.....	55
4.5 Results for Classical Linear Regression Model (CLRM) Assumption.....	58
4.5.1 Model Assumption.....	58
4.6 Multiple Regression Analysis .....	60
4.6.1 Test Result for Significance of the Model .....	60
4.7 Discussion of Results .....	67
<b>CHAPTER FIVE .....</b>	<b>70</b>
<b>SUMMARY OF MAJOR FINDING, CONCLUSION AND RECOMMENDATIONS 70</b>	
5.1 Summary of Major Findings.....	70
5.2 Conclusion .....	73
5.3 Recommendations.....	74
5.4 Direction for Future Research.....	76
<b>REFERENCES.....</b>	<b>77</b>
APPENDIX.....	82
APPENDIX A.....	82
APPENDIX B .....	92

## LIST OF TABLES

Table 3 1: Distribution across target population.....	36
Table .3 2: Reliability Statistics .....	39
Table 4.3: Gender of Respondents.....	43
Table 4.4: Age of Respondents .....	43
Table 4.5: Educational Status Distribution of Respondents .....	44
Table 4.6: Occupational Status of Respondents .....	45
Table 7: Payment Status Of Respondents .....	45
Table 4.8: Reason For Visit of Respondents .....	46
Table 4.9: Frequency Visit of Respondents .....	46
Table 4.10: Residential Area of Respondents.....	47
Table 4.11: Respondents Travel Time Taken to Reach the Health Center.....	47
Table 4.12: Shows the Mean Score Standard .....	48
Table 4.13 : Descriptive Statistics of Reliability .....	49
Table 4. 14: Descriptive Statistics of Responsiveness.....	50
Table 4.15: Descriptive Statistics of Empathy.....	50
Table 4. 16: Descriptive Statistics of Assurance .....	51
Table 4. 17: Descriptive Statistics of Tangibility .....	51
Table 4.18: Descriptive Statistics of Accessibility .....	52
Table 4.19: Descriptive Statistics for Overall Service Quality Dimension s.....	52
Table 4.20: Descriptive Statistics of Overall Customer Satisfaction.....	54
Table 4. 21: Shows Frequency and Percentage of Customer Satisfaction.....	55
Table 4.22: Correlation Matrix between Service Quality Dimension and Customer Satisfaction.....	56
Table 4.23: Normality Distribution Test.....	58
Table 4.24: Multi-Collinearity Test .....	59
Table 4.25: ANOVA Regression for Significant of the Model .....	60
Table 4.26: Model Summary of Regression .....	61
Table 4.27 : Regression Coefficients <sup>a</sup> .....	62
Table 4.28: Decision on Research Hypotheses.....	65

## LIST OF FIGURES

Figure 1: Conceptual Framework .....	33
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## **LIST OF FIGURES APPENDIX**

Appendex Figure 1: Normality Distributions Test Graphically .....	92
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## ***Abstract***

*The purpose of the study was to examine the effects of service quality on customer satisfaction in Limu Woreda public health centers. The study used Servperf model of service quality with the application of the six service quality dimensions (reliability, responsiveness, empathy, assurance, tangibility and accessibility) and the model directly measures the customer's perception of service performance. To achieve the objectives of the study, the researcher used explanatory research design and quantitative approach. Primary data collected through closed ended questionnaire from a respondent of 197 public health centers customers. The respondents were selected using convenience sampling techniques. The data collected from the respondents were analyzed using descriptive and inferential statistics. The results of the study finding shows, accessibility followed by reliability was the most important predictor that affect positively and significantly customer satisfactions. Moreover, all the six service quality dimensions have positive and significant relationship with customer satisfaction. Similarly, the finding illustrates the six service quality dimensions have positive and significant effect on customer satisfaction. Furthermore, the all service quality dimensions explain 95.1% of the variance in customer satisfaction. The finding also indicates all service quality dimensions and customer satisfactions are fell in the range of moderate statistical mean values which shows 60.91% of customers were satisfied, while, 21.32% of respondents were dissatisfied. Based on findings the study concluded that there was a gap which the health centers management shall be expected to do and actually done. Based on all the above the researcher forwards some recommendation to the managements of the health centers; intended to focused and work mainly on accessibility and reliability. Moreover, the health centers management advisable to pay more attention and plan to improve the gap by changing the way the services are offered, modifying the content and making the overall service quality delivery to properly suit the customers' needs, in order to enhance customer's satisfaction.*

***Keywords:*** *Reliability, Responsiveness, Empathy, Assurance, Tangibility and Accessibility*

# CHAPTER ONE

## INTRODUCTION

The aim of the study is to examine the effect of service quality on customer satisfaction in terms of Limu Woreda public health centers. This is emphasis on service quality dimension (reliability, responsiveness, empath, assurance tangibility and accessibility), and customer satisfactions. Service quality is the key factors for survival of organizations in the global economy. Organizations are undergoing a shift from a service/product-led philosophy to a customer-focused approach. Service quality is a determinant of customer satisfaction, because service quality comes from outcome of the services from service providers in organizations (Cronin & Taylor, 1992). In the health care sector, customer satisfaction is an important issue as in other service sectors. A health care organization can achieve customer satisfaction by providing quality service. Customer satisfaction and efficient service quality delivery in healthcare is the major concern of health organization improvement and development. Therefore, service quality and customer satisfaction are an important element to every organization and to existence.

Accordingly, this chapter specifically provides an introductory part which included back ground of the study, Statement of problem, objectives of the study, research hypothesis, significant of the study, scope of the study, limitation of study, Conceptual definition of terms and at the last organization of the study is explained.

### **1.1 Background of the Study**

Customer satisfaction is a subject of great interest to organizations and researchers alike. The main objective of organizations is to maximize profits by minimize cost and also go beyond that; it has a positive social outcome as well, to progresses public life excellence. Profitability can be achieved through increase in sales with lesser costs, decreases customer defection and enhances customer constancy. This factor can help to increase customer satisfaction, because satisfaction leads to customer loyalty (Wilson *et al.*, 2008: 79), recommendation and repeat purchase. Customer satisfaction is the core concern of business sectors of today, their researchers are always conducting a research about the customers especially on what relates

to their satisfaction. This is recognized by the businesses that improving service quality is an essential strategy for success and survival in today's competitive economic environment. It is apparent from the literature that the provision of high service quality enables a company to be competitive and, contributes to their productivity and profitability. It increases cash flow and shareholder value, gives businesses a better chance of success, enhances customer satisfaction, increases the willingness of customers to positively talk about the service provider, and enhances customer loyalty (Bateson & Hoffman, 2011:326;). The benefits of high service quality also exceed an economic indicator in that; it improves communities' quality of life (Dagger & Sweeney, 2006:12; Lee *et al.*, 2007:2; Young, 2008:4). So, the evaluation of service quality leads to customer satisfaction (Geetika, 2010, p. 98).

In the globalized and liberalized business environment, service sector is encountering stiff competition to meet the requirements of the profitable ways of business. This is reflected in an organization's survival in terms of return on investment, retention of customers, acceptance of service and service qualities, development and augmentation of brand image etc. It appears that the driving force towards success in service business is the delivery of quality service (Thompson *et.al.*, 1985). In the era of increased competition, enhancement of service quality and its measurement is one of the significant issues for developing efficiency and the growth of business (Anderson and Zeithamal, 1984; Babakus and Boller, 1992; Garvin, 1983). According to Oliver, (1980), in both the service and manufacturing industries, quality improvement is the core factor that affects customer satisfaction and increases purchase intention among consumers. Some other theorists also mentioned that the quality is the key determinant of consumer satisfaction (Omar and Schiffman, 1995; Gremler *et.al.*, 2001). Many companies are focusing on service quality issues in order to drive high level of customer satisfaction (Kumar *et.al.* 2008). Customers are the sources of profits for a profit making organizations, and also, customers are the prime reason for non- profit making organizations or Public organizations to exist and operate.

Customers and their satisfaction are therefore, considered as the backbone of any organization. In view of its significant relationship to profit, cost saving and market share (Devlin and Dong, 1994). The researches shows that good service quality leads to the retention of existing customers and the attraction of new ones, reduced costs, an enhanced

corporate image, positive word-of-mouth recommendation and, ultimately, enhanced profitability (Cronin et al, 2000; Kang and James,2004). A number of studies have addressed the relationship between service quality and customer satisfaction. It is generally believed that higher levels of service quality lead to higher levels of customer satisfaction (Kang and James, 2004; Pollack, 2008).

Health sector is one of the public organization which providing services for the citizens. Healthy citizens are the basis of the overall progress and development of any national economy. Hence, it is very important to understand and know their customers' expectations on service quality in health care. Customers have become more aware of quality issues and need health care to become safer and of higher quality (Waju *et al.*, 2011). In the health care sector, customer satisfaction is an important issue as in other service sectors (Shabbir *et.al.*2010). A health care organization can achieve patient satisfaction by providing quality services; keeping in view patients'/clients expectation and continuous improvement in the health care service quality (Zineldin, 2006).

It is become necessary for hospital/health centers managers to understand and measures patients' perceptions and service quality gaps in order to identify and suitably address if there is any perceived gap in delivering quality services taking in to consideration the resource constraints under which hospitals/health centers must function. Keeping in mind the competitive market it has now a day's become important to demonstrate that hospital/health centers services are customer-focused and directed towards providing best possible medical care to the client of the health sectors (Pakdil & Harwood 2005). Therefore, the importance of patient's expectations in service quality delivery evaluation is widely acknowledged. The quality of health services is central to improving the health status of the population. In addition, satisfying customer/patients and clients is the primary goal of the government's reform programme, including the change instruments like BPR, BSC, kaizen. Currently, measuring client/customer satisfaction has become an essential part of health care service center management strategies across the globe (Fekadu, Andualem and Yohannes, 2011).

As we are one segment of our world, we need to adopt such good practices of the globe. So that, the current Ethiopian Health Strategy Development Program /EHSDP, (2010) focuses

on fair access to health services by all people throughout the country, with special emphasis on prevention and the control of common diseases, self-reliance and community participation. Accordingly, EHSDP (2010), the recently implemented BPR of the health sector introduced a three-tier health care service delivery system which is characterized by:

- ☛ The first level in the tier is a Woreda health system comprising a primary hospital with population coverage of 1: 60,000-100,000 people, health centers 1: 15,000-25,000 populations and their satellite Health Posts 1: 3,000-5,000 population that are connected to each other by a referral system. A Primary Hospital, Health Center and Health Posts form a Primary Health Care Unit (PHCU), with each health center having five Kebele health posts.
- ☛ The second level in the tier is a general Hospital provides inpatient and ambulatory services to an average of 1,000,000 people. It is expected to be staffed by 234 professionals. It serves as a referral center for primary hospitals. It is an inpatient capacity of beds and serves as a training center for health officers, nurses and emergency surgeon's categories of health workers.
- ☛ The third level in the tier is a specialized hospital serves an average of five million people. It is staffed by an average of 440 professionals. It serves as a referral general hospitals and has an inpatient capacity of beds.

According to Limu Woreda Health Office Annual Report, (2019) Limu Woreda has currently four (4) public health centers, and seventeen (17) kebele health post. Those of the health center found at the same level, and are expected to give the same services and categorized in the first level Primary Healthcare Unit (PHCU). Based on this, the study was conducted at Limu Woreda, on four health center; that the researcher has selected by purposive sampling technique as target area.

The purpose of the study was to close the gap that has seen at the area by deeply investigating the manifestation by review of the relevant literature to determining the service quality dimensions which enhances customer satisfaction and collecting data on it and analyzing the data to find the result and used to provide suggestions to the health centers by showing them how to maximize customer satisfactions. Therefore, in this paper the

researcher study focused on the effects of service quality on customer satisfaction in case of Limu woreda public health centers.

## **1.2 Statement of the Problem**

Delivering quality service is one of the vital roles of the public organization as customers expect it to the level that addresses their needs. Concerning the relationship between customer satisfaction and service quality, Oliver, (1993) suggested that service quality can be predecessor to customer satisfaction irrespective of whether these constructs are cumulative or transaction-specific. Some researchers have found empirical supports for the view of the point mentioned above, that Anderson & Sullivan, (1993), Fornell et al. (1960), and Spreng & Macky (1996); where customer satisfaction came as a result of service quality. Fen & Lian, (2005:59-60) found that both service quality and customer satisfaction have a positive effect on customer's re-patronage intentions showing that both service quality and customer satisfaction have a vital role to play in the success and survival of any business in the competitive market.

Thus, in Ethiopia various attempts like giving trainings and awareness, and implementing business process reengineering was made to improve the quality and efficiency of customer service quality delivery status in the service giving public organizations. However, public sectors in our country have unsuitable customer service implementations and lack the institutional capacity and resources to cope up with customer service challenges. Lack of commitments and attitude to serve their customers was also another big challenge.

Health sector is one of the public sectors which introduced various reforms to improve the quality and efficiency of customer service quality delivery status in the service giving public institution in Ethiopia. But there is still perceived unsatisfactory services quality rendered by the public health sectors in areas of care and treatment, relationship between customer and service providers, access and quality of service (Fekadu, *et al.*, 2011).

Several empirical studies were conducted in outpatient departments of different hospitals and health centers in Ethiopia and different countries to examine the effects of service quality on customer satisfaction and the studys revealed that:

As T. Sathiyaseelan, and W. K. A. C. Gnanapala, (2015) study shows the service quality contributes significantly to the patient's satisfaction. However, the patients' satisfaction is not significantly influenced by tangible dimension and other dimensions i.e. reliability, responsiveness, assurance and empathy statistically and significantly enhances the patients' satisfactions. Similarly, Rula Al-Damen, (2017) reports show that there was an impact of perceived health care service quality on overall patient satisfaction. Reliability has the most influence, followed by empathy and assurance. In addition to that M. Akderea *et al.*, (2018) study findings indicate that all five service quality dimensions of SERVPERF model are significantly related to overall service quality as well as the indicators of high hospital service quality in Turkey.

Moreover, Adhikaryet *et al.*, (2018) study result found that 63.2% of the participants were satisfied with the healthcare service they received. However, Patients attending the primary care facilities had the lowest level of satisfaction (i.e. 52%). Also, Umar *et al.*, (2011) study results revealed that more than half, (55 %) of the respondents are, satisfied with the services rendered to them in the hospital. In addition, Khamis and Njau, (2014) study results found that, Patients level of satisfaction mean gap score is indicating overall dissatisfaction with the quality of care.

Likewise, Birhanu, *et al.*, (2010) found that, 62.6% of the patients reported that they have been satisfied with their visit and also, a cross sectional study done by Fekadu, *et al.*, (2010) the overall client satisfaction level with the health services rendered at the hospital is 77%. However, Tume *et al.*, (2015) finding of the study show that the overall level of client satisfaction with the OPD rendered at four growing health centers is 57.9%.

As per the researcher effort to review the existing empirical study on the subject matter, there is insufficient evidence to prove the extent of effects of service quality on customer satisfaction in public health centers. As, the empirical researcher's studies reported on different hospitals and health centers, they have a methodological and empirical gaps and their studies finding result also not yet verified on the area.

Accordingly, depending on the above methodological and empirical gaps support the importance of investigating the effects of service quality on customer satisfaction in Limu

Woreda public health centers. Consequently, to fill the gap, the researcher used servperf model from the service quality dimensions' measurement, and also adds one (1) variable called accessibility (Parasuraman *et al.*, 1986:6-7) in addition to the original five quality dimensions, that a few researchers were separately used to study on this area, but the most important variable, especially for researcher's studies on service quality and customer satisfaction in healthcare in case of Ethiopians rural areas. Accessibility is the term used to denote the level of convenience involved in the arrangement and delivery of health care services and facilitates the customers ease to connecting healthcare service. The related research gap investigated by the study such as; reliability, responsiveness, assurance, Empathy, tangibility and accessibility of healthcare service that satisfy a customer as a separate and as overall service quality dimension under the study. This and the other mentioned above makes the researchers interested to study on the health sectors and used to answer the statements of the problem.

Therefore, the current study was expected to fill the existing gap by examining the effects of service quality on customer satisfaction in case of Limu Woreda public health centers.

### **1.3 Objectives of the Study**

The general and specific objective of the study is described as follows.

#### **1.3.1. General Objectives**

The general objective of the study was to examine the effects of service quality on customer satisfaction in case of Limu Woreda public health centers, East Wollega Zone Oromia National Regional State.

#### **1.3.2 Specific Objectives**

In line with the general objective, the research study includes the following specifics objectives.

1. To examine the effects of reliability on customer satisfaction in terms of Limu Woreda public health centers.
2. To determine the effects of responsiveness on customer satisfaction in terms of Limu Woreda public health centers.

3. To investigate the effects of empathy on customer satisfaction in terms of Limu Woreda public health centers.
4. To assess the effects of assurance on customer satisfaction in terms of Limu Woreda public health centers.
5. To determine the effects of tangibility on customer satisfaction in terms of Limu Woreda public health centers.
6. To examine the effects of accessibility on customer satisfaction in terms of Limu Woreda public health centers.

#### **1.4. Research Hypothesis**

In light of the objectives expressed above, the following hypotheses were investigated:

##### **Hypothesis 1**

Ho1: Reliability has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

##### **Hypothesis 2**

Ho2: Responsiveness has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

##### **Hypothesis 3**

Ho3: Empath has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

##### **Hypothesis 4**

Ho4: Assurance has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

##### **Hypothesis 5**

Ho5: Tangibility has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

##### **Hypothesis 6**

Ho6: Accessibility has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.

