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EFFECTS OF SERVICE QUALITY ON CUSTOMER SATISFACTION: THE CASE OF ARSHO MEDICAL LABORATORY

By

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Addis Ababa, Ethiopia

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DECLARATION

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

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May 2018

ENDORESEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

_____   _____

Advisor   signature

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Acronyms and Abbreviations

AML — Arsho Medical Laboratory

ISO — International Organization for Standardization

SERVQUAL — Service Quality

ROI — Return on investment

TQM — Total Quality Management

TQS — Total Quality Services

WTO — World Trade Organization

CRM — Customer Relationship Management

GSCA — Generalized Structured Component Analysis

SPSS — Statistical Package for Social Sciences

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Abstract of the Study

Service quality has achieved great interest from all stakeholder in a business notability those of managers and academics due to its substantial influence on business performance, cost reduction, customer satisfaction, customer loyalty and profitability. It is confirmed in both business and academic world that better service quality increases firms' competitiveness and in turn helps to maximize the satisfaction of customers. In light of this, this research work intends to investigate the effects of service quality on customers' satisfaction taking (AML)Arsho Medical Laboratory as a reference. Based on the general objective, the study has also formulated five specific objectives and examined each in depth. In conducting the study, descriptive and correlation & regression research design, was employed. Both primary and secondary data were collected for the purpose of this study from customers of AML. Data was collected from respondents using questionnaire and key informant interviews. Out of the 372 questionnaires distributed 301 questionnaire was collected and 3 customer service managers were interviewed. The data collected through questionnaire was analyzed using descriptive analysis and inferential statistics. While the qualitative data collected through interviews is analyzed using content analysis. From the analysis of the collected data, the findings show that the five service quality dimensions (tangibility, assurance, empathy, reliability and responsiveness) have a positive effect on customer satisfaction. It is also Recommended that to improve quality services to satisfy customer's needs, laboratories should pay much attention on the customer complaints, customer's expectation and individual attention should be given to customers in order to better understand their needs and satisfy them.

Key terms: *Effects, service quality and customer satisfaction*

CHAPTER ONE

INTRODUCTION

Service quality has achieved great interest from all stakeholder in a business notability those of managers and academics due to its substantial influence on business performance, cost reduction, customer satisfaction, customer loyalty and profitability. It is confirmed in both business and academic world that better service quality increases firms' competitiveness and in turn helps to maximize the satisfaction of customers. In light of this, this research work investigates the effects of service quality on customers' satisfaction taking Arsho Medical Laboratory as a reference. In doing this, the introductory chapter of the paper provides the background of the study, statement of the problem and the objectives of the study. In addition, the chapter covers the significance of the study, scope of the study and organization of the paper. The detail is presented as follows.

1.1. Background of the Study

The increased significance of the service sector to the economy and competition in the marketplace has led insurers continually seeking strategies to increase profitability and expand their market shares. These strategies often concentrate on improving service quality, increasing customers' satisfaction and trust, and fostering customers' loyalty (Fasil, 2015). Service quality is one of the key tools for managing a business. It helps to achieve competitive advantage over competitors that offer identical services. Quality in service is very important especially for the growth and development of business enterprises, which provides services (Rahaman, 2011). It works as a factor of determining the level of customer satisfaction (Ruyter & Bloemer, 1995). Ekinci (2003) indicates that the evaluation of service quality leads to customer satisfaction. Rust and Oliver (1994) define satisfaction as the customer fulfillment response, which is an evaluation as well as an emotion based response to a service.

International Organization for Standardization (ISO) is one of the popular measurement tools of service quality, where quality is defined as the totality of features and characteristics of a product, process or service (Islam & Ahmed, 2005). Parasuraman (1985) and Zeithaml (1990) noted that the key strategy for the success and survival of any business institution is the deliverance of quality services to customers. The quality of services offered will determine customer satisfaction and long-term loyalty (Naik, 2010).

Various alternative instruments have been used to assess service quality. Among these instruments SERVQUAL model is a diagnostic presented in 1988 and revised in 1991 by Parasuraman, Zeithaml and Berry abbreviated as PZB. In this view, service quality has two core elements, customer expectation and customer perception. They conceptualized service quality (Q) as the difference between customer's perceptions (P) of services of a specific firm and their expectations (E) of services in that particular industry. The difference between perception and expectation was characterized as a gap.

According to study carried out by Ladhari, (2009), it is recommended that the SERVQUAL model is a good scale to use when measuring service quality in various specific industries but that it is appropriate to choose the most important dimensions of this model that fit to that particular service being measured in order to assure reliable and valid results. The model has been widely adapted in many studies in varies service sector such as restaurant, healthcare, insurance, education, telecommunication and banking (Wu, 2014; Yasser, 2014).

Service quality has become very important in the laboratory industry because customers are increasingly expecting higher quality of services, becoming time saver and wanting more conveniences. Wisniewski (2005) mentions that service quality from the patients' perspective should be routinely monitored and assessed. Besides, Silvestro (2005) proposes the development of a tool for measuring the gap between patients' priorities and their perceptions. In this regard, this research used SERVQUAL model because it takes into account customer's expectation of a service as well as perceptions of the service which is best way to measure service quality in service sector (Shahin, 2005). To this effect, this research assessed the effects of service quality on customer satisfaction in Arsho Medical Laboratory. All the five dimensions of SERVQUAL model (Responsiveness, Empathy, Reliability, Assurance, and Tangibility) were measured to assess the level of service quality and their effects on customer satisfaction.