## 1.5 Significance of the Study

An improved and customer centric service quality delivery can end up in bringing the desired customer satisfaction. Customer satisfaction research projects aim to basically measure customers' perception on the quality and value of services they receive (Nelson & Steele, 2006). The organization conducting the research can use the knowledge gained from the research to improve its services by changing the way the services are offered, modifying the content and quality of the services to properly suit the customers' desires.

Customer satisfaction and efficient service quality delivery in healthcare is the major concern of health organization improvement and development. If there is a complex bureaucratic system and inefficiency in the hospital/health centers, the customer may not be satisfied with the service quality.

The outcome of this study therefore, it used as the fulfillment of academic requirement and assistances to develop an experience on how to conduct other research in the related area. Also, it helps the government and organization to identify effects of service quality on customer satisfaction in healthcare and used it as opportunities to fill in the literature and benefits the government to remain concerned on healthcare service quality delivery improvement. The study also, gives some information to the consumer about how service quality affects their satisfaction in healthcare.

## 1.6 Scope of the Study

The study is limited to content, theoretical, geographical and methodological scope:

- ❖ **In terms of content:** The study aims to examine the effects of service quality on customer satisfaction depends on the following variable only;
  - Dependent variable = customer satisfaction
  - Independent variable =Service quality dimension (Reliability, Responsiveness, Assurance, Empathy, Tangibility and Accessibility)
- ❖ **Theoretical scope:** The study conducted to examine the effects of service quality on customer satisfaction by using the servperf model, in measuring customer

perceptions on service quality dimension (Reliability, Responsiveness, Assurance, Empathy, Tangibility and Accessibility), neglecting other factors that could contributed to customer satisfaction.

- ❖ **Geographical scope:** The study conducted in Limu Woreda public health a centers which was located at East Wollega Zone, Oromia National Regional State.
- ❖ **Methodological scope:** The study used explanatory research design and quantitative research approaches. The study was done by collecting primary data through close ended questionnaire from 197 respondents, who have made at least one visit to the health centers. It includes customers/respondents of outpatient department aged of 18 years and above selected by convenience sampling techniques. The data was analyzed by descriptive and inferential statistics (Pearson correlation, multiple regressions) only. The collected data was coded and entered into software by using statistical package for social science (SPSS version; 24) for analysis.

## **1.7 Limitation of the Study**

In spite of the fact that effort is made to maintain the quality of the study in general and the data in particular, the following major limitations may be encountered:

As the method of primary data collection; only closed-ended questionnaires were used to collect the data from 197 outpatient customers/respondents of four public health centers presents at the Limu Woreda. The study does not assess the health personnel awareness on patients/customers' needs and a setup of the health center, customer who; cannot speak or listen (deaf), were in serious condition, have a mental health condition, and in-patients (on admission) and also below 18 years of age cannot include in the study. Because of its difficult to cover entire domain of all service quality dimension, time and finance it's not accessed just in one study.

## **1.8 Conceptual Definition of terms**

In order to avoid some ambiguities and individual interpretation of certain concepts used in the research, the researcher defined those concepts to be used below:

**Service:** It's performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production (Lovelock and wright, 1999).

**Service quality:** service quality considered as the difference between customer expectations of service and perceived service known as perceived service quality (Parasuraman *et al*, 1985; Kumar and Manjunath, 2012).

**Satisfaction:** in this study it means the perceived pleasurable experience of a customer after consumption of goods or services or attaining one's need or desire.

**Customers:** It's refers to patients or clients and specifically outpatients that regularly visit a health facility and pay money or free pay to receive medical care for their illness or service received from the hospital/health centers.

**HealthCare:** is the functional and non-technical aspect of health service delivery which emphasis on the human aspect of interaction between the health provider and the customers such as courtesies and friendliness of medical staff, treatment explanations, along with appearance of surroundings etc.in the delivering health care service.

**Reliability:** is defined as the ability to perform the promised service regularly and accurately. Promises about delivery, service provision, problem resolution, and pricing (Cronin & Taylor, 1992; Dash &Saxena, 2007).

**Responsiveness:** is the willingness to help customers and to provide prompt service. This dimension emphasizes attentiveness and timeliness in dealing with customer requests, questions, complaints and problems (Cronin& Taylor, 1992).

**Assurance:** is defined as employee's knowledge and courtesy and the ability of the health sectors and its employees to inspire trust and confidence (Cronin& Taylor, 1992).

**Empathy:** is defined as the caring, individualized attention which the health sectors provide for its customers. Through personalized or customized service, those customers are unique and special in which their needs are understood (Bitner and Hubbert, 1994).

**Tangibility:** is defined as the appearance of physical facilities, equipment, personnel, and communication materials of health facilities (Bitner and Hubbert, 1994).

**Accessibility:** is the term used to denote the level of convenience involved in the arrangement and delivery of health care services.

## **1.9 Organization of the Study**

The study is organized into five major chapters. The first chapter deals with the introductory parts of the study. The second chapter focuses on the theoretical and empirical review of related literatures. Chapter three deals with research design and methodology to be used. Chapter four focuses on analysis data, presentations and discussions of findings of the results, and Chapter five also deals with major summary, conclusion and recommendation.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

The main purpose of the review of related literature is to identify and examine what has done by other scholars in relation to the topic. This review also assists the researcher to limit the research problem and to define it better. Moreover, it used to form a framework within which the research findings could be interpreted and finally to overcome limitation of various study.

#### 2.1 Theoretical Literature Review

##### 2.1.1 The Service World

The service world expectations are well defined by service marketers as “*meeting or exceeding customer expectations*” (Kong, 1996, p. 6). Service managers have to manage these expectations in order to satisfy clients (Peters, 1988) customers that share the same values and expectations might be of help by offering possible market segmentation strategies as suggested by (Jeantrout, 1994). In order to improve the Service industry, marketers can match these two core concept namely;

1. Service quality
2. Customer satisfaction to market theory and practice

Today, there is an intense competition in the service industry and it is generally believed that the strategy to maintain a competitive advantage lies in delivering continuous high quality services to customers. The Service industry can be classified as equipment -based service firms, also known as institutional markets which consist of hospitals, nursing homes, schools and many more (Kotler P. ,2005). These firms sole purpose is to deliver quality service to consumers. A good example is the dry cleaning service industry. Another classification of the service industry is people-based service firms, where services do not rely only on equipment but involve a more professional and educational background somewhat similar to equipment-based firms, such as accounting, medical, law and management consulting firms.

Service is defined by Bowen and Chen, (2001) as a performance of activities; meaning a process of meeting clients, reporting, recording their data and communicating these activities through a series of performances. The service industry category includes tourism, health, banking, tertiary institutions, legal services and a lot of others. It can be intangibility, inseparability, perishability and heterogeneity in nature (Bitner M.J., 1998). This indicates that the gateway to customer satisfaction is provided through the delivery of quality services (Parasuraman. 1985).

### **2.1.1.1 Service Characteristics**

Most academics deliberate on the difference between goods and services from the view point of intangibility in proportion to the physical product, the tangibles (Locelock.J.E. & Roger.W Schmenner, 1992). Equally, few writers like Rust and Oliver, (1994) consider tangible and intangible service settings as the only characteristics of service quality instruments. Normann, (2000), interestingly termed service settings as the “*moment of truths*” (MOTs). However, there are some common characteristics of services that differentiate them from product characteristics (Keizer & Render 2007; Bergman, 1994). Service sector economy is described by Lovelock C., (1996) as almost going through “*revolutionary proportions*” since the established ways of operating a business continues to be shoved aside.

Service sector has a diverse characteristic which ranges from small businesses to larger organizations like hospital, banks, transport, insurance, telecommunication, universities and hotels to locally owned businesses like delivery service companies, (dentists, diet, optometrist, obstetrics) clinics, diagnostic laboratories, pharmacies, restaurants, repair shops, malls and many more (Lovelock, 1996). Many attempts have been made by Gronroos, (1983) towards defining service quality in terms of “*what is done*” and “*how it is done*”. While other researchers like Zeithaml, (1988), describes service quality as a customer’s overall evaluation of distinct excellence. The judgment stated above greatly depends on an individual’s perception. Parasuraman et al., (1985) supports the above statement by defining service quality as the difference between predicted customer perceptions and expectations from the service outcome. Also, He detailed that services have four key characteristics namely:

#### **2.1.1.1.1 Intangibility**

Services are termed intangible when they cannot be felt, tasted or seen. A good example comes from the services a hospital offers to its patients. These services cannot be touched by the patient as can be evidenced when comparing goods and services. Services cannot be accounted as inventory and it is difficult to manage (Zeithaml & Dwanye, 2006), but goods can. Service market managers should try to “*tangibilize*” their services. For instance, by making it less difficult to communicate to customers (Zeithaml & Mary, 2000).

#### **2.1.1.1.2 Inseparability**

The word separable means able to be separated or to be treated apart and inseparable means unable to be treated apart. It can be used to distinguish between objects or boundaries just as Lovelock. & Christopher, (1991), stated that the concept of inseparability involved individuals as part of the product. This means there is a simultaneous interaction in most services produced and consumed. For example, in some cases, services are to be paid for first by the customer before it is delivered and consumed at the same time. However, consumers should be present and even partake during service delivery. A surgeon can perform a surgical procedure when fees are paid and the patient is present throughout the operation. This link has to be established in order for a patient to share expected views with the service provider. In the case of an interruption, where the patient never meets the surgeon and there is no shared view, the service quality and customer satisfaction will highly depend on what happens during the healing process (Lovelock & Christopher, 1991)

#### **2.1.1.1.3 Heterogeneity**

There are no two patients who share the same expected view, experience and preferences. Human beings are diverse in character, implying that there are no two services perceived as exactly alike. People have different tastes at different times. Managers face a lot of challenges to satisfy just one client. Also the needs of a patient differ when it comes to gender, bodyweight, illness, social class and values. Zeithaml, Valerie & Dwanye, (2006), gave another reason for heterogeneity as a characteristic of service which supports the assumption that customers are distinct in their demands and ways.

#### **2.1.1.1.4 Perishability**

Services cannot be stored, resold or returned to the provider, but goods can be. A nurse cannot take back the services already delivered from the patient. Neither can a doctor resell or return the procedure to another patient (Zeithaml, 2006). The above characteristic implies that the health service market is very different and challenging from other service industry markets.

#### **2.1.2 Service Quality**

Quality is the keyword for survival of organizations in the global economy. Organizations are undergoing a shift from a production-led philosophy to a customer-focused approach. Competitiveness of a firm in the post-liberalized era is determined by the way it delivers customer service. Service quality is a concept that has aroused substantial interest and debate in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Wisniewski,2001). Firms with high service quality pose a challenge to other firms.

Organizations can build business excellence through quality control in services (Shahin, 2010). Again service quality considered as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman *et al.*, 1985), and (Lewis and Mitchell, 1990).

There is general agreement that the aforementioned constructs are important aspects of service quality, but many scholars have been skeptical about whether these dimensions are applicable when evaluating service quality in other service industries (Cronin & Taylor, 1992). This has more explanatory power than measures that are based on the gap between expectation and performance.

##### **2.1.2.1 Determinants of Service Quality**

The five basic dimensions of service quality in a wide range of service contexts have been identified in the pioneering research of Parasuraman *et al.*, (1987), through the SERVQUAL

model. The five basic dimensions defined in their research are considered to be the drivers of service quality, representing how consumers organize information about service quality in their minds.

These are:

**1. Reliability:** is defined as the ability to perform the promised service regularly and accurately. In the broadest sense, reliability means that the company delivers on its promises: promises about delivery, service provision, problem resolution, and pricing. Customers want to do business with companies that keep their promises about the service outcomes and core service attributes. Of the five dimensions suggested, reliability has been consistently shown to be the most important determinant of perceptions of service quality among U.S. customers (Cronin & Taylor, 1992; Dash & Saxena, 2007).

**2. Responsiveness:** is the willingness to help customers and to provide prompt service. This dimension emphasizes attentiveness and timeliness in dealing with customer requests, questions, complaints and problems. Responsiveness is expressed by the length of time they have to wait for assistance, answers to questions, or attention to problems. Responsiveness also captures the notion of flexibility and ability to tailor the service to customer needs. To excel on the dimension of responsiveness, a company must view the process of service delivery and the handling of requests from the customer's point of view rather than from the company's point of view (Cronin & Taylor, 1992).

**3. Assurance:** is defined as employee's knowledge and courtesy and the ability of the firm and its employees to inspire trust and confidence. This dimension is likely to be particularly important for services that customers perceive as high risk or for services of which they feel uncertain about their ability to evaluate outcomes: for example, banking, insurance, and brokerage, medical and legal services (Cronin & Taylor, 1992).

**4. Empathy:** is defined as the caring, individualized attention that the firm provides for its customers. The principle of empathy is conveying, through personalized or customized service, that customers are unique and special and that their needs are understood. Customers want to feel understood by and important to firms that provide service to them. Personnel at

small service firms often know customers by name and build relationships that reflect their personal knowledge of customer requirements and preferences. When such a small firm competes with larger firms, the ability to be empathetic may give the small firm a clear advantage (Bitner and Hubbert, 1994).

**5. Tangibility:** is defined as the appearance of physical facilities, equipment, personnel, and communication materials. Tangibles offer physical representations or images of the service that customers, particularly new customers, will use to evaluate quality. Service industries that emphasize tangibles in their strategies include hospitality services in which the customer visits the establishment to receive the service, such as restaurants and hotels, retail stores, and entertainment companies (Bitner and Hubbert, 1994).

The other variable added to the original dimension by the researcher was;

**6. Accessibility:** is the term used to denote the level of convenience involved in the arrangement and delivery of health care services. Especially for country's those having a growing economy are needs to place more emphasis on the accessibility to health care services. It also considered whether healthcare can be obtained from home, the time and the effort required delivering healthcare services (Abramowitz, 2009). Indeed, there are some evolving concerns over access to healthcare in terms of the present trends. This is as a result of responding to an increased level of the costs of healthcare, thus customers tend to limit coverage or switch to other forms of health care delivery services that they can afford (Davis & Chollet, 1996).

The servperf model measures service quality by using the perceptions of customers. Cronin and Taylor, (1992) argued that only perception is sufficient for measuring service quality and therefore expectations should not be included as suggested by servqual (Baumann *et al.*, 2007).

### **2.1.2.2 Service Quality Measurements**

Measuring service quality is difficult because of the intangibility characteristics of service (Baral and Bihari, 2009). Brady and Cronin, (2001) stated that the conceptualization and

measurement of service quality perceptions have been the most debated and controversial topics in the services marketing literature to date. There are two perspectives of quality measurement:

- ✓ Internal perspective; it is defined as zero defects doing it right the first time, or conformance to requirements and
- ✓ External perspective which understands these aspects in terms of customer perception, customer expectation, customer satisfaction, customer's attitude, and customer delight. It is becoming important in the light of increasing consumer awareness, changing consumer tastes, growing consumer expectations (Sachdev and Verma, 2004) servqual and servperf are the most known service quality measurement.

#### **2.1.2.2.1 Using SERVPERF to Measure Service Quality**

##### **/Performance only Model of Cronin and Taylor (SERVPERF)/**

The servperf model is carved out of servqual by (Cronin and Taylor in, 1992). Servperf directly measures the customer's perception of service performance and assumes that respondents automatically compare their perceptions of the service quality levels with their expectations of those services. Cronin and Taylor argued that only perception was sufficient for measuring service quality and therefore expectations should not be included as suggested by servqual (Baumann *et al.*, 2007). Instead of measuring the quality of service via the difference between the perception and expectation of customers as in servqual, servperf operationalizes on the perceived performance and did not assess the gap scores as expectation does not exist in the model. Thus, it is performance-only measure of service quality. The model adopts the five dimensions of servqual and the 22 item scale is used in measuring service quality. In the servperf model, the results demonstrated that it had more predictive power on the overall service quality judgment than servqual (Cronin and Taylor, 1994).

The servperf scale is found to be superior not only as the efficient scale but also more efficient in reducing the number of items to be measured by 50% (Hartline and Ferrell,1996; Babakus and Boller,1992; Bolton and Drew,1991) cited by Mesay Shita, 2012) many studies

have been conducted by adopting the servperf model. Also, Wall and Payne, (1973) note that when people are asked to indicate the “*desired level*” (expectations) of a service and the “*existing level*” (perceptions) of the service, there is a psychological constraint that people always tend to rate the former higher than the latter (E>P). Babakus and Boller, (1992) have found that service quality, as measured in the servqual scale, relies more significantly on the perception score than on the expectation score. H. Vasantha Kumari, Andronikidis and Bellou, (2010:579) found that servperf is both theoretically and empirically superior to servqual. Jain and Gupta, (2004:34) concur with this finding. In their study in the fast food restaurant industry in India, they found that servperf is capable of providing a more convergent and discriminant valid explanation of the service quality construct. They also found that it to be the most economical measure of service quality and is capable of explaining greater proportion of variance present in the overall service quality measured through a single scale.

Pérez, Abad, Carrillo and Fernández, (2007) have adapted the servperf scale to the context of public transport and demonstrated that their dimensions of servperf (four original dimensions and one new one) were suitable for their study. Several other researchers have also preferred the servperf scale in a variety of studies, namely (Andaleeb and Conway,2006) in the restaurant industry, (Olorunniwo *et al.*, 2006) in the service factory and (Qin *et al.*,2010) in the fast food restaurant industry.

It is especially appealing for the research study because it may be easier to administer, easier to analyses the data and be more economical. Due to the above mentioned facts the researcher also would preferred to use servperf model to undertake the study.

### **2.1.3 Customer Satisfaction**

A customer is defined as anyone who receives the output or products of our works and who makes value judgment about the service provided or those who buy the goods or services provided by companies are customers. Sometimes the term customer and consumer are confusing. A customer can be a consumer, but a consumer may not necessarily be a customer. Another author explained this difference. I.e. a customer is the person who does the buying of the products and the consumer is the person who ultimately consumes the

product (Solomon, 2009: 34). When a consumer/customer is contented with either the product or services it is termed satisfaction. Satisfaction can also be a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with their expectations (Kotler & Keller, 2009: p, 789).

As a matter of fact, satisfaction could be the pleasure derived by someone from the consumption of goods or services offered by another person or group of people; or it can be the state of being happy with a situation. Satisfaction varies from one person to another because it is utility. "*One man's meal is another man's poison,*" an old adage stated describing utility; thus highlighting the fact that it is sometimes very difficult to satisfy everybody or to determine satisfaction among group of individuals. Client happiness, which is a sign of customer satisfaction, is and has always been the most essential thing for any organization.

Customer satisfaction is defined by one author as "*the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption*" (Tse & Wilton, 1988: p, 204) "*hence considering satisfaction as an overall post-purchase evaluation by the consumer*" (Fornell, 1992: p, 11). Some authors stated that there is no specific definition of customer satisfaction, and after their studies of several definitions they defined customer satisfaction as "*customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. post-purchase, post-consumption)*" (Giese & Cote, 2000: p, 15).

This definition is supported by some other authors, who think that consumer's level of satisfaction is determined by his or her cumulative experience at the point of contact with the supplier (Sureshchander *et al.*, 2002: p, 364). It is factual that, there is no specific definition of customer satisfaction since as the years pass, different authors come up with different definitions. Customer satisfaction has also been defined by another author as the extent to which a product's perceived performance matches a buyer's expectations (Kotler *et al.*, 2002).

According to Schiffman & Karun, (2004) Customer satisfaction is defined as “*the individual’s perception of the performance of the products or services in relation to his or her expectations*” (Schiffman & Karun, 2004: p, 14). In a nutshell, customer satisfaction could be the pleasure obtained from consuming an offer. Dictionary definitions attribute the term “*satisfaction*” to the Latin root *satis*, meaning “*enough*”. Something that satisfies will adequately fulfill expectations, needs or desires, and, by giving what is required, leaves no room for complaint. Two points arise from these definitions (Avis *et al.*, 1995):

- ❖ First, a feeling of satisfaction with a service does not imply superior service, rather than an adequate or acceptable standard was achieved. Dissatisfaction is defined as discontent, or a failure to satisfy. It is possible that consumers are satisfied unless something untoward happens, and that dissatisfaction is triggered by a critical event.
- ❖ Secondly, satisfaction can be measured only against individuals’ expectations, needs or desires. It is a relative concept: something that makes one person satisfied (adequately meets their expectations) may make another dissatisfied (falls short of their expectations).

### **2.1.3.1 Measuring Customer Satisfaction**

Measuring customer satisfaction could be very difficult at times because it is an attempt to measure human feelings. It was for this reason that some existing researcher presented that “*the simplest way to know how customers feel, and what they want is to ask them*” this applied to the informal measures (Levy, 2009), and NBRI, (2009) in his studies suggested three ways of measuring customer satisfaction:

- ☛ A survey where customer feedback can be transformed into measurable quantitative data:
- ☛ Focus group or informal where discussions orchestrated by a trained moderator reveal what customers think.
- ☛ Informal measures like reading blocs, talking directly to customers.

Asking each and every customer is advantageous in as much as the company will know everyone’s feelings, and disadvantageous because the company will have to collect this

information from each customer (NBRI,2009). The National Business Research Institute (NBRI) suggested possible dimensions that one can use in measuring customer satisfaction, e.g.: Quality of service, Innocently, speed of service, pricing, complaints or problems, trust in your employees, the closeness of the relationship with contacts in your firm, other types of services needed, and your positioning in clients' minds. There exist two conceptualizations of customer satisfaction; transaction-specific and Cumulative (Bouding, *et al.*, 1993; Andreessen, 2000).

- Transaction specific, customer satisfaction is viewed as a post-choice evaluation judgment of a specific purchase occasion. Oliver, (1980) until present date, researchers has developed a rich body of literature focusing on this antecedents and consequences of this type of customer satisfaction at the individual level (Yi, 1990).
- Cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experiences with a product or service over time. Fornell, (1992), and Johnson & Fornell, (1991) this is more fundamental and useful than transaction specificity customer satisfaction in predicting customer subsequent behavior and firm's past, present and future performances. It is the cumulative customer satisfaction that motivates a firm's investment in customer satisfaction.

Parasuraman *et al.*, (1988), later developed the servqual model which is a multi-item scale developed to assess customer perceptions of service quality in service and retail businesses. The scale decomposes the notion of service quality into five constructs as follows: Tangibles, Reliability, Responsiveness, Assurance and empathy. It bases on capturing the gap between customers' expectations and experience which could be negative or positive if the expectation is higher than experience or expectation is less than or equal to experience respectively.

The servperf model developed by Cronin & Taylor, (1992), is derived from the servqual model by dropping the expectations and measuring service quality perceptions just by evaluating the customer's the overall feeling towards the service. In their study, they identified four important equations:  $\text{servqual} = \text{Performance} - \text{Expectations}$ ,  $\text{Weighted servqual} = \text{importance} \times (\text{performance} - \text{expectations})$ ,  $\text{servperf} = \text{performance}$ ,  $\text{Weighted}$

servperf = importance x (performance). Implicitly the servperf model assesses customers experience based on the same attributes as the servqual and conforms more closely on the implications of satisfaction and attitude literature (Cronin *et al.*, 1992 p.64).

#### **2.1.4 Service Quality and Customer Satisfaction**

Since customer satisfaction has been considered to be based on the customer's experience on a particular service encounter (Cronin & Taylor, 1992) it is in line with the fact that Service quality is a determinant of customer satisfaction, because service quality comes from outcome of the services from service providers in organizations. Another author stated in his theory that "*definitions of consumer satisfaction relate to a specific transaction (the difference between predicted service and perceived service) in contrast with 'attitudes', which are more enduring and less situational-oriented,*" (Lewis,1993: 4-12) This is in line with the idea of (Zeithaml *et al.*,2006: 106-107).

According to Oliver, (1980), in both the service and manufacturing industries, quality improvement is the key factor that affects customer satisfaction and increases purchase intention among consumers. Some other theorists have also mentioned that the quality is the key determinant of consumer satisfaction (Omar and Schiffman, 1995; Gremler *et.al*, 2001; Radwin, 2000). Many companies are focusing on service quality issues in order to drive high level of customer satisfaction (Kumar *et.al*, 2008). Regarding the relationship between customer satisfaction and service quality, Oliver, (1993) first suggested that service quality would be antecedent to customer satisfaction regardless of whether these constructs were cumulative or transaction-specific.

Some researchers have found empirical supports for the view of the point mentioned above Anderson & Sullivan, (1993), Fornell, (1996), and Spreng & Macky, (1996) where customer satisfaction came as a result of service quality. According to Sureshchandar *et al.*, (2002:363), customer satisfaction should be seen as a multidimensional construct just as service quality meaning it can occur at multi levels in an organization and that it should be operationalized along the same factors on which service quality is operationalized. Parasuraman *et al*, (1985) suggested that when perceived service quality is high, then it will lead to increase in customer satisfaction. He supports that fact that service quality leads to

customer satisfaction and this is in line with Saravana & Rao, (2007:436) and Lee *et al*, (2000:226) who acknowledge that customer satisfaction is based upon the level of service quality provided by the service provider.

#### **2.1.4.1 Service Quality and Customer Satisfaction in View of Health Care Services**

Healthcare is the fastest growing service in both developed and developing countries (Dey *et al*, 2006). Patients are now regarded as healthcare customers, recognizing that individuals consciously make the choice to purchase the services and providers that best meet their healthcare needs (Wadhwa, 2002). Related to this, healthcare quality and patient satisfaction are two important health outcome and quality measure (Ygge and Arnetz, 2001; Jackson *et al*, 2001; Zineldin, 2006).

Some literatures identified the satisfaction as a super-ordinate construct and considered perceived service quality as an antecedent of satisfaction (Cronin, Brady and Hult, 2000; Cronin and Taylor, 1994). Some studies on health care service observed a causal relationship between perceived service quality and patient satisfaction (Woodside *et.al*, 1989; Choi, 2004). In fact, meeting the needs of the patient and creating healthcare standards are imperative to achieve high quality (Ramachandran and Cram, 2005).

Therefore, the patient is the center of healthcare's quality agenda (Badri, 2007). Scotti, Harmon and Behson, (2007) conducted a study that supports the argument that the perceived quality is one of the determinants of patient satisfaction. According to Shi and Singh, (2005), from the perspective of patient satisfaction, quality has been explained by two ways:

- Quality as an indicator of satisfaction that depends on individual's experiences about some attributes of medical service, comfort, dignity, privacy, security, degree of independence, decision making autonomy and attention to personal preferences and
- Quality as an indicator of overall satisfaction of individuals with life as well as self-perceptions of health after some medical intervention (Shi & Singh, 2005).

The above two concepts of quality can also enhance the sense of fulfillment and sense of worth (Shi and Singh, 2005). The patient satisfaction depends on three elemental issues of health care system. These are perception of patients regarding:

- ❖ Quality health care service
- ❖ Good health care providers
- ❖ Good health care organization

A study conducted by Safavi, (2006) has revealed that satisfaction with hospital experience was driven by dignity and respect, speed and efficiency, comfort, information and communication and emotional support.

### **2.1.5 Measuring Patient/customer Satisfaction in Medical Services**

Client satisfaction is of prime importance as a measure of the quality of medical services because it gives information on the provider's success at meeting those Patient values and expectations, which are matters on which the Patient is the ultimate authority. The measurement of satisfaction is, therefore, an important tool for research, administration, and planning. The informal assessment of satisfaction has an even more important role in the course of each practitioner client interaction, since it can be used continuously by the practitioner to monitor and guide that interaction and, at the end, to obtain a judgment on how successful the interaction has been (Donabedian, 1980).

However, client satisfaction also has some limitations as a measure of quality. Patients generally have only a very incomplete understanding of the science and technology of care, so that their judgments concerning these aspects of care can be faulty (Donabedian, 1980). Moreover, Patient sometimes expects and demand things that it would be wrong for the practitioner to provide because they are professionally or socially forbidden, or because they are not in the Patient best interest. Patients, in general, receive various services of medical care and judge the quality of services delivered to them (Choi, 2004). The service quality has two dimensions:

- A Technical dimension i.e., the core service provided
- A process/functional dimension i.e., how the service is provided

Parasuraman, *et al*, (1988) suggested a widely used model known as SERVQUAL for evaluating the superiority of the service quality. In the servqual model, Parasuraman identified the gap between the perception and expectation of consumers on the basis of five

attributes. Reliability, responsiveness, assurance, empathy and tangibles to measure consumer satisfaction in the light of service quality (Parasuraman A, and Berry L, 1988). Based on the application of a modified servqual instrument, Choi, (2005) found a significant relationship between service quality dimensions and the South Korea health care system. In particular, "*staff concern*" followed by "*convenience of the care process*" and "*physician concern*" dimensions are the most determinants of patient's satisfaction.

However, Narang, (2010) adopted 20- item scale that had been initially developed by Hadded *et al.* (1998), to measure patients' perceptions of health care services in India. The study reveals that the four factors health personnel practices and conduct, health care delivery, access to services and, above all, adequacy of resources and services- were perceived positively by patients. Pakdil and Harwood, (2005) applied servqual construct for measuring patients' satisfactions in Turkey by calculating the gap between patients' expectations and perceptions. The study found that patients are highly satisfied with all elements of service quality; specifically, "*adequate information about their surgery*" and "*adequate friendliness, courtesy*" items.

However, Robini and Mahadevappa, (2006) investigated patients' satisfactions of service quality in Bangalore - based hospitals in India. Data collected from 500 patients revealed that expectations exceeded their perceptions in 22 items of service quality. The assurance dimension got the least negative score in all hospitals. In contrast, Sohail, (2003) found that patients' perceptions exceeded their expectations for all items of services provided by private hospitals in Malaysia.

In general, patient/client satisfaction surveys are used to examine the quality of the healthcare service provided (Lin and Kelly, 1995). Much evidence has been documented for the service quality to satisfaction link in different consumer satisfaction studies including those in the area of health care marketing (Brady and Robertson, 2001; Gotlieb, Grewal and Brown, 1994; Rust, and Oliver, 1994; Andaleeb, 2001).

## **2.2 Empirical Literature Review**

This section presents empirical literature review in worldwide, Africa and Ethiopia.

### **2.2.1 Empirical Literature Review in Worldwide**

As T. Sathiyaseelan, and W. K. A. C. Gnanapala, (2015) conducted a study in Ayurveda Teaching Hospital, Kaithady, Jaffna, Sri Lanka. The objective was to examine the impact of the service quality on patient satisfaction in the government Ayurvedic medical institutions in Jaffna district. The study was carried out as a questionnaire survey and used purposive non random sampling method to collect data from 591 respondents. The five dimensional SERVQUAL model proposed by Parasuraman et al., (1985) was employed to measure the service quality dimensions related to the Ayurvedic hospitals. Descriptive statistics and regression analysis were mainly employed to analyze the data. The results show that the service quality of the Ayurvedic medical institutions contribute significantly to the patient's satisfaction. However, the patients' satisfaction is not significantly influenced by tangible dimension and other dimensions i.e. reliability, responsiveness, assurance and empathy statistically and significantly enhances the patients' satisfactions.

Simirality, Rula Al-Damen, (2017) conducted a study in School of Management, Amman Arab University, explored to measure the impact of perceived health care service quality on patient satisfaction at a major government hospital in Jordan. For this purpose, the study developed an instrument based on modified 'SERVQUAL' using five service quality dimensions, namely: empathy, tangible, reliability, responsiveness and assurance. A survey is conducted to collect data with a total of 448 outpatient participants. Statistical techniques such as descriptive and inferential statistical techniques were employed to test the hypotheses. Results show that there is an impact of perceived health care service quality on overall patient satisfaction. Reliability has the most influence, followed by empathy and assurance.

Likewise, M. Akderea *et al*, (2018) conducted a study on Patient perceptions of service quality have become a critical component in measuring quality of care and healthcare services. The SERVPERF model of measurement for customer perception was used to measure hospital service quality in Turkey to study patients' perceived level of quality of

services offered and to analyze the predictors of service quality in terms of the dimensions and items of the SERVPERF model. The five dimensions considered are tangibles, reliability, responsiveness, empathy, and assurance. Cross-sectional surveys are completed by 972 inpatients to determine perceived quality. Positive and significant relations were identified among the service quality dimensions. The most significant correlation is between reliability and responsiveness. The logistic regression model used indicated that all dimensions of SERVPERF are a significant predictor for high levels of overall service quality. The findings indicate all 5 dimensions of SERVPERF model are significantly related to overall service quality as well as the indicators of high service quality.

Also, Adhikaryet *et al.*, (2018) a study conducted to measure the level of patients' satisfaction across different types and levels of healthcare facilities and to determine which factors influence this satisfaction level. A patient exit interview was carried out among 2207 patients attending selected health facilities in two administrative divisions of Bangladesh, namely Rajshahi and Sylhet. Binomial logistic regression, both simple and multivariable, was conducted to identify which factors contribute significantly to patients' satisfaction. It found that 63.2% of the participants are satisfied with the healthcare service they received. Patients attending the private facilities have the highest level of satisfaction (i.e. 73%) while, patients attending the primary care facilities have the lowest level of satisfaction (i.e. 52%). Factors like convenient opening hours, asking related questions to the providers, facility cleanliness and privacy settings were significantly associated with patients' satisfaction.

### **2.2.2 Empirical Literature Review in Africa**

As, Umar *et al.*, (2011) a research conducted on the patient waiting time in tertiary institution; in the Northern part of Nigeria. They observed that the amount of time a patient waits to be attended to be one factor which affects the utilization of health care services. Patient satisfaction has emerged as an increasingly important parameter for assessing the quality of health care; therefore, health care facility performance can be best assessed by measuring the level of patient's satisfaction. In all, a total of 118 (31 %) of the patients waited for less than an hour in the waiting room, while 371 (96.6 %) spent less than 30 minutes with the doctor. More than half, 211 (55 %) of the respondents are satisfied with the

service delivery in the hospital, while only 63 (16 %) of the respondents admitted to being given health talks while waiting to be attended to by the doctor. Although majority of the patients waited for more than one hour before being attended to, more than half of them are, however, satisfied with the services rendered to them.

Also, Khamis and Njau, (2014) conducted a study on patients' level of satisfaction on quality of health care at Mwananyamala hospital in Dares Salaam. The study reveals that, enhancing quality of health care delivered in public health facilities in developing countries is a key prerequisite to increase utilization and sustainability of health care services in the population. The aim of the study is to determine patients' level of satisfaction on the quality of health care delivered at the out-patient department (OPD) in Mwananyamala hospital in Dares Salaam, Tanzania. The study found that, Patients level of satisfaction mean gap score was indicating overall dissatisfaction with the quality of care.

Likewise, Wandera *et al.* (2014) conducted a study on determine patients' satisfaction with health care services at Pumwani Maternity Hospital in Nairobi Kenya. The study shows that despite the high cost services, inadequate staffing and poor sanitation, the hospital managed to offer quality services that satisfied the majority of clients. The factors identified to determine patient satisfaction were patient waiting time, attitude of the providers, availability of drugs and services, affordability of the services, level of staffing and level of cleanliness.