1.2. Statement of the Problem

Providing quality service is considered a crucial strategy for the accomplishment and survival in today's competitive environment (Dawkins & Reichheld, 1990; Parasuraman *et al.,* 1985). Anderson (1994) stated that global views of service quality apply a strong influence on global perceptions of customer satisfaction with the firm that finally is made by customer loyalty and positive word of mouth communication. The need for survival and growth in ever increasing

competitive markets are thus the main critical factors in the search for providing superior service quality and achieving customer satisfaction. Researchers have proven that providing good service quality to customers retains them, attracts new ones, enhances corporate image, positive word-of-mouth recommendation and above all guarantees survival and profitability (Negi, 2009 cited in Daniel & Berinyuy, 2010).

Customer's perception and expectation is continuously changing making it difficult for service providers to manage the service effectively. Yunus et al. (2009) emphases on relationship between perceived service quality, customer satisfaction and interest in purchasing meaning that service quality influences customer satisfaction and the other way around. Beerli, Marti and Quitana (2004), found that customer satisfaction and service quality have a positive relation.

Service quality and customer satisfaction are very important concepts that companies must understand in order to remain competitive in business and hence grow. It is very important for companies to know how to measure these constructs from the consumers' perspective in order to better understand their needs and hence satisfy them. Service quality is considered very important because it leads to higher customer satisfaction, profitability, reduced cost, customer loyalty and retention (Daniel & Berinyuy, 2010). Agbor (2011) indicate that service quality is not the only factor that leads to customer satisfaction, but also service quality dimensions.

In measuring service quality, the research applied SERVQUAL model adopted by Parasuraman *et al*. in 1985 and further expanded and criticized by Carman (1990); Mangold & Babakus (1991) and Cui (2003). Parasuraman *et al*. in (1985) announced a new instrument for measure of the service quality named SERVQUAL, consists of two key terms: SERV - service and QUAL - quality. In the practice, the instrument is administered twice in different forms, first to measure expectations and second to measure perceptions. The respondent is asked to rate his/her expectations and perceptions of performance on five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) and the results are then used to identify positive or negative gaps. In relation to this, based on empirical tests with the instrument and various theoretical considerations it is claimed that SERVQUAL is both a reliable and a valid measure of service quality for service organization. It is also claimed that the instrument is applicable to a wide variety of service contexts, although it may be necessary to reword and/or augment some of the items (Kulasin & Santos, 2005). SERVQUAL model and it is a generic measurement tool has

been utilized extensively in assessing service quality in a wide variety of service settings (Fasil, 2015). Kulasin & Santos citing Parasuraman *et al.* (1985) affirmed that different types of services that customers use forming expectations about and perceptions of services received are measured using SERVQUAL model dimensions of Reliability, Assurance, Tangibles, Empathy and Responsiveness.

In Ethiopia, few researches works have tried to apply SERVQUAL model and assess the impacts of service quality on customers' satisfaction. Fasil,(2015) has employed SERVQUAL model and analyzed the impact of service quality on customer satisfaction and customer loyalty in Ethiopian insurance industry and concluded that service quality dimensions have positive and significant impact on customer satisfaction. Besides, the study conducted by Meron (2015) on the impact of service quality on customer satisfaction in the banking industry confirmed that all the five dimensions of SERVQUAL model of service quality have positive impacts on customer satisfaction and assurance is the dominant service quality dimension which affects customer satisfaction.In addition, Endalkachew (2013) has assessed the impact of core banking and service quality in Commercial Bank of Ethiopia and revealed that service quality has a positive and significant impact on customer satisfaction.

However, the problem of this study is mainly informed by the fact that there is very limited empirical evidence in the area of service quality and customer satisfaction medical industry in Ethiopia. As far as the researcher is concerned, very little study has been published on the analysis of the effect of service quality on customer satisfaction in the medical industry in general and in medical laboratory in particular. This implies that conducting an investigation on the effects of service quality on customers' satisfaction in medical laboratory services is essential to the medical laboratories to assure better quality services to their customers. In addition, it will help to inform stakeholders, especially the industry regulators, the Ministry of Heath, National Medical Research Institute and Quality Control and Standardization Agency of Ethiopia regarding the service quality delivered by medical laboratories to customers.

To this end, the study inquired into and measured the effects of service quality on customers' satisfaction in medical laboratories in Ethiopia, taking the case of Arsho Medical Laboratory. It tried to measure the level of service quality using the five dimensions of SERVQUAL model and tried to associate it with the level of customers' satisfaction.

1.3. Research Questions

In this study, leading questions were generated to see the effects of service quality dimensions (SERVQUAL) on customer satisfaction. The study thus, was guided by the following research questions.

1. What is the level of service quality offered by Arsho Medical Laboratory when measured by service quality dimensions?
2. What is the level of customer satisfaction at Arsho Medical Laboratory?
3. What is the effect of service quality on customer satisfaction at Arsho Medical Laboratory?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to examine the effects of service quality on customer satisfaction in Arsho Medical Laboratory.