Similarly, Amole *et al.*, (2015) conducted a study on Analytic Hierarchy Process (AHP) in estimating the determinants of patients' satisfaction towards service delivery in six public teaching hospitals located in southwest Nigeria. Results from the AHP model revealed that patients' have the greatest preference for the empathy dimension of service quality in the teaching hospitals with eigenvector of 16.46 %. The least preference is waiting time with eigenvector of 6.9%. Drawing upon these findings, the study concludes AHP can be successfully applied to ascertain the determinants of patient's satisfaction among service quality dimension.

### 2.2.3 Empirical Literature Review in Ethiopia

Several studies conducted in out patient departments of different hospitals and health centers in Ethiopia revealed client satisfaction level:

As a cross sectional facility based study in central Ethiopia by Birhanu, *et al.*, (2010) found that, 62.6% of the patients reported that they have been satisfied with their visit. However, a cross sectional study done by Fekadu, *et al.*, (2010) in Jimma University specialized hospital the overall client satisfaction level with the health services rendered at the hospital is 77%.

Also, study conducted in Jimma shown, that of 344 respondents, nearly two fifth of the respondents (39%) responded they are not satisfied with the information provision about the hospital services and the flow. Out of 344 laboratory orders 178(51.74%) got all the ordered procedures in the hospital (Assefa, 2011).

Similarly, a cross sectional survey conducted in Tigray region to assess the level of client satisfaction in outpatient departments of zonal hospitals. The overall satisfaction level in outpatient department is 43.6%. Nearly half of the clients (46.7%) are not satisfied with the information provided about the services and above 44% of the clients are dissatisfied about the waiting time to get the services (Girmay, 2014). However, Asefa.*et al.*, (2014), a cross sectional study conducted in Hawassa University Teaching Hospital to assess level of satisfaction of patients with outpatient health services and factors associated with it. Multiple logistic regressions are used to assess the relationship between patient's satisfaction and possible predictors. Four-fifth (80.1%) of patients reported to be satisfied with the hospitals outpatient services.

Likewise, Tume *et al.*, (2015) College of Health Sciences, Jimma University; The finding of the study shows that the overall level of client satisfaction level with the OPD rendered at four growing health centers was 57.9%. Level of satisfaction is reported to be highest for amenities variable (71.3%) and lowest for provider characteristics (63%) related to courtesy and respect for respondents. Furthermore, satisfaction with the health care rendered at OPD is found to have significant association with accessing prescribed drugs and patients' waiting time.

In addition, Fufa .BD, and Negao. EB, (2019), study conducted to assess satisfaction of outpatient service and its associated factors toward the health service given among outpatients at Jimma medical center, southern western Ethiopia. A total of 284 respondents are included in the study. Descriptive statistics was used to summarize the data. Binary logistic regression was used to analyze the association between dependent and independent variables. A P-value  $<0.05$  was considered significant. The overall satisfaction was 79 (27.8%).

### **2.3 Conceptual Framework**

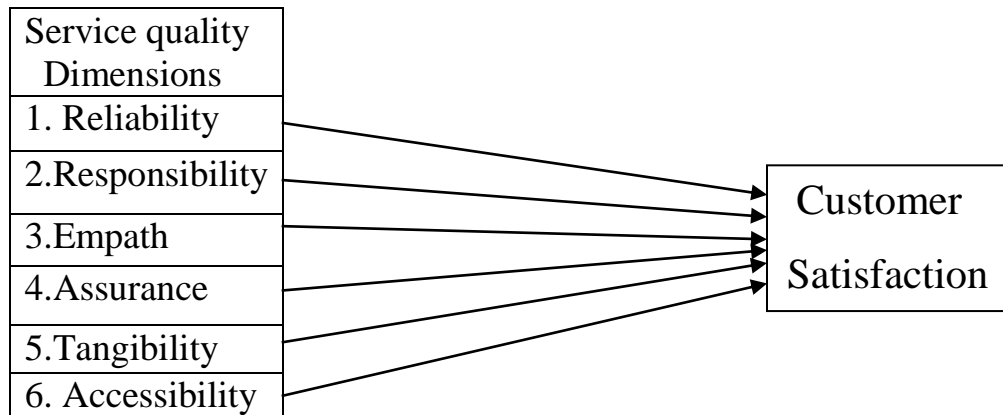
After discussing on related theoretical and empirical review, now it is the right time for the researcher to define and fixed the independent and the dependent variables for the study. The independent variables defined by the service quality dimensions (reliability, responsiveness, assurance, empathy, tangibility and accessibility) and dependent variable also defined by customer satisfaction. The magnitude of relationship and significance of service quality dimensions with customer satisfaction could be ascertained in order to arrive at conclusion as to whether service quality dimensions has a positive and significant effect on customer satisfaction or not.

The model adopts the five dimensions (reliability, responsiveness, empathy, assurance, tangibility) of servperf and the researcher adds one variable called accessibility for this study. 25 item scale perceptions are used in measuring service quality dimensions (Reliability, Responsiveness, Assurance, Empathy and Tangibility, Accessibility) and also 6 item scale perceptions are used for measuring customer satisfaction. In the servperf model results demonstrated that; it has more predictive power on the overall service quality judgment than servqual and also it's easier to administer, analyses the data and be more economical (Cronin and Taylor, 1994).

Therefore, conceptual framework indicates the crucial process, which is useful to show the direction of the study and the relationship between the service quality dimensions (reliability, responsiveness, empathy, assurance, tangibility and accessibility) and customer satisfaction.

Independent Variable

Dependent variable



**Source:** The researcher modified from Cronin & Taylor model (1992)

**Figure 1:** Conceptual Framework

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

This chapter presents a detail of the research design and methodology. This includes the research design, description of the study area, population of the study, sample size and sampling technique, types and source of data, methods and tools of data collection, validity and reliability test, method of data analysis and at the end ethical considerations.

#### **3.1 Research Design**

A research design is defined as the arrangement of conditions for collection and analysis of data in a manner that aim to combine relevance to the research purpose with economy in procedure. In other words, the research design is a conceptual structure within which research was conducted; it constitutes the blueprint for the collection, measurement, and analysis of data. Accordingly, the design incorporates a framework of what the researcher will go to do from the writing the basic questions and their operational implications to the final analysis of data (Sauders *et al.*, 2007).

The study used explanatory research design. The reason behind using explanatory research design is to explaining, understanding, predicting and controlling the relationship between variables. Also, the study used quantitative research approach to give answer for the research questions. Closed ended questionnaires could be used for collecting quantitative data. Explanatory research design using a descriptive and inferential statistics to analyze data collected from respondents. The study was a cross-sectional in the sense that relevant data can be collected at one point in time.

#### **3.2 Description of the Study Area**

The study conducted at Limu Woreda Public health center, Eastern Wollega, Oromia Regional state. Limu Woreda is located at Eastern Wollega Zone, far apart from zonal town Nekemte about 134 km, at North West direction. According to Limu woreda health office annual report, (2019) it has currently four health center, and seventeen(17) kebele health

post. Those of the health centers are found at the same levels, and expected to give the same services and categorized in the first level Primary Healthcare Unit (PHCU). Based on this, the study was conducted in Limu Woreda, on four public health centers that the researcher could be selected by purposive sampling technique as target area. The fact that the researcher was interested to study on the health sectors was that; the health sectors are working in terms of the life of the peoples, and it's the basis of the overall progress and development of any national economy, while as empirical research revealed a researcher thinks a service quality delivery has a problem in the sectors. So, to find this problem the researcher could be expected to get adequate data to address the research objectives.

### **3.3 Population of the Study**

#### **3.3.1 Target Population**

Population refers to all members of a real set of people, events or objects to which the study generalizes the hypothetical results of the research. Target population also refers to a well-defined set of individuals/subjects having same common observable characteristics that are being investigated (Mugenda & Mugenda, 2003).

All customers those above the age of 18 year visiting the health centers for healthcare service for a month was a researcher's study population. According to the data obtained from the Woreda Health office; the annual cases reported from outpatient department was estimated to be 4800 and 400 outpatients monthly in average excluding customers; who cannot speak or listen (deaf), are in serious condition, have a mental health condition, and in-patients (on admission), below 18 years of age and emergencies. So, the researcher study population was 400 outpatient seen in average a monthly in four health centers presented in the Woreda (Limu Woreda Health Office Annual report, 2019) as shown the distribution of target population and sample size in table 3.1 below.

Table 3 1: Distribution across target population

Sr. No.	Name of Health Centers	Total No. of outpatient admitted in a month	No. of sample
1	Gelila health center	100	50
2	Degam health center	100	50
3	Arqunbe health center	100	50
4	Keyhamus health center	100	50
	Total	400	200

Source: Limu Woreda Health office report, (2019)

### 3.4 Sample Size and Sampling Technique

#### 3.4.1 Sample Size

A sample is the number of item selected to represent the whole population (Kothari, 2004). Nonprobability sampling techniques has used to select the participants for the study. The researcher has got a sample size from the outpatient who rendered services from the Limu Woreda Health Center by using (Yamane ,1967:886) a simplified formula to Calculate sample sizes, with a 95% confidence level, expected margin of error (e) of 0.05 and N=400 were assumed for Equation:- 
$$n = \frac{N}{1 + N(0.05)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision. When this formula is applied to the above sample equation can be got.

$$n = \frac{400}{1 + 400(0.05)^2}$$

$$n = 200$$

#### 3.4.2 Sampling Technique

The researcher used convenience sampling technique to select the target respondents. The rationale behind using convenience sampling technique is the ease of selecting the target respondents because of their availability or easy access. For primary data collection, from the total number of population (400), the number of sample could be taken were 200 respondents.

## **3.5 Source of Data and Collection Techniques**

### **3.5.1 Source of Data**

Primary sources were used as source of data. For the proper achievement of the objectives of the study; the researcher used mainly a primary data source. Primary data was collected using closed ended questionnaires. Questionnaires were distributed to the target respondents drawn from the health centers.

### **3.5.2 Methods of Data Collection**

In order to gather the data, closed ended questionnaires were prepared for respondents. Questionnaires could be employed to collect data from participants. The questionnaires booklet has three parts:

- The 1<sup>st</sup> part of demographic information consists of 9 item (sex, age, level of education, Payment status, frequency of visit, Reason for visit, and Travel time to reach the health centers).
- 2<sup>nd</sup> part consists of 25 item closed ended questionnaires to gather the information concerning the effects of service quality on customer satisfaction on six service quality dimension: (Reliability, Responsiveness, Assurance, Empathy and Tangibility, Accessibility).
- 3<sup>rd</sup> part consists of 6 item closed ended questionnaires to gather the information concerning customer satisfaction.

In designing the questionnaires, a five point Likert-type ranging from one to five: (1 strongly disagree,2 disagree,3 neutral,4 agree,5 strongly agree for service quality dimension (Reliability, Responsiveness, Assurance, Empathy and Tangibility, Accessibility), and 1 highly dissatisfied,2 dissatisfied, 3 neutrals,4 satisfied,5 highly satisfied) for customer satisfaction and a continuous scale was used in order to provide the extents of the respondent's feeling or opinions on the effects of service quality on customer satisfaction in healthcare centers.

### **3.6 Procedures of Data Collection**

Primarily, the researcher collected a letter from Wollega University departments of management, after that contact was made with Limu Woreda Health centers for permission of conducting research in the health centers. After the researcher contact with the health centers managers, the purpose and objective of the study is briefed to health centers managers. After getting permission from the managers, contact was made with the respondents and finally the study could be undertaken. The questionnaires could be distributed to the respondents by translating from English to Afaan Oromo and again from Afaan Oromo to English and checked its accuracy. The survey pack included a copy of the cover letter, and the questionnaires. Collection of responded questionnaires could be started at the date of administration and continued up to a collection of data could be completed.

### **3.7 Validity and Reliability Test**

#### **3.7.1 Validity**

Validity indicates the degree to which instruments what they are supposed to measure (Kothari, 2004). Content validity is most relevant for researcher's present study. This is because it is concerned with how well the contents of the instrument samples the kinds of things about which conclusion can be drawn. Joppe, (2000) also argues that content validity refers to the extents to which measure represents all facts of a given social contract. To establish validity of the instruments researcher, advisor, and internal examiner could be examined the contents of the instrument. The feedback was used to revise the instruments. On the other hand, to maintain the validity of the instruments most of the questionnaires could be adopted from (Cronin and Taylor, 1994) and some of the questionnaires were developed based on careful review of related literatures. Furthermore, the questionnaires were submitted to other researchers and academicians for their contributions to check.

#### **3.7.2 Reliability**

Reliability is defined as be fundamentally concerned with issues of consistency of measures. The reliability of the instrument can be checked by applying Cronbach's alpha testing

statistics on the questionnaires distributed for some selected sample. To measure the reliability of the data collection instruments, an internal consistence techniques using Cronbach's alpha. Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalization (Zinbarg, 2005). According to Hair, *et al.*, (2006), if  $\alpha$  is greater than 0.7, it means that it has high reliability and if  $\alpha$  is smaller than 0.3, then it implies that there is low reliability. Based on the above rule of thumb the questionnaires were distributed to 20 selected sample of Nekemte town health center customers to measures the reliability of the data collection before distributed to target respondents. Tables 3.2 shown below 31 items of closed ended questionnaires were used to measures service quality dimensions (reliability, responsiveness, assurance, empathy, tangibility, and accessibility) and customer satisfaction, and its Cronbach's alpha was .785. This implies that the questionnaires used for the study measures the service quality dimesions and customer satisfaction in a very consistent and highly reliable.

Table .3 2: Reliability Statistics

Cronbach's Alpha	N of Items
.785	31

**Source:** Own Survey Data, 2020

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

After carefully gathering the appropriate data by using the relevant instrument of data collection, the analysis was carried out by using Statistical Package for Social Science (SPSS) software for version 24.0 that employed to analyze and presents the data. The data collected from the respondents were analyzed using descriptive and inferential statistics for the objective of the study namely; descriptive statistics analysis, pearson correlation analysis, and CLRM assumption to multiple regression analysis.

#### **Descriptive Statistics Analysis**

For the quantitative data analysis descriptive statistics used mean, standard deviation, frequency and percentage by describing the study variables. The reason behind using

descriptive analysis is to describing the existing situation under study such as describing the service quality dimensions and customer satisfactions. Servperf model was used and it's directly measures the customer's perception of service performance and assumed that respondents automatically compared their perceptions of the service quality levels with their expectations of those services. The Model contains 25 items of questionnaires used to measure the performance for overall service quality dimensions (Reliability, Responsiveness, Empathy, Assurance, Tangibility, and Accessibility) and 6 items of questionnaires used to measure overall customer satisfaction. A five point Likert scale type and continuous scale was used for measuring service quality dimensions and customer satisfactions.

The descriptive statistical results were presented by tables. This is achieved through summary statistics, which includes the means, standard deviations, frequency and percentage values was computed for each variable in the study.

### **Inferential Statistics analysis**

#### **Pearson Correlation Analysis**

In the study, Pearson's correlation coefficient is used to see the relationships between service quality dimensions (reliability, responsiveness, assurance, empathy, Tangibility, and Accessibility) and customer satisfaction.

#### **Classical Linear Regression Model Assumption**

Under this subsection the study presented different results for the test of CLRM. The test results normality, multi collinearity, as per running regression analysis; the significance of the model fit test. The researcher could be conducted basic assumption tests for the model to running multiple regression analysis.

#### **Multiple Regression Analysis**

Regression analysis is used to examine the effects of (reliability, responsiveness, assurance, empathy, tangibility and accessibility) on customer satisfaction in terms of Limu Woreda public health centers. The equation of multiple regressions in the study is generally built around two sets of variable namely; dependent variables (customer satisfaction) and independent variables (reliability, responsiveness, assurance, empathy, tangibility and

accessibility). The basic objective of using regression equation on the study; is to make the researcher more effective at describing, understanding, predicting, and controlling the stated variables.

**Dependent variables:** Customer satisfaction

**Independent variables:** Reliability, Responsiveness, Assurance, Empathy, Tangibility and Accessibility

Regress customer satisfaction on the service quality dimensions

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon_i$$

$$\text{Customers Satisfaction} = \alpha + \beta_1 \text{Reliability} + \beta_2 \text{Responsiveness} + \beta_3 \text{Assurance} + \beta_4 \text{Empathy} + \beta_5 \text{Tangibility} + \beta_6 \text{Accessibility} + \epsilon_i$$

Dependent variable = Customers Satisfaction (Y)

Independent variable = X1=Reliability, X2=Responsiveness, X3=Assurance, X4=Empathy, X5=Tangibility and X6=Accessibility are the explanatory variables (or the regressors')

$\alpha$  is the intercept term: it gives the mean or average effect on Customers Satisfaction of all the variables excluded from the equation, although its mechanical interpretation is the average value of Customers Satisfaction when the stated independent variables are set equal to zero. In the model,  $\beta_0$ =constant,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$ , and  $\beta_6$ : refer to the regression coefficient of their respective independent variable which measures the change in the mean value of Customers Satisfaction, per unit change in their respective independent variables, while holding other independent variable in the model constant.

$\epsilon_i$ =Error term which capture the unexplained variation in the model

### 3.9 Ethical Considerations

The study could be acknowledging the importance of ethical issues in a research study and the researcher was observed all the ethical issues of confidentiality, integrity, and honesty while dealing and getting data from the sources. The researcher also ensured a tolerance and patience throughout the research period. A letter from Wollega University used to prove that the data to be acquired is intended for academic purpose only.