1.4.2. Specific Objectives

The specific objectives of the study are:

1. To determine the level of service quality offered by Arsho Medical Laboratory based on service quality dimensions;
2. To examine the level of customer satisfaction at Arsho Medical Laboratory;
3. To investigate the effect of service quality on customer satisfaction at Arsho Medical Laboratory .

1.5. Research Hypotheses

Based on the research problem formulated and the review of existing literature, the following specific hypotheses are developed;

H1- Service assurance have significant effect on customer satisfaction
H2- Service reliability have significant effect on customer satisfaction
H3- Service responsiveness have significant effect on customer satisfaction
H4 Service empathy have significant effect on customer satisfaction
H5- Service tangibility have significant effect on customer satisfaction

1.6. Significance of the Study

The subject of the study widens knowledge of service quality, the laboratory system and will help as a reference for further research work by anyone who might be interested. It will help customers express their feeling towards the laboratory since Customers satisfaction is the key success in Laboratory.

The study will help employees and management of Arsho Medical Laboratory and other laboratories to better understand how to hold loyal customers by satisfying their overall needs with expectation that they will advocate for the Laboratory, and hold their trust upon the laboratory which results in good profit, and enhances reputation as well. It will also help stakeholders involved in managing, monitoring and controlling the delivery of quality laboratory services to customers take corrective actions where required. Besides, the outcomes of this research will help service sectors especially the Laboratory industry to know the challenges that hamper the qualities. It will also benefit the researcher.

1.7. Scope of the Study

The study is specifically delimited to all the six branches of Arsho medical laboratories that offer both varieties of laboratory services in Addis Ababa. It excludes other laboratories found in the country due to the financial, time and other resource constraints that the researcher faces. Again only individual customers, not institutional customers, who use the services of these laboratories, at least, for the past twelve months were included in this study for analysis. In terms of the topic of the study, methodological, the study applied a triangulated mixed methods research approach.

1.8. Organization of the Study

The research was organized into five chapters in which chapter one is the introductory chapter that presents the background of the study, statement of the problem, objective of the study (general and specific), significance of the study and scope of the study. Chapter two presents the review of related literature consisting of theoretical, empirical and conceptual frameworks. Chapter three covers the research design, research approach, population, sample size, sample procedure, and methods to be used during data collection and data analysis. The fourth chapter presents the analysis and interpretation of empirical data collected from respondents. The final chapter provides the conclusion and recommendation of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter shows the theoretical literature view on service quality, customer satisfaction, the five service quality dimensions (the independent variables which are tangibility, reliability, responsiveness, emphaty and assurance), and the relationship between service quality & customer satisfaction. Then after the theoretical literature review, it presents discussion on the empirical and conceptual framework.

2.1. Theoretical Review of Literature

2.1.1. Service Quality
2.1.1.1. Defining Service Quality

According to Woods & King (2002), Quality has become important to the success of every business. The goal of quality is to steadily meet or exceed customer expectations by providing products and services at a price that creates value for customers and profits for the company.

There are three keys to a quality service.

▪ A company must have a good marketing research program so that it can learn what its customers want and expect.

▪ A company must hire service oriented employees.

▪ A company must have leaders at the top who are totally committed to quality service (Woods &King, 2002).

A critical component of customer perception, service quality is the dominant element in customer evaluation in case where customer services are offered in combination with a physical product, service quality is also critical in determining customer satisfaction.

Gronroos (1984) defined service as, *" A service is a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interaction between customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems.''*

Juran (1988), in the business viewpoint state that qualities are those features of products which meet customer needs and thereby provide customer satisfaction. The purpose of such higher quality is to provide greater customer satisfaction. However, providing more or better quality features usually requires an investment and hence usually involves increases in costs.

Deming (1970) on the other hand states that good quality means a probable degree of consistency and reliability with a quality standard fit to the customer. Besides that, according to Deming the customer's definition of quality is the only definition that matters.

Parasuraman *et al.* (1985) stated that it may be in appropriate to use a product-based definition of quality when studying the service sector and therefore developed the expression of "service quality". The definition of service quality is often vary from person to person according to the situation, service quality definition vary only in term of word used but the perceived service delivery meets, excess or fails to satisfied customer expectations(Cronin and Taylor, 1992; Oliver, 1993; Zeithaml, Berry and Parasuraman, 1993).

According to Parasuraman *et al.* (1991), companies can get their competitive advantage by using the technology for the purpose of enhancing service quality and gathering market demand. For decades, many researchers have developed a service perspective (Zeithaml, 2009, Ramsaran and Fowdar, 2007). Chang (2008) describes that the concept of service quality should be generally approached from the customers point of view because they may have different values, different ground of assessment, and different circumstances. Parasuraman, Zeithaml and Berry (1990) mention that service quality is an extrinsically perceived attribution based on the customer's experience about the service that the customer perceived through the service encounter. Niteck and Hernon (2000), *"define service quality in terms of meeting or exceeding customer expectation or as the difference between customer perception and expectations of service"*.

2.1.1.2. Quality Management in Service Firms

Quality in tangible, can been described and measured by marketers because it can easily be distinguished from other similar products while quality in service is hard to describe and measure. Sureshchandar (2001), showed that TQS is TQM applied in service organizations, it is also much more than that, because of the implementation issues surrounding service delivery, as well as the increased number of variables involved in such delivery. Services differ from

manufacturing goods on a number of dimensions: service intangibility, simultaneity of production, delivery and consumption, persishability, variability of expectations of customers and the participatory role of the customers in the service delivery.

Adolfas Kaziliunas (2010), showed that organizations with different quality management system implementation patterns have signifiantly different performance outcomes. A mature quality management should include a consideration of success factors for the benefits of quality management implementation from the early phases of its planning and designing processes.

Gronroos (1982) identifies two service quality dimensions i.e., Functional quality and Technical quality. Functional qualityy represents how the service is delivered; that is, it defines customers' perceptions of the interactions that take place during service delivery. Technical quality reflects the outcome of the service act, or what the customer receives in the service encounter (Brady & Cronin, 2001).

2.1.1.3. Five Dimension of Service Quality

SERVQUAL is a multi item scale developed to assess customer perceptions of service quality in service and retail businesses. Originally developed from the GAP model, SERVQUAL took shape and was developed during the 80's by Parasuraman, Zeithaml and Berry. These dimensions mainly focus on the human aspects of service delivery (responsiveness, reliability, assurance, and empathy and the tangibles) of service.

After extensive research, Parasuraman *et al.* (1991) found five dimensions customers use when evaluating service quality. They named their survey instrument SERVQUAL. In other words, if providers get these dimensions right, customers will hand over the keys to their loyalty. This is because they will have received service excellence. According to what's important to them.

The most widely reported set of service quality was offered by Parasuraman *et al.* (1985, 1988), who condensed using factor analysis the dimensions of service quality into five categories which are:

Assurance -Assurance is knowledge and courtesy of employees and their ability to inspire trust and convey confidence among customers. For examples, the customer service representatives,

sample drawers, recepitionists at Arsho Medical Laboratory should show respect for any customer who comes to the laboratory by being polite to them.

Reliability- Reliability of a service can be defined as the ability of service provider to perform the promised service dependably and accurately. For example, customers who use Arsho Medical Laboratory's services should get the service within the promised time, so the company needs to keep the promise and cannot make the customer wait long for their results.

Tangibles –Tangibility of a service is a scale that measures how dependable a customer views a service provider to be based upon the quality of its most visible attributes. Tangibles can include physical facilities, equipment's, and staff appearance. The showroom cleanliness in Arsho Medical Laboratory can be an example of tangibles service quality. Lehtinen & Lehtinen, (1982) views service quality in terms of physical quality (corporate image), quality and interactive quality. Physical quality refers to the tangible aspects of the service. Corporate quality refers to how current and potential customers, as well as other publics, views (image) of the service provider. Interactive quality concerns the interactive nature of the service and refers to a two-way flow that occurs between service provider and the customer, or his/her representative, including both animated and automated interactions (Lehtinen & Lehtinen, 1982).

Responsiveness- Responsiveness are reflects of the willingness to help customers and provide prompt service. In Arsho Medical Laboratories case, the company must avoid keeping customers waiting especially when it comes to delievering their results. There are no excuses given for the price paid for any late service.

Empathy - Empathy which is the last dimension on SERVQUAL Model, is about caring, ability to be approachable, and giving individual attention that the company can provide to the customers. For examples in Arsho Medical Laboratory, the sales representatives can be a good listener to what customers' want and need. This multi-item scale altogether is known as SERVQUAL.

Parasuraman *et al.,* (1991) also differentiated service quality dimensions in core aspects of the service (reliability), which are mainly concerned with the outcome of service and process aspects

of the service (tangibles, responsiveness, assurance and empathy), which are related with the service delivery process.

Other Authors have also included other related dimensions as listed in the table below.

Authors	Service Quality Dimensions
Ladhari (2008)	Assurance, tangibility, responsiveness, nursing staff attitude, personal beliefs and values.
Yesilada and Direktor (2010)	Tangibility, Empathy, Reliability and Confidence.
Gunawardane (2010)	Tangibility, Convenience, Physician concern, Non physician (staff) concern, Access to services, Staff expertise, Personal care, Professionalism.
Atinga et al. (2011)	Communication, Patient provider relationship, Waiting time, Environment
AL- Majali and AL-Hashem (2012)	Reliability, Responsiveness, Courtesy/ Kindness, Materialistic behaviour
Pai and Chary (2012)	Physical environment and infrastructure, Personnel quality, Image, Trustworthiness, Support, Process of clinical care, Communication, Relationship, Personalization, Administrative processes.
Nouri et al. (2013)	Assurance, Tangibility, Empathy, Responsiveness, Communication

Table 2.1.1.3: Illustrates SERVQUAL Model undertaken in the health care sector.

2.1.1.4. Benefits of Service Quality

Nowadays people live in an environment that is increasingly moving towards a service based economy. Other services are not small part of the economy, but are considered as the heart of value creation in economy. Due to the increasing role of service organizations in the area of the economy and the importance of quality in the areas of competition, service organizations must look to service quality with a strategic approach and have a clear understanding of the quality

status of services , the expectation of customers and the general characteristics of their quality. (Maryam, 2016).