## **CHAPTER FOUR**

### **ANALYSIS OF DATA PRESENTATION AND DISCUSSION**

This chapter is emphasized on the analysis of data and discussed on the findings of the study in relation to examine the effects of service quality on customer satisfaction final results and the process through which the results are obtained. In addition to this, demographic information of respondents could be presented, the statistical methods of analysis also discussed, which included a descriptive analysis, correlation analysis, CLRM assumption and regression analysis by using SPSS version 24.

#### **4.1 Response Rate**

Out of the two hundred (200) closed-ended questionnaires were distributed to respondents/customers of Limu Woreda health centers, one hundred ninety-seven (197) were filled correctly and returned to the researcher and the remaining 3 questionnaires were not correctly filled and responded, the response rate was 99%. Therefore, the study was undertaken on 197 questionnaires results that returned from respondents were used for the analysis. All information gotten from the respondents were treated with confidentiality without disclosure of the respondents' identity. Moreover, no information was modified or changed, hence information gotten was presented as collected and all the literatures collected for the purpose of the study was appreciated in the reference list.

#### **4.2 Demographic Information of the Respondents**

In this section, the researcher analyzed and discussed demographic information of the respondents. The general information collected in terms of age, gender, educational status, occupational status, and payment status, reason for visit, frequency of visit, residential area, and travel time taken to reach the health center. Gender assessed to understand the involvement of both sex in the study, which means male and female. The level of education is important to imply that the respondents are educated and has the ability to understand and respond to the issues sought by the study.

#### 4.2.1 Gender of Respondents

Table 4.3: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	84	42.6	42.6	42.6
	Female	113	57.4	57.4	100.0
	Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

When gender was concerned; the result of the gender distribution table 4.3 show that from the 197 respondents, 42.6 %( 84) are male, while 54.4 %( 113) of the respondents are female. This indicates that; most of the study respondents were female.

#### 4.2.2 Age of Respondents

Table 4.4: Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-28	45	22.8	22.8	22.8
	29-39	70	35.5	35.5	58.4
	40-49	54	27.4	27.4	85.8
	50+	28	14.2	14.2	100.0
	Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

When the age of respondents was concerned; the result of the age distribution of respondents table 4.4 show that from the 197 respondents, 22.8 %( 45) of the respondents are between 18 to 28 years old, whereas 35 %( 69) are from 29 to 39 years old, 27.4(54) are from 40 to 50 years, and the remaining 14.7 %(29) are above age of 50. The highest proportion of the study respondents were in the age group of 29 – 39 (the working age group).

### 4.2.3 Educational Status of the Respondent

**Table 4.5: Educational Status Distribution of Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Illiterate	49	24.9	24.9	24.9
primary school	88	44.7	44.7	69.5
secondary school	28	14.2	14.2	83.8
Diploma	20	10.2	10.2	93.9
first degree	10	5.1	5.1	99.0
above degree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

Regarding educational status; the result of the educational status distribution of respondents table 4.5 show that from the 197 respondents, 24.9%(49) are illiterate, 44.7%(88) are primary school, 14.2%(28) are secondary school, 10.2%(20) are diploma graduates, 5.2%(5.1) are first degree graduates and the rest 1%(2) are above degree graduates. Majority of the study respondents have an educational background and this indicates the respondents have the educational readiness to back them when they asked the questions they were answer while receiving service.

#### 4.2.4 Occupational Status

Table 4.6: Occupational Status of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government employee	22	11.2	11.2	11.2
	Marchant	22	11.2	11.2	22.3
	Farmer	92	46.7	46.7	69.0
	Student	9	4.6	4.6	73.6
	House wife	41	20.8	20.8	94.4
	Others	11	5.6	5.6	100.0
	Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

Considering occupational status; the result of the Occupational status distribution of respondents table 4.6 show that; from the 197 respondents, 11.2%(22) of the respondents are government employee,11.2%(22) are marchent,46.7%(92) are farmer,4.6%(9) are student,20.8%(41) are house wife and the remaining 5.6%(11) are others occupations. Majority of the study respondents were farmer.

#### 4.2.5 Payment Status

Table 7: Payment Status Of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Free	65	33.0	33.0	33.0
	Paying	132	67.0	67.0	100.0
	Total	197	100.0	100.0	

When regarding payment status; the result of the Payment status distribution of respondents table 4.7 shows that from the 197 respondents, 33 %( 65) of respondents are getting treatment freely and 67 %( 132) are paying for the treatment. Most of the study respondents were paying for treatment.

#### 4.2.6 Reason for Visit

Table 4.8: Reason For Visit of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Illness	153	77.7	77.7	77.7
Family planning	23	11.7	11.7	89.3
Vaccination	12	6.1	6.1	95.4
Others	9	4.6	4.6	100.0
Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

When considering reason of visit, table 4.8 shows, that from the 197 respondents, 77.7 %( 153) of respondents are visit for illness, 11.7% (23) are for family planning 6.1 %( 12) are for vaccination and the remaining 4.6 %( 9) visit for other reasons. Majority of study respondents were those visit for illness.

#### 4.2.7 Frequency of Visit

Table 4.9: Frequency Visit of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid New visit	35	17.8	17.8	17.8
Repeated visit	162	82.2	82.2	100.0
Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

Source: Own Survey Data, 2020

When considering frequency of visit; the result of the frequency of visit of respondents table 4.9 show that from the 197 respondents, 17.8 %( 35) of respondents are new visit and 82.2 %( 162) are repeated visit. Majority of study respondents were repeated visit.

#### 4.2.8 Residential Area

Table 4.10: Residential Area of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Rural	136	69.0	69.0	69.0
Urban	61	31.0	31.0	100.0
Total	197	100.0	100.0	

when considered the residence area of respondents; the result of the residential area of respondents table 4.10 shows 69% (136) are from rural area and 31%(65) are from urban. Majority of the study respondents were from rural area.

#### 4.2.9 Travel Time Taken to Reach the Health Center

Table 4.11: Respondents Travel Time Taken to Reach the Health Center

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid under 30 min.	51	25.9	25.9	25.9
under 1 hrs.	56	28.4	28.4	54.3
1-2 hrs.	64	32.5	32.5	86.8
more than 2 hrs.	26	13.2	13.2	100.0
Total	197	100.0	100.0	

**Source:** Own Survey Data, 2020

When concerning travel time to reach health centers; the result in the table 4.11 show that from the 197 respondents, 25.9 %( 51) of respondents are travel under 30 min., 28.4 %( 56) are travel under 1hr, 32.5 %( 64) are travel 1-2hrs and 13.2(26) are travel more than 2hrs. Majority of the study respondents were from rural area and travels 1-2hrs to reach the healthy centers.

### 4.3 Descriptive Analysis of the Study Variable

For the quantitative data analysis descriptive statistics used mean, standard deviation, frequency and percentage by describing the study variables. The reason behind using descriptive analysis is to describing the existing situation under study such as describing the service quality dimensions and customer satisfactions. Servperf model is used and it directly measures the customer’s perception of service performance and assumed that respondents automatically compared their perceptions of the service quality levels with their expectations of those services.

The mean values represent the average of all customer’s response on certain dimensions while, standard deviations show how diverse the responses of the respondents, i.e. if the standard deviation shows smaller number, it indicates that the response of the respondents shows close opinions and when the standard deviation is high, it indicates the response of the respondents are shows high variation. In table 4.12 shows below is the mean value of the respondents summarized based on rule of thumb obtained from (Musau, 2017).

**Table 4.12:** Shows the Mean Score Standard

Mean score	Description
$0.5 \leq R < 1.5$	No extent
$1.5 \leq R < 2.5$	Small
$2.5 \leq R < 3.5$	Moderate
$3.5 \leq R < 4.5$	Great
$4.5 \leq R < 5$	Very great

The Model contains 25 items and a five point Likert scale for each was used to measure the performance. For all the service quality dimensions (Tangibles, Reliability, Responsiveness, Empathy Assurance, Tangibility, and Accessibility), the mean and standard deviations could be computed for the analysis.

### 4.3.1 Mean and Standard Deviation of Responses on Reliability

Table 4.13 : Descriptive Statistics of Reliability

	Mean	Std. Deviation
Reliability	2.99	.500
The health center of employees provide service at the time they promise to do so	2.84	1.098
The health center employees perform service right the first time(error free service)	2.89	1.080
The health center employees show sincere interest in solving a problem you face	2.90	1.083
The health center delivers the service at the time agreed on	3.14	1.072
The health centers keep your records accurately (history of complaint, medical records, and your contact information).	3.19	1.079

**Source:** Own Survey Data, 2020

As table 4.13 shows the mean value for the reliability dimension statements; health centers employees provide service at the time they promise to do so, health center employees perform service right the first time (error free service), health center employees show sincere interest in solving a problem you face, health center delivers the service at the time agreed on and the health centers keeps your records accurately (history of complaint, medical records, your contact information) reveals that a moderate mean values of 2.84, 2.89, 2.90, 3.14 and 3.19 with the standard deviations of 1.098, 1.080, 1.083, 1.072 and 1.079 respectively. The mean values show a moderate and the standard deviation is high, this indicates that response of the respondents shows a high variation of response on the statements. It points out that the health centers need for more improvements on the statements to increase satisfaction.

### 4.3.2 Mean and Standard Deviation of Responses on Responsiveness

**Table 4.14:** Descriptive Statistics of Responsiveness

	Mean	Std. Deviation
Responsiveness	3.14	.484
The health center employees tells you exactly when the service will be performed	3.26	.897
The health center provides fast service	3.14	1.079
Employees of the health center are always willing to help customers	3.16	1.093
The health center employees are never busy to respond to your enquires.	3.02	1.120

**Source:** Own Survey Data, 2020

Regarding the responsiveness dimension as we seen on table 4.14 there is a gap between the objective to be meet and the actual result. That means a statements; health center employees tell you exactly when the service can be performed, health center provides fast service, Employees of the health center are always willing to help customers and health center employees are never busy to respond to yours enquires are lied on moderate mean values of 3.26, 3.14, 3.16 and 3.02. The standard deviations are high, and it indicates that the response of the respondents shows high variation. This is also illustrating the health centers needs for an improvement of statements to enhance satisfaction.

### 4.3.3 Mean and Standard Deviation of Responses on Empathy

**Table 4.15:** Descriptive Statistics of Empathy

	Mean	Std. Deviation
Empathy	3.14	.533
Employees of the health center gives attention to customers	3.31	.980
Employees of the health center give personal attention to each Customer	3.14	1.079
Employees of the health center understand the specific need of customer	2.84	1.098
Employees of the health center serve the interests of the Customer	3.14	1.072
The health center opening hour is appropriate for all its customers	3.26	.897

**Source:** Own Survey Data, 2020

Regarding the empathy dimensions of service quality, as shows in table 4.15 all the mean values field in moderate which shows there is a gap regarding empathy dimension. Std.

deviation shows high variation of response on the statements. This indicates the health centers needs for an improvement in the statements to increase satisfaction.

#### 4.3.4 Mean and Standard Deviation of Responses on Assurance

**Table 4. 16:** Descriptive Statistics of Assurance

	Mean	Std. Deviation
Assurance	3.12	.716
The behaviors of employees in the health center impress customers with the reliability of service.	3.26	.897
The customers feels confident when they contact with Employees of the health center	2.89	1.080
Employees of the health center are always friendly and courteous	3.17	1.079
Employees of the health center have knowledge to answer Customers questions	3.14	1.079

**Source:** Own Survey Data, 2020

As table 4.16 the mean value for the assurance dimension statements shows the moderate mean value as compared with the standard mean values of other service quality dimension. All the statements show moderate mean values of 3.26, 2.89, 3.17 and 3.14 with the standard deviations of .897, 1.080, 1.079 and 1.079 respectively. The standard deviations show high that, high variation of response on the statements. It indicates a need for an improvement on the statements to satisfy a customer.

#### 4.3.5 Mean and Standard Deviation of Responses on Tangibility

**Table 4. 17:** Descriptive Statistics of Tangibility

	Mean	Std. Deviation
Tangibility	3.23	.428
The health center has up to date equipment and technology	3.47	.830
The health center facilities are visually appealing	3.17	1.050
The health center employees are well dressed and appear neat	3.14	1.072
The physical facilities and technology of the health center goes with the type of service delivered	3.16	1.093

**Source:** Own Survey Data, 2020

As shows in table 4.17 the tangibility dimension statements mean values are 3.47,3.17,3.14 and 3.16 with the standard deviations of .830,1.050,1.072, and 1.093 respectively, which shows a moderate mean values and high standard deviation. This illustrates high variation of response, and needs an improvement in the statements to satisfy the customers.

#### 4.3.6 Mean and Standard Deviation of Responses on Accessibility

Table 4.18: Descriptive Statistics of Accessibility

	Mean	Std. Deviation
Accessibility	3.21	.693
Prescribed drugs are readily available as needed in the health center pharmacy	3.21	.922
Laboratory tests are done appropriately within the health center	3.26	.897
Health care service is available and accessible to customers all time as and when needed	3.16	1.061

**Source:** Own Survey Data, 2020

As table 4.18 the mean value for the accessibility dimension statement shows moderate mean value; prescribed drugs are readily available as needed in the health center pharmacy, Laboratory tests are done appropriately within the health center and health care service is available and accessible to customers all time as and when needed are 3.21, 3.26 and 3.16 with the standard deviations of .922, .897, and 1.061 respectively. The moderate mean values and relatively high standard deviations show a variation of a response on the statements. This indicates the health centers needs for more improvements on the statements to increase customer satisfaction.

#### 4.3.7 Mean and Standard Deviation of Response on overall Service Quality Dimension

Table 4.19: Descriptive Statistics for Overall Service Quality Dimension s

	Mean	Std. Deviation
Reliability	2.99	.500
Responsiveness	3.14	.484
Empathy	3.14	.533
Assurance	3.12	.716
Tangibility	3.23	.428
Accessibility	3.21	.693

**Source:** Own Survey Data, 2020

As table 4.19 the reliability mean value is 2.99 with a standard deviation of .500 shows there is a moderate mean value on the statements. The mean value for responsiveness and empathy which is 3.14 and 3.14 with a standard deviation of .484 and .533 respectively have similar mean value but different standard deviation and field in a range of moderate mean value. i.e. Assurance mean value is 3.12 standard deviation .716 which is moderate. The mean value for tangibility is 3.23 with a standard deviation of .428 and accessibility mean value is 3.21 with the standard deviation of .693.

All service quality dimensions mean values are in a range of moderate ( $2.5 \leq R < 3.5$ ) that shows a gap with the objectives to be accomplished and the standard deviations are less than one (1); it indicates a similarity of response on the overall statements. Tangibility has slightly more mean value with 3.23, while, reliability has less mean value of 2.99 when compared to overall service quality dimension. However, overall service quality dimensions have a range of moderate mean value according to Musau, (2017).

This shows a gap to be focus and work on to improve overall the statements of service quality dimensions. This gap indicates that the health centers managements need a more improvement for overall service quality dimensions to enhance overall customer satisfaction.

#### **4.3.8 Mean and Standard Deviation of Response on Overall Customer Satisfaction**

Customer satisfaction involves the fulfillment of customers' anticipation of the goods and services. Customer becomes satisfied if the performance of the good or service is equivalent to, or even surpasses, the original expectation. Customer satisfaction is measured by six (6) items and Likert scale for each was used that; it ranges from highly dissatisfied, dissatisfied, neutral, satisfied and highly satisfied. SERVPERF model is also, used and it directly measures the customer's perception of service performance. The mean, standard deviations, frequency and percentages could be used for the analysis.

Table 4.20: Descriptive Statistics of Overall Customer Satisfaction

	Mean	Std. Deviation
Customer satisfaction	3.24	.450
You are satisfied with the overall health center service delivery adequately in time	3.21	.922
You are quite satisfied with the appropriateness of the service offered by the health center.	3.26	.897
You are Satisfied with the quality of service Provided by the health center.	3.23	.907
You are Satisfied with the overall service delivered by the health center	3.25	.902
Based on the quality of service received, you are highly likely to seek the services of the health center.	3.25	.902
Based on the quality of Service received, you will definitely recommend the health center.	3.25	.907

**Source:** Own Survey Data, 2020

As we can see from the table 4.20 the mean value for 1<sup>st</sup> statement is 3.21 with a standard deviation of .922 of a customer satisfaction for you are satisfied with the overall health center service delivery adequately in time show a gap with what it actually is. The mean value for 2<sup>nd</sup> statement, you are quite satisfied with the appropriateness of the service offered by the health center is also 3.26 with a standard deviation of .897 that also shows there is a gap with what it actually is. The mean value for 3<sup>rd</sup> statement you are Satisfied with the quality of service provided by the health center is 3.23 with standard deviation of .907 which has also a gap. The mean value for 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> statements have 3.25 with standard deviation of .902, .902 and .907 respectively. Therefore, as a table 4.20 shows the overall statements of customer satisfactions mean values were categorized in moderate and the standard deviations were less than 1(one) i.e. similarity of response on the statements. This indicates there is a gap that the health centers managements need to improve for overall the statement to enhance a level of customer satisfactions.

### 4.3.9 Frequency and Percentage Description of Overall Customer Satisfactions

Table 4. 21: Shows Frequency and Percentage of Customer Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Dissatisfied	1	.5	.5	.5	
		2	2.5	2.5	3.0	
		3	2.5	2.5	5.6	
		3	25	12.7	12.7	18.3
		3	6	3.0	3.0	21.3
	Neutral	35	17.8	17.8	39.1	
		3	19	9.6	9.6	48.7
		3	39	19.8	19.8	68.5
		4	8	4.1	4.1	72.6
		4	26	13.2	13.2	85.8
		4	8	4.1	4.1	89.8
	Satisfied	20	10.2	10.2	100.0	
	Total	197	100.0	100.0		

Source: Own Survey Data, 2020

As it can be seen from table 4.21 below, 60.91 % ( 120) of the respondents were satisfied, 17.77 % ( 35) chosen to remain neutral, and 21.32 % ( 42) were dissatisfied.