Service quality is what makes one business organization have a competitive advantage when comparing to other businesses. Word of mouth is very important because it can harm the reputation of a business. Its customers that can only tell about the quality of a business by becoming more loyal, spreading positive word of mouth and repeating service offers. For this reason offering quality service is not an option it is a requirement.

Service quality is as one of the significant structures to explain and justify behavioral objectives related to future and the desire effects on the financial results and consequences of company and service quality is as one of the key strategies for the survival of a company that have examined and evaluated it and considering importance of service quality, there is no wonder that many researchers have dedicated themselves to understanding the dimensions of service quality (Gilaninia, 2013). By providing quality service, organizations are trying to face the challenge of gaining competitive advantage. Warraich 2013).

2.1.2. Customer Satisfaction
2.1.2.1. Definition of Customer Satisfaction

Customer satisfaction will help the business owners in improving their business. It's a leading indicator of consumer repurchase intentions and loyalty, it's a point of differentiation, it reduces customer churn, it increases customer lifetime value, it reduces negative word of mouth, it's cheaper to retain customers than acquire new ones (Beard, 2014). According to Oliver (2010) Satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided is a pleasurable level of consumption related fulfillment including levels of under or over fulfillment.

Customer satisfaction is a degree of satisfaction provided by the goods or services of a company as measured by the number of repeat customers or how service meets the customer's expectation (Rouse, 2008).

As Oliva (1992) tried to explain that satisfaction is where the service provider meets the expectations and norms of customers. Kotler (1991) suggested that satisfaction is the post

purchase evaluation of products or services taking into consideration the expectations. Fecikova (2004) shows that satisfaction is the feeling which emanates from the process of evaluating what was obtained against what was expected, the purchase decision itself and the fulfillment of needs or wants.

According to Hanan (1989) Customer satisfaction can be experienced in variety situations and connected to both goods and services. It is a highly personal assessment that is greatly affected by customer expectations. Satisfaction is also based on consumer experience of both contacts with the organization and personal outcomes. Kotler (2003) stated that customer satisfaction has been a central concept in marketing literature and is an important goal of all business activities.

According to Beard (2014) there are six reasons that customer satisfaction is required and important:

- ✓ It's a leading indicator of consumer repurchase intentions and loyalty
- ✓ It's a point of differentiation
- ✓ It reduces customer churn
- ✓ It increases customer lifetime value
- ✓ It reduces negative word of mouth
- ✓ It's cheaper to retain customers than acquire new ones

In a nutshell, Levy, (2009, NBRI, 2009) defines customer satisfaction could be the pleasure obtained from consuming an offer. 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). Customer satisfaction is one of the most important issue concerning business organization of all types, which is justified by the customer oriented philosophy and the principles of continues improvement in modern enterprise.(Arokiasamy, 2013).

Giese & Cote (2002) developed a procedure derived from a framework for consumer satisfaction, which they developed based on commonalities of the existing definitions/ interpretations in the literature as well as the views of the consumer.

The commonalities are:

1)   Consumer satisfaction is a response (emotional or cognitive);

2)   The response pertains to a particular focus (expectations, product or service itself, consumption experience, and value experience)

3)   The response occurs at a particular time (after consumption, after choice, based on transactional or accumulated experience)

 (Giese & Cote, 2002).

Customer satisfaction is a customer's positive, neutral, or negative feeling about the value she/he received from an organization's product in specific use situations.(Robert, B. W. and Sarah, F. G. (1996). Today, it is more important for organizations to conduct all aspects of their business to satisfy customers. Favorable satisfaction ratings not only boost sales but can also have a dramatic effect on company performance.

Customer satisfaction is a major component of a quality management system, and has a significant focus in the International Organization for Standardization (ISO) standards. Ultimately, the laboratory produces a product, the test result, for its customers. If the customer is not well served, the laboratory is not achieving its primary function.

2.1.2.2. Determinants and Measure of Patients Satisfaction

According to Prachayaporn (2014), the satisfaction is the results of participating in some particular activity. A positive attitude will lead to satisfaction with that service. On the other hand, a negative attitude will lead to dissatisfaction with that service. The accessibility of the medical system, concluded in five parts, which are

✓   Availability is the sufficiency ability to serve clients' needs.

✓   Accessibility is the location that could be easy to access.

✓   Accommodation is the convenience for the clients' while receiving service.

✓   Affordability is the ability to pay for a treatment or service.

✓   Acceptability is the overall acceptance of the Service Quality, including the type of providers or doctors.

Geletta Tadele (2014), indicated that satisfaction is the extent to which the clients feel their needs are fulfilled and their expectations are met by the service provider. Furthermore, understanding the level of clients satisfaction and identifying the factors hindering clients satisfaction are the

most important base lines to improve the quality of service being delivered. According to Nandon (2010), service quality has been viewed as a determinant of customer satisfaction. Different dimensions of service quality have been considered by various actions.

The measurement and the evaluation of patient satisfaction is a milestone for the improvement of the services provided, given that these results can provide a useful variety of information and data. Miltiadis (2016). Rodas (2017) indicated that Monitoring patient satisfaction are important and useful tools for quality improvement for clinical laboratories in particular and health care organizations in general.

2.1.2.3. Customers Perception and Expectation

One of the main elements determining customer satisfaction is the customer's perception of service quality. Customer satisfaction is described as the result of a comparison of the customers' expectations and his/her subsequent perceived performance of service quality (Herington & Weaven, 2009). Thus, organizations give a quality service which gives ita competitive edge.

Parasuraman et al., (1991), tries to calculate gap scores by subtracting the expectations score from the percpetion scores. Using a factor analysis procedure, four determinants of service quality emerged: (1) Personal Attention (2) Reliability (3) Tangibles and (4) Convenience.

Levels of Customer Expectation

```
┌──── Ideal expectations or desires
│
├──── Normative"should" expectations
│
├──── Experience Based Norms
│
├──── Acceptable Expectations
│
└──── Minimum Tolerance Expectations
```
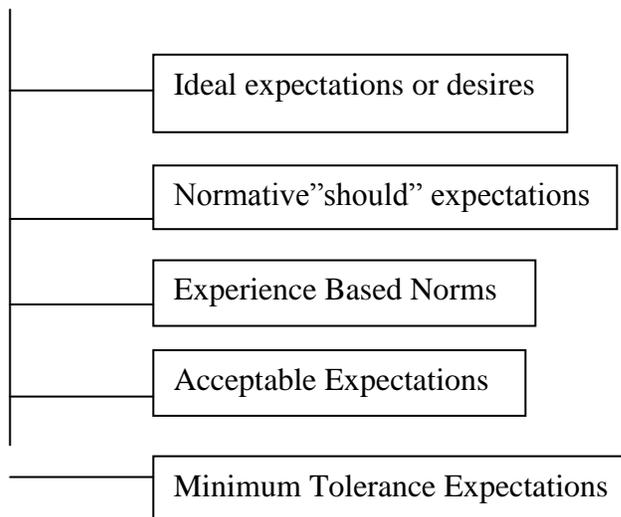
Figure 2.1.2.3: Levels of Customer Expectation

Source: R.K Teas, 'Expectations, performance evaluation and consumers' perception of quality'. Journal of Marketing (October 1993), pp. 18-34.

2.1.2.4. Factors that Influence Customer Satisfaction

From literature review, there are many factors that affect customer satisfaction. Such factors include friendly employees, courteous employees, knowledgeable employees, helpful employees, accuracy of billing, billing timeliness, competitive pricing, service quality, good value, billing clarity and quick service (Hokanson, 1995). From the studies carried out in many countries, factors like: service quality, and perceived value, are the key constructs affecting the customer's satisfaction with mobile services. Studies also point out that customer satisfaction results ultimately in trust, price tolerance, and customer loyalty. Therefore, building customer relationship is a backbone for all organizations in general, and companies in service industries in particular. Issues like: customer satisfaction, service quality, customer perception, customer loyalty, are the main concerns of the nowadays service companies, which improves organization's performance and translates into more profits.

2.1.2.5. Benefits of Customer Satisfaction

Customer Satisfaction has been considered as a crucial factor influencing customer loyalty. (Gerpott, 2001 ; Kumar, 2013 ; Kim, 2016). Omchonu, (2008) suggest that it is a psychological state where there is a consistency between the emerging emotion and expectation. Gerpott et al., (2001), state that the satisfied customers tend to retain their pattern of purchases. Gronholdt (2000), point out that customer loyalty is a function of customer satisfaction, and that loyal customer customers affect a company's financial performance. Wong & Zhou (2006), Aktepe (2015) and Chang (2015), specify that satisfaction is one of the key factors affecting customer loyalty. Analytical studies by Maxham & Netemeyer (2002) and Blodgett (1997) recognize the fact that satisfied customers publicize the firm and are more likely to remain loyal.

When businesses have satisfied customers:

- ✓ Customers become loyal
- ✓ Customers will repurchase again
- ✓ It will Reduces customer negative word of mouth
- ✓ It will Reduces customer churn
- ✓ It's cheaper to retain customers than acquire new ones

✓   It will increase the number of customers

According to Harkiranpal (2006), Customer satisfaction is important because many researchers have shown that customer satisfaction has a positive effect on organizations profitability. Due to this, the consequences of customer satisfaction and dissatisfaction must be considered. Harkiranpal also tried to show that there is a positive connection between customer satisfaction loyalty and retention.

Researches show that each dissatisfied customer communicates their experience to an average of 5-15 people of whom 13% continue the chain of negative promotion by disseminating contrary feedback to 10 more potential customers. (Harari, 1992).

Since human needs are unlimited, Customers for this reason are hard to please.

2.1.3. Relationship Between Service Quality and Customers' Satisfaction

Service quality and customer satisfaction have a great influence on each other. The quality of service has become an aspect of customer satisfaction.According to G.S. Sureshchandar *et al.* (2002), The realtionship between service quality and customer satisfaction has received considerable academic attention. But the nature of the exact relationship between service quality and customer satisfaction is still shrouded with uncertainty. Many researchers have operationalized customer satisfaction by using a single item scale and many others have used multiple item scales.

Ming Wang (2013), indicated that the overall service quality has a significantly positive effect on overall user satisfaction. Minh (2016), showed that service quality and customer satisfaction are important antecedents of customer loyalty and customer satisfaction mediates the effects of service quality on customer loyalty.