This shows the highest percentage of respondents were somehow satisfied with the service perceived from Limu Woreda Public health centers, and the overall level of customer satisfaction was 60.91% while, 21.32% were dissatisfied.

This indicates there was a customer satisfaction gap that; the health centers managements need to improve overall the statements to enhance overall level of customer satisfactions.

### 4.4 Pearson Correlation Analysis

Correlation analysis helps to gain insight in to the direction and the strength of correlation between variables. Correlation coefficient take a value between -1 to +1 ranging from being negatively correlated (-1) to uncorrelated (0) positively correlated (+). Pearson correlation analysis is used to provide evidence of convergent validity.

Table 4.22: Correlation Matrix between Service Quality Dimension and Customer Satisfaction

		<b>Correlations</b>						
		Customer Satisfaction	Reliability	Responsiveness	Empathy	Assurance	Tangibility	Accessibility
Customer Satisfaction	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	197						
Reliability	Pearson Correlation	.655**	1					
	Sig. (2-tailed)	.000						
	N	197	197					
Responsiveness	Pearson Correlation	.745**	.685**	1				
	Sig. (2-tailed)	.000	.000					
	N	197	197	197				
Empathy	Pearson Correlation	.588**	.640**	.642**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	197	197	197	197			
Assurance	Pearson Correlation	.583**	.274**	.367**	.562*	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	197	197	197	197	197		
Tangibility	Pearson Correlation	.508**	.577**	.684**	.709*	.478**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	197	197	197	197	197	197	
Accessibility	Pearson Correlation	.867**	.394**	.524**	.235*	.361**	.161*	1
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.024	
	N	197	197	197	197	197	197	197

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

\* . Correlation is significant at the 0.05 level (2-tailed).

**Source:** Own Survey Data, 2020

Pearson correlation coefficient reveal magnitude direction of relationship (either positive or negative) and the intensity of the relationship (-1 to +1) correlation are perhaps the most basic and most useful measure of association between two or more variables (Marczyk,

Dematteo, and Festinger, 2005). As Marczyk, Dematteo, and Festinger, (2005), general guide lines correlation of .01 to .30 are considered small, correlation of .30 to .70 are considered moderate, correlation of .70 to .90 are strong and correlation of .90 to 1.00 are considered very strong. Depending on this rule of thumb all basic variables are included in to the correlation analysis.

In the study, Pearson's correlation coefficient is used to determine the relationships between service quality dimensions (reliability, responsiveness, assurance, empathy, Tangibility, and Accessibility) and customer satisfaction. As the results of table 4.22 shows, all the service quality dimensions have a significant and positive relationship with customer satisfaction. The results also, indicates positive and strong relationship between accessibility and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .867$ ,  $N=197$ , and  $p < 0.01$ ), responsiveness and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .778$ ,  $N=197$ , and  $p < 0.01$ ), and there are also a moderate positive correlation among reliability and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .655$ ,  $N=197$ , and  $p < 0.01$ ), empathy and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .588$ ,  $N=197$ , and  $p < 0.01$ ), assurance and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .583$ ,  $N=197$ , and  $p < 0.01$ ) and finally tangibility and customer satisfaction at 95% confidence level, with the p-value of (.000) are ( $r = .508$ ,  $N=197$ , and  $P < 0.01$ ).

Moreover, accessibility followed by responsiveness are strongly correlated to customer satisfaction, and reliability, empathy, assurance and tangibility are a moderately correlated to customer satisfactions. All the service quality dimensions have a positive and significant relationship with customer satisfaction at 95% confidence level, with the p-value of (.000) were ( $p < 0.01$ ).

Finally, from table 4.22 it can be concluded that; as service quality increase so does customer satisfactions. This is supported by a number of studies that have addressed the relationship between service quality and customer satisfaction; generally believed that higher levels of service quality lead to higher levels of customer satisfaction (Kang and James, 2004; Pollack,2008), studies done by Oliver, (1993); Woodside *et.al*, (1989) and Choi, (2004) and also, Akderea, M. Topb and S. Tekingündüzc, (2018) of research were reported.

## 4.5 Results for Classical Linear Regression Model (CLRM) Assumption

Under this subsection the study presented different results for the test of CLRM. The test results normality, multi-collinearity and as per running regression analysis; test the significance of the model.

### 4.5.1 Model Assumption

The researcher conducted a basic assumption tests for the model before running multiple regression analysis. Those are normality of the distribution test, multi-collinearity tests, and as per running regression analysis; the significance of the model fit test, so, each test of assumption can be explained below.

#### 4.5.1.1 Normality Distribution Test

The study used two methods of assessing normality; graphically (Normal probability plot) and Numerically (skewness and Kurtosis). Moreover, the researcher has tested the normality, linearity, and scatter plot. As it can be graphically shows in Appendix B; It indicates that there was no violation of the linearity assumption, as its observed the tendency of the points is straight line and acceptable. In the normal probability plot, it hopes that points lied in a reasonably straight diagonal line from bottom left to top right. The scatterplot of the standardized residuals are no serious assumption violations and acceptable.

Table 4.23: **Normality Distribution Test**

	Skewness		Kurtosis	
		Std. Error		Std. Error
Reliability	-.235	.173	-.382	.345
Responsiveness	.050	.173	-.539	.345
Empathy	-.270	.173	-.550	.345
Assurance	-.431	.173	-.981	.345
Tangibility	-.205	.173	-.205	.345
Accessibility	-.334	.173	-1.191	.345
Customer satisfaction	-.060	.173	-.635	.345

**Source:** Own Survey Data, 2020

Numerically, the evaluation of normality in the data analysis began with exploring the skewness and kurtosis values between +1 and -1 are considered being normally distributed (Gamst *et al.*, 2008). Table 4.23 summarizes the skewness and kurtosis values of the distributions. The skewness and kurtosis values for the service quality dimension and customer satisfaction is within the acceptable range (-1.0 to +1.0) I, e .173 to .345 and it can be concluded that the data is normally distributed. So, the result of kurtosis and skewness exist between -1 to +1 which is acceptable and error term for each variable constant.

#### 4.5.2 Test Results for Multi-Collinearity

Multi-collinearity exists when there is a strong correlation between two or more predictors in a regression model. Perfect multi-collinearity exists when at least one predictor is perfect linear combination of the others (Field, 2009). If perfect, there is a perfect collinearity between predictor, it becomes impossible to obtain unique estimates of regression coefficient that can work equally well. The regression coefficient becomes less reliable as the degree of correlation between the independent variables, increase. If there is a high degree of correlation between independent variables, there is a problem of multi-collinearity. Field, (2009) cited that variance Inflation Factor (VIF) value above 10 and a tolerance (1/VIF) value below 0.10 pose a multi-collinearity problem.

Table 4.24: Multi-Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	Reliability	.428	2.337
	Responsiveness	.293	3.415
	Empathy	.332	3.016
	Assurance	.539	1.854
	Tangibility	.345	2.903
	Accessibility	.530	1.887

a. Dependent Variable: Customer satisfaction  
**Source:** Own Survey Data, 2020

As table 4.24 shows VIF values ranges from 1.854 to 3.415. The tolerance values ranges within the value of .293 to .539. In the study, the values of both (VIF and Tolerance level)

indicate that for this analysis there is no multi-co-linearity problem so, that can run CLRM assumption.

In general, all tests illustrated above are testimonials as to the employed model is not sensitive to the problems of violation of the CLRM assumption. So, it is possible for the researcher to run the regression analysis.

## 4.6 Multiple Regression Analysis

Kothar, (2004) define regression analysis is a statistical method that deal with the formulation of mathematical model that depicting a relationship among variables and can be used for the purpose of prediction of the value of dependent variable based on the value of the independent variables. Multiple regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables. More specifically, regression analysis helps to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed/constant. As stated in the objective of study the regression analysis used to examine the effects of service quality dimensions(reliability, responsiveness, empathy, assurance, tangibility and accessibility) on customer satisfaction can be performed.

### 4.6.1 Test Result for Significance of the Model

#### 4.6.1.1 ANOVA Model fit

**Table 4.25:** ANOVA Regression for Significant of the Model

		ANOVA <sup>a</sup>				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.759	6	6.293	618.242	.000 <sup>b</sup>
	Residual	1.934	190	.010		
	Total	39.693	196			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Accessibility, Tangibility, Assurance, Reliability, Empathy, Responsiveness

**Source:** own survey, 2020

Based on table 4.25 the ANOVA test shows the regression model has a significant effect on customer satisfaction since, the (F=618.242, p-values .000) is (.000<.01). This shows that, the regression model is statistically significant in explaining the relationship that exists between the study variables. Hence, implying good fit for the model as it shows significant effect of service quality dimension on customer satisfactions.

#### 4.6.1.2 Model Summary of Regression

Table 4.26: Model Summary of Regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Change Statistics		Sig. F Change
							df1	df2	
1	.975 <sup>a</sup>	.951	.950	.101	.951	618.242	6	190	.000

a. Predictors: (Constant), Accessibility, Tangibility, Assurance, Reliability, Empathy, Responsiveness

**Source:** Own Survey Data, 2020

The model summary on table 4.26 shows that the multiple correlation coefficient R., indicates a very strong correlation of .975 between independent variable (service quality dimension), and dependent variable (Customer satisfaction). Moreover, calculated R Square .951 (95.1%) explained by its independent variables, which is a very large, while the remaining 4.9% is explained by other variables, or other aspects outside the model, i.e. those dimensions of service quality cannot explain the remaining 4.9% of the variation in customer satisfaction.

To concluded table 4.26; the regression model used for the study is highly explained the overall model signifying the study that does not lost very important variables that affect the study output.

Table 4.27 : Regression Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.254	.061		4.175	.000
	Reliability	.145	.022	.161	6.587	.000
	Responsiveness	.100	.027	.108	3.652	.000
	Empathy	.100	.023	.119	4.283	.000
	Assurance	.102	.014	.162	7.428	.000
	Tangibility	.079	.029	.075	2.740	.007
	Accessibility	.422	.014	.649	29.491	.000

a. Dependent Variable: Customer satisfaction

Own Survey Data, 2020

The regression results of the model, predicting customer satisfaction through service quality and its dimensions. The independent variable i.e. service quality and its dimensions (Reliability, responsiveness, empathy, assurance, tangibles, and accessibility) are found to have a significant and positive association with customer satisfaction. These results are in confirmation with the correlation analysis in this regard as all the variables in the model have a positive association and significant with customer satisfaction.

The aim of the regression in the study is to form such an equation that can be used to find the effects of predictors on dependent variable. As table 4.27 show that, the regression coefficients ( $\beta$ ) values of all significant variables i.e. Accessibility, reliability, assurance, empathy, and responsiveness, and tangibles are; .422, .145,.102,.100, 100 and .079 respectively.

The coefficient table for service quality dimensions indicates the ( $\beta$ ) values of the independent variables.

## Regression Equation

$$Y = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon$$

Where, Y= customer satisfaction (the dependent variable)

B0= the constant

B1-B6= the Beta coefficients for their respective variables

x1- x6= the independent variables

$$CS = .254 + .145REL + .100RES + .100EMP + .102ASS + .079Tan + .422Acc + \epsilon$$

CS = Customer satisfaction, REL = Reliability, RES = Responsiveness, EMP = Empathy, ASS = Assurance, TAN = Tangibility, Acc=Accessibility and  $\epsilon$  =error

The regression equation above shows that by considering all factors constant at zero the customer satisfaction has a value of .254 units. This implies by considering all independent variables remain zero, the customer satisfaction has a value of 25.4%.

According to table 4.27 those six predictors have positive beta value, which indicates positive relationship. Therefore, one can say that based on ( $\beta$ ) value, in table 4.22 that all independent variables (Reliability, Responsiveness, empathy, Assurance, Tangibility, Accessibility) have a positive relationship with customer satisfaction.

The regression coefficient beta value indicates that the degree of effect of each service quality dimensions towards customer satisfaction. Highest ( $\beta$ ) value means that the independent value has highest effect on dependent value as the effects of all other predictors are held constant.

As a regression coefficient ( $\beta$ ) beta value shown in the table 4.27:

The accessibility has the highest ( $\beta$ ) value (.422) which indicates that out of all independent variables accessibility has the highest positive effect on customer satisfaction. Assumed that others independent variables remain constant: one-unit increase in accessibility will increase customer satisfaction of the health centers by .422 units. This implies one-unit increase in

accessibility will increase the customer satisfaction of Limu Woreda public health centers by 42.2% values.

The ( $\beta$ ) value (.145) belongs to reliability and one-unit increase in reliability given others independent variables remain constant customer satisfaction will increase by.145 units. This implies one-unit increase in reliability will increase customer satisfaction of Limu Woreda public health centers by 14.5% values.

The ( $\beta$ ) value (.102) belongs to assurance and one-unit increase in assurance given others independent variables remain constant customer satisfaction will increase by.102 units. This implies one-unit increase in assurance will increase customer satisfaction of Limu Woreda public health centers by 10.2% values.

The ( $\beta$ ) value (.100) belongs to responsiveness, and one-unit increase in empathy, given others independent variables remain constant customer satisfaction will increase by.100 units. This implies one-unit increase in responsiveness will increase customer satisfaction of Limu Woreda public health centers by 10% values.

The ( $\beta$ ) value (.100) belongs to empathy, and one-unit increase in empathy, given others independent variables remain constant customer satisfaction will increase by.100 units. This implies one-unit increase in empathy will increase customer satisfaction of Limu Woreda public health centers by 10% values.

Finally, the ( $\beta$ ) value (.079) belongs to tangibility and one-unit increase in tangibility given others independent variables remain constant customer satisfaction will increase by.079 units. This implies one-unit increase in tangibility will increase customer satisfaction of Limu Woreda public health centers by 7.9% values.

Table 4.28: Decision on Research Hypotheses

No	Hypothesis formulated	Regression Coefficient
		P<0.05
1	Ho <sub>1</sub> : Reliability has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>1</sub> : Reliability has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept
2	Ho <sub>2</sub> : Responsiveness has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>2</sub> : Responsiveness has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept
3	Ho <sub>3</sub> : Empath has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>3</sub> : Empath has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept
	H0 <sub>4</sub> : Assurance has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>4</sub> : Assurance has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept
	H0 <sub>5</sub> : Tangibility has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>5</sub> : Tangibility has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept
	H0 <sub>6</sub> : Accessibilty has no positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Reject
	Ha <sub>6</sub> : Accessibilty has positive and significant effect on customer satisfaction in Limu Woreda public health centers.	Accept

**Source:** Survey Data, 2020

The research hypothesis is predictive statement about the independent variable effect on dependent variable. Alternative hypothesis ( $H_1$ ) is usually the one which one wishes to prove and the null hypothesis ( $H_0$ ) is the one which one wishes to disprove. Thus, the null hypothesis represents the hypothesis that the trying to reject and alternative hypothesis represents all other possibilities. Hypothesis testing will result in either accepting the hypothesis or in rejecting the hypothesis based on the conventional precision values less than 0.05.

Based on table 4.28 above, regression coefficients result of independent variable against dependent variable has tested at 5 percent significance level ( $P < 0.05$ ) as follows;

### **Hypotheses 1**

The reliability regression coefficients study result;  $\beta$  value .145 and p-value is .000 at  $p < 0.01$ , which indicates reliability has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

### **Hypotheses 2**

The responsiveness regression coefficients study result;  $\beta$  value .100 and p-value is .000 at  $p < 0.01$ , which illustrates responsiveness has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

### **Hypotheses 3**

The empathy regression coefficients study result;  $\beta$  value .100 and p-value is .000 at  $p < 0.01$ , which shows empathy has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

### **Hypotheses 4**

The assurance regression coefficients study result;  $\beta$  value .102 and p-value is .000 at  $p < 0.01$ , which shows assurance has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

## **Hypotheses 5**

The tangibility regression coefficients study result;  $\beta$  value .079 and p-value is .007 at  $p < 0.01$ , which shows tangibility has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

## **Hypotheses 6**

The accessibility regression coefficients study result;  $\beta$  value .422 and p-value is .000 at  $p < 0.01$ , which shows accessibility has positive and significant effect on customer satisfaction in Limu Woreda public health centers. Therefore, the alternative hypothesis is accepted and null hypothesis rejected, (see table 4.28).

In overall, the results revealed that; 95.1% of the variation in customer satisfaction can be explained by the six service quality dimensions and other unexplored variables may explain the variation in customer satisfaction which accounts for about 4.9%, shown in table 4.27. The findings of this study also indicated that; accessibility is the most important factor to have positive and significant effect on customer satisfaction, followed by reliability, assurance, empathy, responsiveness, and tangibility.

## **4.7 Discussion of Results**

This section discusses the findings of the statistical analysis in relation to the previous research and literature.

### **In the descriptive statistical analysis**

The finding of the study indicates that customers are slightly more satisfied with the tangibility and less satisfied with reliability from service quality dimensions. Moreover, all service quality dimensions and customer satisfactions are field in moderate mean value. The study also revealed that the overall satisfaction level of the customer with health service quality deliveries rendered in Limu Woreda health centers is 60.91 %, while, 21.32%(42) were dissatisfied.