Agbor, Jenet Manyi (2011) imply that service quality is not the only factors that could lead to customer satisfaction in service sectors; that service quality dimension varies in the different service sectors. The findings suggest that to provide quality service in order to satisfy customers, organizations in this kind of service sectors need to improve on the dimensions of service quality.

Also, to provide total satisfaction to customers, the service sectors need to improve on the other factors that were given as reasons for satisfaction.According to Olu (2010), service quality has effect on customer satisfaction and that there is a positive relationship between service quality and customer satisfaction. The researcher concluded by recommending that organizations should focus more attention on service quality, because of its effects on customer satisfaction.

Prachayapornet (2014), showed the significant relationship between overall quality of pharmacy service in public hospitals and overall customer satisfaction with a significance level at 0.01. The mean difference between the perception and expectation was 0.03. It shows that assurance positively impacted patient satisfaction with the highest difference, followed by empathy and reliability. On the other hand, responsiveness and tangibles negatively impacted customer satisfaction respectively.

Mukhles (2017) tried to show the benefits that can be achieved by service quality such as establishing customer satisfaction, contributing to business image, establishing customer loyalty, and providing a competitive advantage to a business. Service quality performance can mean different to different people, for example, employees may show higher perceptions of service quality than customers perceived, and thus managers and their employees never like to identify deficiencies in service quality.

Customer satisfaction has got increasing attention in health care. The implementation of quality standards and the use of management systems, e.g. Balanced Scorecard, in clinical laboratories have further emphasized the customer perspective in the improvement of laboratory service. It is a challenge for the clinical laboratory management to reach and utilize the customer perspective. A generally used method to obtain customer feedback is to conduct a satisfaction survey. Satisfaction surveys provide satisfaction ratings.

According to Kimasi (2014), recognizing dimensions of service quality and the importance of each of these dimensions for customers as well as expectations and perceptions analysis in relation to each dimensions is the first step to provide service with quality to customers and satisfy him/her.

According to Ananda & Sonal (2017), The five service quality dimensions have a direct relationship with customer satisfaction. The five service quality dimensions are the dependent variables and customer satisfaction is the independent variable.

2.1.4. Challenges of Service Quality and Customer Satisfaction

According to Antonio (2010), Service quality is a major issue because is the result of a judgmental value that involves both the expectations as well as the perceptions of the customers.

Many organizations spend a lot of effort and money to measure quality without relating the results of measurement to necessary improvements. Dahlgaard and Dahlgaard-Park (2002) suggest using Deming's plan, do, study, act (PDSA) model to deal with this problem.

The PDSA steps are:

(1) Plan. Develop a plan for improving quality. This stage includes analyzing the current situation and to predict the impacts of any future decision and developing appropriate measurement system.

(2) Do. Executes the plan first on a small scale with appropriate measures. The measures provide an understanding of the level and type of success obtained.

(3) Study. Evaluates feedback to confirm or to adjust the plan. This stage includes analyzing the results of the plan, its implementation, the gaps between the goals and the results and causes for the gaps.

(4) Act. Makes the good results of the plan into standard operations and improves the plan of the bad results or studies the adjustments made in order to improve them.

In modern ages when almost everything comes handy, customers have become less appericative and are difficult to please. With the advancement in technology and the accessibility of information, product quality among competing brands and companies are almost equal. Hence, the determining factor in choosing the brand company lies in the customer service (Infinit, 2017). According to Infinit (2017), there are six major challenges of delivering customer satisfaction.

1. Understanding Customer Expectation

Most companies, target specific customers, by gender, race, age, generation, and the like. While these customer classifications may share similar basic requirments of a certain product, they do have varied desires that they take into account when purchasing product. This is the reason why talking to customers is the best strategy.

2. Reaching out to Customers

Doing research and gathering data on customer expectation brings the task of reaching out to customers. There are plenty of ways to advertise ad get through the customers. It might be through print media, radios, televisions, phone emails, Social medias and face to face campaign. With telephones the challenge is to understand emptions by reading through the opinions that have no tone. In social media, the challenge is to present everything with the presure of doing it in public. Implementing a customer feedback service and ahaving a systematic approach to gather data from customers will help a company understand and work for a better customer experience.

3. Exceeding Customer Expectations

Expectations constantly change, companies must then be always a step ahead. It is also noteworthy to know that often times, the expectations of customers are set by the competitors.

4.Constitency

Consistency is probably the most difficult challenge to achieve. Great customer service must be delievered to all customers, across all business channels. Each and every experience of each and every customer must be equally good.

5. Employing skilled customer service Professionals

Hiring skilled customers is one thing, retaining them is another. Companies must have structured programs to teach and train new hires about company policies, values, culture, and practices in dealing with customers.

6. Creating a customer- first culture

The long term solution to achieving consistency across all business channels is to instill a customer first company culture. A customer driven company culture can be described as having a distinct appreciation for customer service, understanding the impact of their service and are willing to go out their way to meet customer needs. In order to cultivate this culture, it must be emphasized during the hiring and training process.

The employees must be able to see the companies vision, fit into the culture and work with the company to achieving the company's goal. Employees retention is also a key factor to success. Staff turnover not only affects the internal aspects of the business, it is also not good for the customers. Dealing with the same person develops trust and is a good way to build long lasting relationships.