This is almost similar to reports from a cross sectional facility based study in central Ethiopia by Birhanu, *et al.*, (2010) found that, 62.6% of the customer reported that they have been

satisfied with their visit and College of Health Sciences, Jimma University; The finding of the study shows that the overall level of client satisfaction level with the OPD rendered at four growing health centers is 57.9% (Tume *et al.*, 2015).The study report is higher than the study of a cross sectional survey conducted in Tigray region to assess the level of client satisfaction in outpatient departments of zonal hospitals and the overall satisfaction level in outpatient department is 43.6%(Girmay, 2014).The study report is lower than a research done in Jimma University specialized hospital is 77%, done by Mindaye *et al.* (2011) Addis Ababa (85.5%), (Teklemariam *et al.*2013) Eastern Ethiopia (87.6%) and (Belay M, *et al.*2013) Southern Ethiopia (90.8) are satisfied with the services they received.

### **In the Correlation statistical analysis**

The correlation result shows that there is positive and significant relationship between the all quality dimensions (Reliability, responsiveness, empathy, assurance, tangibility and accessibility) and customer satisfaction. The finding further indicates that the strong relationship is found between accessibility followed with responsiveness and customer satisfaction. This is supported by a number of studies that have addressed the relationship between service quality and customer satisfaction (Kang and James, 2004; Pollack, 2008), studies done by Oliver, (1993); Woodside *et.al*, (1989) and Choi, (2004) and also, Akderea, M. Topb and S. Tekingündüzc, (2018) of research reported.

### **In the multiple regression statistical analysis**

In the multiple regressions, the finding of the study indicates that reliability has a positive and significant effect on customer satisfaction. This finding is supported by Al-Hawary *et al.*, (2011), and Malik *et al.*, (2011), while Munusamy *et al.*, (2010) reported that reliability has a negative and insignificant effect on customer satisfaction.

Also, the finding of the study indicates that responsiveness has a positive and significant effect on customer satisfaction. This result is supported with the study by Mohammad and Alhamadani, (2011), and also similar with the study by Al-Hawary *et al.*, (2011) reported responsiveness has a positive and significant effect on customer satisfaction.

Additionally, the finding of the study further indicates that empathy has a positive and significant effect on customer satisfaction. This finding is supported by Mohammad and Alhamadani, (2011), reported that empathy has a positive and significant effect on customer

satisfaction, while Munusamy *et al.*, (2010) found that empathy has a negative effect on customer satisfaction.

Moreover, the result of the study also indicates that assurance has a positive and significant effect on customer satisfaction. This finding is supported by Malik *et al.*, (2011), and also supported by AlHawary *et al.*, (2011) found that assurance a positive and significant effect on customer satisfaction.

Likewise, the result of the study indicates that tangibility has a positive and significant effect on customer satisfaction. This finding is supported by Munusamy *et al.*, (2010), and also supported by AlHawary *et al.*, (2011) reported that tangibility has a positive and significant effect on customer satisfaction, while Malik *et al.*, (2011) reported that tangibility has no contribution to customer satisfaction.

Similarly, the result of the study indicates that accessibility has a positive and significant effect on customer satisfaction. This finding is supported by Hazilaaha Abd Manaf, N., (2002) and also supported by Li, S., Hunang, Y & Yang, M M, (2012) reported that accessibility has a positive and significant effect on customer satisfaction.

The results of the study further indicate that accessibility, followed by reliability has the most important predictor and has a positive and significant effect on customer satisfaction. This finding is supported by Rula Al-Damen, (2017) research done on major government hospital in Jordan, and Choi, (2005) empirical research done on South Korea health care system.

In general, the results revealed that; all the service quality dimensions accounted for 95.1% of the variance in customer satisfaction while, other unexplored variables may explain the variation in customer satisfaction which accounts for about 4.9%. Moreover, the study found out that all service quality dimensions (reliability, responsiveness, empathy, assurance, tangibility and accessibility) have positive and significant effects on customer satisfaction. This finding is supported by studies and theories of (Cronin & Taylor, 1992; Oliver, 1980; Omar and Schiffman, 1995; Gremler *et.al*, 2001; Radwin, 2000; Kumar *et.al*, 2008) were suggested.

## **CHAPTER FIVE**

### **SUMMARY OF MAJOR FINDING, CONCLUSION AND RECOMMENDATIONS**

This chapter presents a summary, conclusion and recommendations of a final results and the process through which the results were obtained. In addition to this, demographic information of respondents would be presented, the statistical methods of analysis were discussed which included a descriptive analysis, correlation analysis, and multiple regression analysis by using SPSS version 24.

#### **5.1 Summary of Major Findings**

The aim of the study was to examine the effect of service quality on customer satisfaction interms of Limu Woreda public health centers. This is emphasis on service quality dimension such as (reliability, responsiveness, empath, assurance tangibility and accessibility), and customer satisfactions. The study used servperf model that directly measures the customer's perception of service performance. The data collected from the respondents using five types Likert scale closed-ended questionnaires have been analyzed by SPSS version 24 using descriptive statistics such as frequency, percentage, mean, standard deviation and inferential statistics (correlation and multiple regression analysis). As per the analysis made, the following major findings of the studys are summarized as follows:

The demographic information of respondents has been evaluated from the point of their age, gender, educational status, occupational status, and payment status, reason for visit, frequency of visit, residential area, and travel time taken to reach the health center. The results of demographic information of respondents indicate that; most of the study participants 54.4%(113) were female, 35%(69) were aged in the range of 29-39 years, 44.7%(88) were primary school, 67%(132) were paying for treatment, 77.7%(153) were visiting the health centers for illness, 82%(162) of the respondents were visited the health centers frequently, 46.7%(92) were farmer, 69% (136) were from rural area and 32.5%(64) were travel 1-2hrs to reach the health centers.

The independent variables used for this study; service quality dimension (reliability, responsiveness, empathy, assurance, tangibility, and accessibility) have an effect on customer satisfactions in the study area.

The study was intended to answer the seven research objectives.

The results of the inferential statistical analysis show (Regression coefficient)

The 1<sup>st</sup> research objective of the study is to examine the effects of reliability on customer satisfaction in terms Limu Woreda public health centers.

The reliability is important predictor and has positive and significant effect on customer satisfaction. This shows that once the reliability is improved, simultaneously the health centers customer satisfaction will be improved. Then, the health centers shall give more attention to the factor.

The 2<sup>nd</sup> research objective of the study is to examine the effects of responsiveness on customer satisfaction in terms Limu Woreda public health centers.

The responsiveness is important predictor and has positive and significant effect on customer satisfaction. This indicates that once each responsiveness is improved, simultaneously the Limu Woreda health centers customer satisfaction will be improved. Consequently, the health centers shall give more attention to the factor.

The 3<sup>rd</sup> research objective of the study is to examine the effects of empath on customer satisfaction in terms Limu Woreda public health centers.

The empathy is important predictor and has positive and significant effect on customer satisfaction. This indicates that once empathy is improved, simultaneously the Limu Woreda health centers customer satisfaction will be improved. Hence, the health centers shall give more attention to the factor.

The 4<sup>th</sup> research objective of the study is to examine the effects of assurance on customer satisfaction in terms Limu Woreda public health centers.

The assurance is important predictor and has positive and significant effect on customer satisfaction. This shows that once the assurance is improved, simultaneously the health

centers customer satisfaction will be improved. So, the Woreda health centers shall consider the factor.

The 5<sup>th</sup> research objective of the study is to examine the effects of tangibility on customer satisfaction in terms Limu Woreda public health centers.

The tangibility is important predictor and has positive and significant effect on customer satisfaction. This indicates that once tangibility improved, simultaneously the Woreda health centers customer satisfaction will be improved. Thus, the health centers shall give more attention to the tangibility.

The 6<sup>th</sup> research objective of the study is to examine the effects of tangibility on customer satisfaction in terms Limu Woreda public health centers.

The accessibility is the most important predictor and has positive and significant effect on customer satisfaction. This implies once the accessibility of the health centers improved, the customer satisfaction of the Limu Woreda health centers simultaneously improve. Therefore, the health centers shall give a more attention to accessibility to enhanced customer satisfaction.

The results of the descriptive statistical analysis show, all service quality dimensions and customer satisfactions are field in moderate mean value. The study also, reveals that the overall satisfaction level of the customer with health service quality deliveries in Limu Woreda health centers is 60.91 % While, 21.32% of the respondents are dissatisfied that shows a gap needs to be fill. This implies that there is a customer's satisfaction gap that the health centers managements shall improve to enhance the overall level of customer satisfactions.

Generally, the results revealed that; all service quality dimensions accounted for 95.1% of the variance in customer satisfaction. Farther more, the results show that accessibility is the most important predictor and has positive and significant effect on customer satisfaction. Moreover, the six service quality dimensions (reliability, responsiveness, empathy, assurance, tangibility and accessibility) have positive and significant effect on customer satisfaction. Also, all service quality dimensions have positive and significant relationship

with customer satisfaction. So, Limu Woreda health centers managements, can be advisable to give important consideration to the all factors in order to enhance customer satisfactions.

## **5.2 Conclusion**

From the findings the researcher makes a number of conclusions.

- **For the general objective to examine the effect of service quality on customer satisfaction in terms Limu Woreda public health centers.**

The all service quality dimensions understudy like; reliability, responsiveness, assurance, empathy, tangibility, and accessibility have positive and significant effect on customer satisfaction. In addition to this, all of the six service quality dimensions significantly explain 95.1% of the variations in customer satisfaction. In the study accessibility followed by reliability is the most important predictor that affect positively and significantly on customer satisfaction from service quality dimensions' under the study. The all service quality dimensions and customer satisfactions have a mean value of moderate level. In addition, the study shows (21.32%) of respondents were dissatisfaction response on the statements of the variable, while slightly more customers (60.91%) are satisfied with the service delivered by Limu Woreda health centers. This concluded that; all the six service quality dimensions are a key element in enhancing customer satisfaction of Limu Woreda health centers. This is evidenced by the fact that those service quality dimensions are jointly and independently positive and significant relationship with customer satisfaction of the health centers. This implies that the public health centers managements shall mainly focus and work on those most important factors. An enhancement on those service quality dimensions in the health centers will results in positive increase on customer satisfaction of the health centers. More over, service quality dimensions as overall and independently affects to magnitude of the customer satisfaction of Limu Woreda health centers. This means that delivering a service with high quality will lead to a higher customer satisfaction. Finally, the study concluded that there is a gap between what it should be and what it actually is. So, it can be advisable to the health centers managements to focus and work on improving overall service quality dimensions and customer satisfactions to maximize overall level customer satisfaction.

### 5.3 Recommendations

Based on the findings and conclusions of the study, the researcher forwards the following recommendations to the management of the Limu Woreda public health centers.

As Anton, J., (1997) stated, if the mean value of the entire variable under the study were ranged in a moderate, it's in a tolerance (acceptance) zone of services quality delivery. To get the customer satisfaction (delighted), there is still a room for improvement that must focus and work on. Therefore, depend on the Anton, J., (1997) thumb of rule the following recommendation can be given.

- Reliability dimension is considered as one of the important factors affects customer satisfaction. However, the customers of the health centers are found less (moderately) satisfied in terms of the reliability dimensions. One way of addressing this is by using the health center employees; to provide service at the time they promise to do so, sincerely interest in solving a problem that a customers face, delivers the service at the time agreed on, and keeps customers records accurately. This is to say that; the health center management be going to focus and improve on this factor by changing the way the service is available, modifying the contents of service and making the service quality right to outfit the wishes to maximize customer satisfaction.
- Responsiveness dimension is considered as one of the important factors that affect customer satisfaction. But the satisfactions mean values range at moderate level or slightly more than average means value. This shows that the needs of improvement in the way service is available, and making appropriateness to fit the need of customers. One way of addressing this is by using the health center employees; to tell customers exactly when the service can be performed, and provides fast service, always willing to help customers.
- Empathy dimension is considered as one of the important factor affecting customer satisfaction. But, the mean value of satisfaction is slightly more than the average. The managements of the health centers handling this problem by making the health center employees; gives all attention, understand the specific needs, serve the interests of customer and make opening hour is appropriate to its customers.

- Assurance dimension is considered as one of the important factor affecting customer satisfaction. But, the mean value of satisfaction is slightly more than the average. One way of handling this problem is; by making behavior of employees impress customers and make the customers confident when they contact with employees of the health centers.
- Tangibility dimension is considered as one of the important factors affects customer satisfaction. But it's satisfaction mean values range at moderate level or slightly more than average mean value. This shows the needs of improvement in changing, modifying and making the quality of service suitably to suit the needs of customers. One way of addressing this is; by using up-to date equipment and technology, making the physical facilities visually appealing, and making physical facilities and technology of the health centers goes with the type of service provided.
- Accessibility dimension is considered as one of the most important factors affecting customer satisfaction. The mean value of satisfaction is slightly more than the average. This shows the gap needs to fill by the health centers managements by focus on the factor to enhance customer satisfaction that; by making prescribed drugs are readily available as needed in pharmacy, laboratory tests are done appropriately in the centers, and service is available and accessible to customers all time as and when needed conveniently and by making the quality of service well to suit the needs of customers.
- The 21.32% of the respondents are dissatisfied with the service provided by public health centers. This has an implication for decision maker's/health centers managers be going to focus on effective monitoring of the entire healthcare systems towards in enhancing over all quality service delivery to raise the overall customer satisfaction to a better level.
- ☛ In addition the health centers shall be customer centric and management's focus areas that can emanate from the customer's needs.

Generally, all the six service quality dimensions represent 95.1% of the variation in customer Satisfaction. This is to say that the health centers management advisable to focus on all the service quality dimensions to improve and maintain by changing the way the services are offered, modifying the content and making the quality of services properly to suit the needs

for delighted customer satisfactions. Also, the health centers managements intend to give a priority to enhance the all service quality dimension because, its generally confirmed that all service quality dimensions under the study has positive and significant relationship with customer satisfactions in Limu Woreda public health centers. This is to say that as the health centers improve and increase service quality delivery level in appropriately to ensemble the needs, so as enhance the satisfaction level of its customers.

#### **5.4 Direction for Future Research**

The present study focused on the effects of service quality on customer satisfaction in casa of Limu Woreda public health centers, Eastern Wollega, Oromia, with service quality dimensions (Reliability, Responsiveness, Assurance, Empathy, Tangibility and Accessibility) independent variable while, customer satisfaction is being the dependent variable. To clearly investigate the issue of the effects of service quality on customer satisfaction the future research should be done on the remained service quality dimensions that affect customer satisfaction like; consumer behavior, competence and access to information in addition to the six variables of service quality dimensions focused in this study, and use also other methodology that contributes to customer satisfaction, will be one area of future research.

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# APPENDIX

## APPENDIX A

### Questionnaires Prepared by English Version



**WOLLEGA UNIVERSITY**  
**SCHOOL OF POSTGRADUATE**  
**COLLEGE OF BUSSINESS AND ECONOMICS**  
**Department of Management**  
**Business Administration**

**A Questionnaire Prepared for Customers Seeking Services from Limu Woreda Health Centers**

Dear respondent, the purpose of this questionnaire is to collect information on the service quality and customer satisfaction on Limu Woreda Health Centers for the partial fulfillment of the requirements for the masters in business Administration. The information obtained will be used for academic purpose only and be treated confidentially. Thank you very much in advance for your earnest cooperation.

**Instruction**

- ❖ No need of writing your name
- ❖ For any questions and suggestions please use contact addresses below

Mobile: \_\_\_\_\_ Email: \_\_\_\_\_

Thank you in advance for your cooperative

Gebeyehu Gudeta



## Part II: Service Quality Dimension Questionnaire

**Direction:** This part of the questionnaire intends to find your perception towards the Healthcare service quality provided by Limu Woreda Health Centers.

- Please circle the number which reflects your response.
- ❖ Please indicate the level of your agreement and disagreement with the following descriptions by encircling the appropriate answer based on the following ratings.  
5= strongly agree, 4= agree, 3= neutral, 2= disagree, and 1= strongly disagree

Independent variable /Service quality Dimensions/	Q . N o	Statement to evaluate	Rating scale				
			5	4	3	2	1
Reliability	1	The health center of employees provide service at the time they promise to do so.					
	2	The health center employees show sincere interest in solving a problem you face.					
	3	The health center employees perform service right the first time(error free service)					
	4	The health center delivers the service at the time agreed on.					
	5	The health centers keeps your records accurately (history of complaint, medical records, your contact information).					
Responsiveness	1	The health center employees tells you exactly when the service will be performed.					
	2	The health center provides fast service.					
	3	Employees of the health center are always willing to help customers.					
	4	The health center employees are never busy to respond to your enquires.					
	1	Employees of the health center gives attention to customers.					

Empathy	2	Employees of the health center give personal attention to each Customer.					
	3	Employees of the health center understand the specific need of customer.					
	4	Employees of the health center serve the interests of the Customer.					
	5	The health center opening hour is appropriate for all its customers.					
Assurance	1	The behaviors of employees in the health center impress customers with the reliability of service.					
	2	The customers feels confident when they contact with Employees of the health center.					
	3	Employees of the health center are always friendly and courteous.					
	4	Employees of the health center have knowledge to answer Customers questions.					
Tangibility	1	The health center has up to date equipment and technology					
	2	The health center facilities are visually appealing					
	3	The health center employees are well dressed and appear neat.					
	4	The physical facilities and technology of the health center goes with the type of service delivered.					
Accessibility	1	Prescribed drugs are readily available as needed in the health center pharmacy					
	2	Laboratory tests are done appropriately within the health center					
	3	Health care service is available and accessible to customers all time as and when needed.					

### Part III: Customer Satisfaction Questionnaire

**Direction:** the following statement describes your perception about Customer Satisfaction delivered by Limu Woreda Health centers.

- ☛ Please circle the number which reflects your response.
- ❖ Please indicate the level of your satisfaction and dissatisfaction with the following descriptions by encircling the appropriate answer based on the following ratings.

5= Highly satisfied, 4= Satisfied ,3=Neutral,2= dissatisfied, and 1= Highly dissatisfied

Dependent Variable	Q N o	Offered Statement to evaluate	Rating scale				
			5	4	3	2	1
Customer Satisfaction	1	You are satisfied with the overall health center service delivery adequately in time					
	2	You are quite satisfied with the Appropriateness of the service offered by the health center.					
	3	You are Satisfied with the Quality of service Provided by the health center.					
	4	You are Satisfied with the overall service delivered by the health center.					
	5	Based on the quality of service received, you are highly likely to seek the services of the health center.					
	6	Based on the quality of Service received, you will definitely recommend the health center.					

Questionnaires Prepared by Afaan Oromo Version



**YUNIVERSIITII WALLAGGAA  
KOLLEEJJII BIIZINEESII FI IKONOOMIIXSII  
MUUMMEE MANAJIIMEENTITTI  
BARNOOTA BULCHINSA DALDALAA  
DIGIRII 2FFAA**

**Gaafannoo buufatoota fayyaa Aanaa Limmuu irra kenna tajaajjila qulqulluu  
Kennamuun itti quufinsa jiru, yaada maamiltoota sakata'uun adda baasuuf qopha'ee.**

Duraan dursee yeroo keessan aarsaa gochuudhaan gaafannoo kana naaf guutuu keessaniif guddaan isin galateeffadha. Ani maqaan koo Gabayyoo Guddataa kanan jedhamu Yuniversiitii Wallaggaatti barataa (MBA) bulchinsa daldalaa yomuun ta'uu, yeroo amma kanaa digirii 2ffaadhaaf waraqaa qorannoo eebba koo kan naaf taasisuu buufatoota fayyaa Aanaa Limmuu irratti mataa duree **Bu'aa kennisa tajaajjila qulqullina qabuu kennamu irratti itti quufinsaa maamiltoota** irratti kan xiyyeffatu yoo ta'uu, isinis gaafannoo kana guutuudhan deggeersa barbachisaa ta'ee akka naaf gootan kabajaan isin gaafachaa, yaada isin qorannoo kana keessatti hirmachuun naaf kennitan iccitiidhan kan eegamee fi qaama kamiif iyyuu kan hin kennamnee ta'uu isaa nan isiniif mirkaneessa.

Haaluma kanan isin qorannoo kana irratti hirmachuun odeeffanno isin anaaf kennitan baay'ee barbachisaa ta'uu isaa yommuun ibsuu tuumsaa anaaf gootan maraaf guddaan isin galateeffadha.

**Kutaa 1ffaa:** Gaafannoo seenaa dhuunfaa waliin walqabatu

**Qajeelfama:** Gaafannoowwan armaan gadii isaa sirrii ta'etti tiikii()gochuun deebii kenna.

- |   |   |   |
|---|---|---|
| 1. Saala  | 1. Dhiira <input type="checkbox"/>                                  | 2. Dhalaa <input type="checkbox"/>          |
| 2. Umurii                                       | 1. 18-28 <input type="checkbox"/>                                   | 2. 29-39 <input type="checkbox"/>           |
|   | 3. 40-50 <input type="checkbox"/>                                   | 4. 50+ <input type="checkbox"/>             |
| 3. Sadarkaa barnoota                            | 1. Barressuu fi dubbisuu kan hin dandeenye <input type="checkbox"/> |   |
|   | 2. Barnoota sadarkaa 1ffaa <input type="checkbox"/>                 |   |
|   | 3. Barnoota sadarkaa 2ffaa <input type="checkbox"/>                 |   |
|   | 4. Barnoota diipiloma <input type="checkbox"/>                      |   |
|   | 5. Barnoota digirii jalqabaa <input type="checkbox"/>               |   |
|   | 6. Barnoota digirii 2ffaa fi isaa olii <input type="checkbox"/>     |   |
| 4. Haala hojii                                  | 1. Hojjetaa mootummaa <input type="checkbox"/>                      | 2. Daldalaa <input type="checkbox"/>        |
|   | 3. Qonnan bulaa <input type="checkbox"/>                            | 4. Barataa <input type="checkbox"/>         |
|   | 5. Haadha warraa <input type="checkbox"/>                           | 6. Hojii biroo <input type="checkbox"/>     |
| 5. Haala kaffaltii                              | 1. Kaffaltii irraa bilisan <input type="checkbox"/>                 | 2. kaffaltiidhan <input type="checkbox"/>   |
| 6. Haala deddeebii maamilaa                     | 1. Maamila haaraa fayyadame <input type="checkbox"/>                |   |
|   | 2. Maamila deddeebiin fayyadame <input type="checkbox"/>            |   |
| 7. Maaliif gara buufatichaa akka dhufan         | 1. Dhukkubsachuun <input type="checkbox"/>                          | 2. Karoora maatiif <input type="checkbox"/> |
|   | 3. Talalliif <input type="checkbox"/>                               | 4. Dhimma biroof <input type="checkbox"/>   |
| 8. Bakka jireenyaa                              | 1. Baadiyaa <input type="checkbox"/>                                | 2. Magaalaa <input type="checkbox"/>        |
| 9. Sa'a fageenya buufaticha ga'uuf itti fudhatu | 1. Daqiiqaa 30 gadii kan itti fudhatu <input type="checkbox"/>      |   |
|   | 2. Sa'a 1 gadii kan itti fudhatu <input type="checkbox"/>           |   |
|   | 3. Sa'a 1-2 kan itti fudhatu. <input type="checkbox"/>              |   |
|   | 4. Sa'a 2 ol-kan itti fudhatu <input type="checkbox"/>              |   |

**Kutaa 2ffaa:** Gaaffannoo maamiltoota dhimma kenninsa tajajjila qulqullina qabu  
buufatichaan kennamuu ilaalchisee

**Qajeelfama:** Yaada qabdan kan armaan gadii lakkofsoota 5 hanga  
1tti jiruu keessa itti maruun deebii sirrii ta'ee ittiin kennaa.  
5= Baay'een waliigala, 4=Waliingalaa, 3=Yaada hin qabu,  
2=Walii hin galuu, fi 1=Baay'ee walii hin galuu

Daayimenshinii kennisa tajajjila qulqulluu /Service quality Dimensions/	L a k k . G a a f f.	Gaaffannowwan Yaadni ittiin sakata'amu (Statement to evaluate)	Sadarkalee reetingii (Rating scale)				
			5	4	3	2	1
Amanamummaa (Reliability)	1	Dhiyeessa tajajjilaa hojjetoonni buufaticha kennan waadaa kan eege ta'uu isaatti gammaduu					
	2	Rakkoo maamiltoota hiikuudhaaf tajajjila hojjetonni buufatichaa kennanitti quufuu					
	3	Hojjetonni buufatichaa kennisa tajajjilaa dogoggora irraa bilisa ta'ee, kennu isaanitti quufuu					
	4	Dhiyeessa tajajjilaa buufatichi kennu kan waliigaltee eege ta'uu isaatti gammaduu					
	5	Buufatichi ragaa maamiltoota sirrii ta'ee qabachuu isaatti gammaduu					
Deebii atattamaa kennuu (Responsiveness)	1	Hojjetoonni buufatichaa sa'a/yeroo/ kennisa tajajjila sirrii ta'ee maamiltoota hubachisuu irratti gammaduu					
	2	Tajajjila haala si'ataa ta'een buufatichi kennutti quufuu					
	3	Hojjetoonni buufatichaa maamiltoota isaanii deggeruu fi gargaruuf yaalii isaan taasisan itti gammaduu					
	4	Hojjetoonni buufatichaa fedha guutuun maamiltoota isaanii dhaggeeffachuu fi deebii kennuu irratti gammaduu					
	1	Hojjetoonni buufatichaa xiyyeeffannaa isaan maamiltootaaf kennan isin gammachiseera					

Xiyyeeffannaa addaa kennuu (Empathy)	2	Hojjetoonna buufatichaa xiyyeeffannaa addaa isaan akka nama dhuunfaatti maamiilaaf kennan isin gammachiseera					
	3	Hojjetoonna buufatichaa fedha addaa maamila isaanii hubachuu irratti haalli jiru isin quubseera					
	4	Hojjetoonna buufatichaa fedha addaa maamila isaanii bu'uureeffachuun tajajjiluu irratti haalli jiru isin quubseera					
	5	Sa'a(Yeroo) itti buufatichi banamee tajajjila kennuu maamila hundaaf mijataadhaa					
Mirkaneessa kennuu (Assurance)	1	Amala gaarii hojjetoonna buufatichaa agarsiisanini amanamumma maamilli kenna tajaajjila buufaticha irratti qabu					
	2	Maamiltootatti wantii gaariin ni dhaga'ama yommuu hojjetoota buufatichaa waliin wal- argan					
	3	Hojjetoonna buufatichaa yeroo hunda itti dhiyeenyan maamila deeggeruu fi gargaaruu irratti haala jiru					
	4	Hojjetoonna buufatichaa gaaffii maamiila isaaniif deebii kennu irratti beekumsa (ga'uumsa) isaan qaban					
Qabatamummaa (Tangibility)	1	Buufatichi teeknooloojii fi meeshaalee ammayyaa wayiitoowaa ta'ee qabaachuu					
	2	Buufatichi iddoo bal'aa fi qulqulluu qabaachuu					
	3	Uffanni seera hojjetota buufaticha kan nama hawwatuu ta'uu					
	4	Meeshaalee fi teeknooloojiin buufatichi qabuu kennaa tajaajjilaa kennamu waliin wal-simachuu isaa					
Qaqqabummaa (Accessibility)	1	Daawaan ogeessan ajajamuu akkataa fi haala barbadameen faarmaasii buufatichatti argamuu isaa					
	2	Buufaticha keessatti qorannoon laaboraatoorii haala gaariin geggeeffamuu isaa					
	3	Kennii tajajjila fayyaa buufatichaa argamnii fi qaqqabumman isaa haalan maamiilaaf mijataa ta'uu isaa					

**Kutaa 3ffaa:** Gaaffannoo maamiltootaa dhimma itti quufinsa kennisa tajajjilaa buufatichaan kennamuu irratti xiyyeeffate

**Qajeelfama:** Yaada qabdan kan armaan gadii lakkofsoota 5 hanga 1tti jiru keessa itti maruun deebii sirrii ta'ee ittiin kennaa.

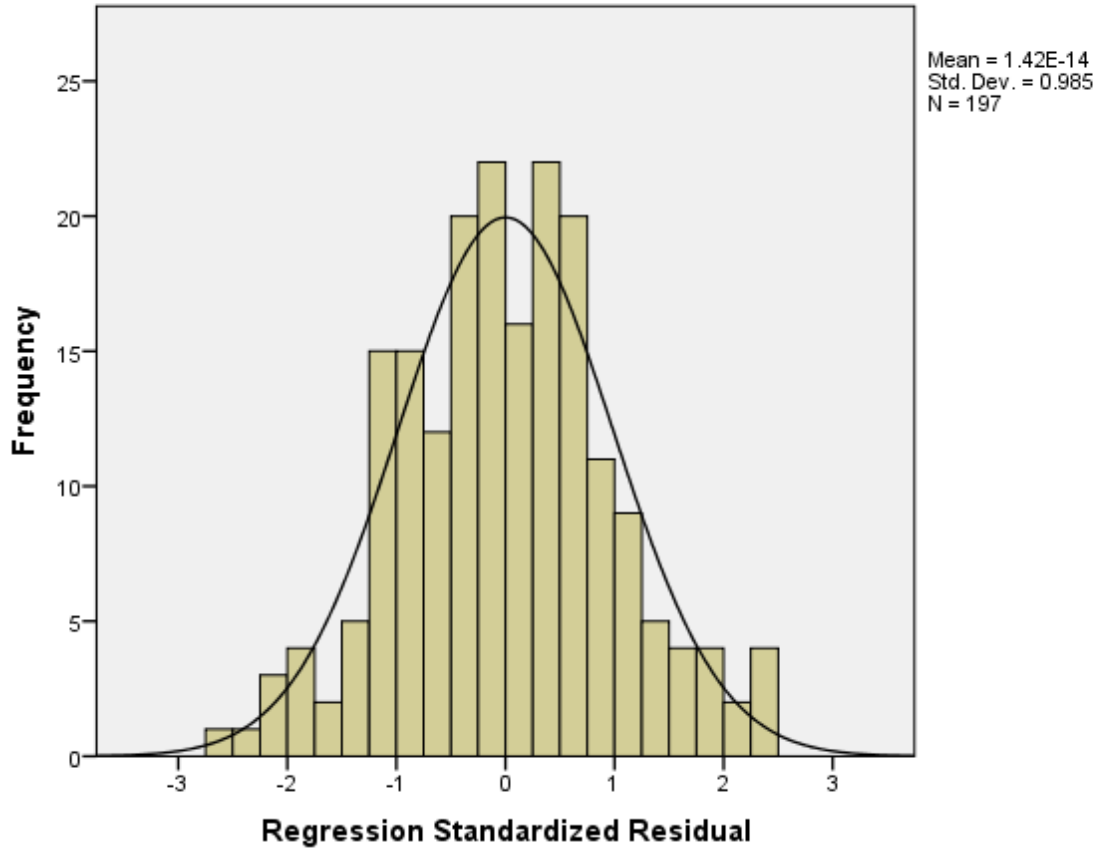
5=Baay'ee itti quufeera, 4=Itti quufeera, 3=Yaada hin qabu, 2=Itti hin quufne, fi 1=Baay'ee itti hin quufne

Itti quufinsa kennisa Tajajjila qulqulluu /Customer Satisfaction/	Lakk . Gaff	Gaaffannoowwan yaadni ittiin sakata'amuu (Statement to evaluate)	Sadarkalee reetingii /Rating scale/				
			5	4	3	2	1
Itti quufinsa kennisa tajajjila qulqulluu (Customer Satisfaction)	1	Tajajjila waliigalatti gaarii ta'ee buufatichan kennamutti quuftanittuu					
	2	Ga'umsa kenna tajajjila waliigalatti buufatichan kennamutti quuftanittuu					
	3	Qulqullina kenna tajajjila waliigalatti buufatichan kennamutti quuftanittuu					
	4	Kenna tajajjila waliigala buufatichatti quuftanittuu					
	5	Kenna tajajjila qulqulluu buufatichan kennamu fudhattan bu'uura godhachuudhan qulqullina kenna tajajjila buufaticha ni beeksiftuu					
	6	Kenna tajajjila qulqulluu buufatichan kennamu fudhattan bu'uura godhachuudhan qulqullina kenna tajajjila buufatichaa ni mirkanessittuu					

## APPENDIX B

### Histogram

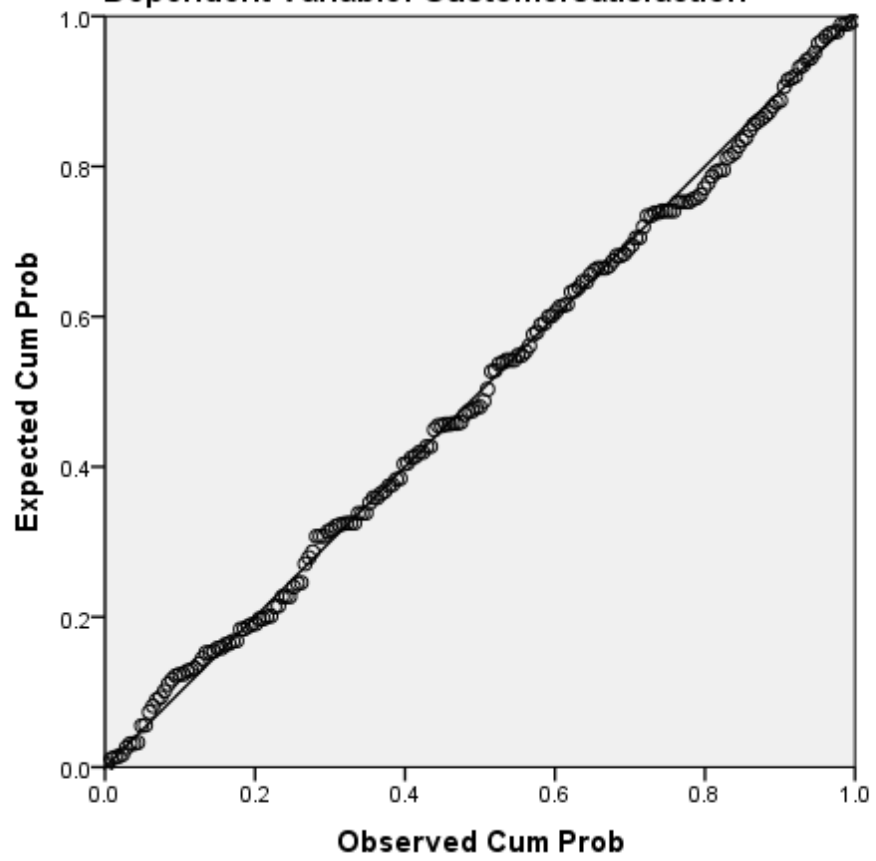
Dependent Variable: Customersatisfaction



Appendix Figure 1: Normality Distributions Test Graphically

**Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: Customersatisfaction**



### Scatterplot

Dependent Variable: Customersatisfaction