2.2. Review of Empirical Literature

Although not addressed in the early studies, an emerging concept is of viewing patients as consumers of the healthcare system, with Kolodinsky (1995) stressing that 'patients are consumers'. The same study revealed that it is the quality, rather than quantity, of received care that influenced patient satisfaction in the domain of managed care, adding that satisfaction among patients is directly related to the physician encounter. Certainly, almost all encounters involve exchange of information through communication between physicians and patients, and evaluation of the 'quality of the encounter' is subject to the quality of such communication. In fact, Buller (1987) found that, when judging medical care, patients rely heavily on physicians' communication proficiency during encounters with them, thus implying that quality of communication should be a major concern for physicians in their efforts to retain patients. In other words, communicating with patients gives physicians (and other hospital staff) an opportunity to comfort patients and display empathy. Moreover, as suggested by de Ruyter and

Muslim (2012), conducted a study on the impact of service quality on customer satisfaction in the case of hospital service quality and its effect on patient Satisfaction. Improving the quality of medical care services has become a primary concern for patients, and, in order to provide better service to patients, service quality has become increasingly important for hospitals in respect of satisfying and retaining patients (Alhashem, 2011; Arasli, 2008).

Ali (2014), Quality in healthcare is a production of cooperation between the patient and the healthcare provider in a supportive environment. Personal factors of the provider and the patient, and factors pertaining to the healthcare organization, healthcare system, and the broader environment affect healthcare service quality. Healthcare quality can be improved by supportive visionary leadership, proper planning, education and training, availability of resources, effective management of resources, employees and processes, and collaboration and cooperation among providers.

Ida (2013), analyzed the impact of service quality on patient loyality. Private Hospital Industry has currently been advanced and prolific rapidly along with the improvement of technology and medical science. Its circumstance prompts a strong effort to achieve and satisfy consumers in order that they become loyal ones. The study aimed to identify and examine (1) service quality influence on patient loyalty; and (2) service quality influence on patient loyalty mediated by CRM. The population was patients of Private Hospitals, Collecting sample of study used two levels of judgment sampling. The first level was purposive sampling to determine the means of choosing sample. The amount of sample was 100 respondents analyzed by Generalized Structured Component Analysis (GSCA). The results showed service quality positively and significantly influenced customer loyalty; Implementation of Customer Relationship Management (CRM) mediated service quality influence on customer loyalty. When customers of Private Hospital in Denpasar felt the service quality met their expectation or more, they would be satisfied and loyal. Theoretically, the study is able to enhance and complement the realm of management science particularly concepts of CRM service, Customer Loyalty, and to be beneficial for academics and practitioners.

Early research developing various scales and models for yielding new perspectives on what generates satisfaction among patients as the ultimate users of the healthcare system (Korsc, 1968; Hulka, 1970; Fisher, 1971). However, the questionnaires in these and many other studies lacked consistency in terms of observed dimensions. This issue was addressed by Ware and Snyder (1975), who identified four key satisfaction dimensions: humanness and quality, service availability, convenience of care, and access mechanisms.

The article about the theoretical model for assessing quality in health services proposed by Parasuraman *et al.,* (1991), in order to measure the degree of satisfaction of users. This model is

based on the analysis of expectations and perceptions of users of health services, by means of five dimensions: tangibility, reliability, responsiveness, assurance and empathy. From the difference between what is expected by the user and the service offered, gaps or shortcomings are derived that may be the main obstacle for users to perceive the provision of such services with quality. It was observed that the use of the psychometric scale called Service Quality (SERVQUAL) in some studies about satisfaction, obtained very favorable results in the institutions in which it was employed. The analysis revealed the need to improve the existing models of evaluation, as well as the importance of measuring user satisfaction in health institutions.

In the context, the service provider (MALBAT Headquarters) had taken a proactive action to plan, maintain, and monitor its services to the soldiers who were involved in peacekeeping missions in a Middle Eastern country. The majority of soldiers perceived that responsiveness and empathy were actively and properly implemented by the service provider to improve operations, administration and logistics in operation areas. This practice had increased soldiers' satisfaction with the service quality programs implemented in the peacekeeping operations. Azman (2013).

According to J. Joshua (2015), Service Quality in banking sector is the most important criteria and asset for evaluating and satisfying customers and thereby increases the customer loyalty and average retention rate of customers. Joshua showed that among the service quality determinants, reliability, assurance and empathy play a pivotal role and prior research suggests that customer perceptions and expectations are more likely to be different across service sectors.

In Ethiopia there are not much researches done on Laboratory Industries. Arsho Medical Laboratory has indicated that researches need to be done on the service quality of laboratories. For this reason, this research tried to see the effects of service quality on customer satisfaction using the different SERVQUAL dimensions and trying to see which of those dimensions are rated high and which dimensions are rated low in Arsho Medical Laboratory.

2.3. Conceptual Framework

The study measures the relationship between customers satisfaction of the Laboratory using the five SERVQUAL dimensions, all dimensions are important to customers, but some are more important than others.

TANGIBILITY	→	CUSTOMER SATISFACTION
RESPONSIVENESS		
ASSURANCE		
RELIABILITY		
EMPHATY		

Independent Variables   **Dependent Variable**
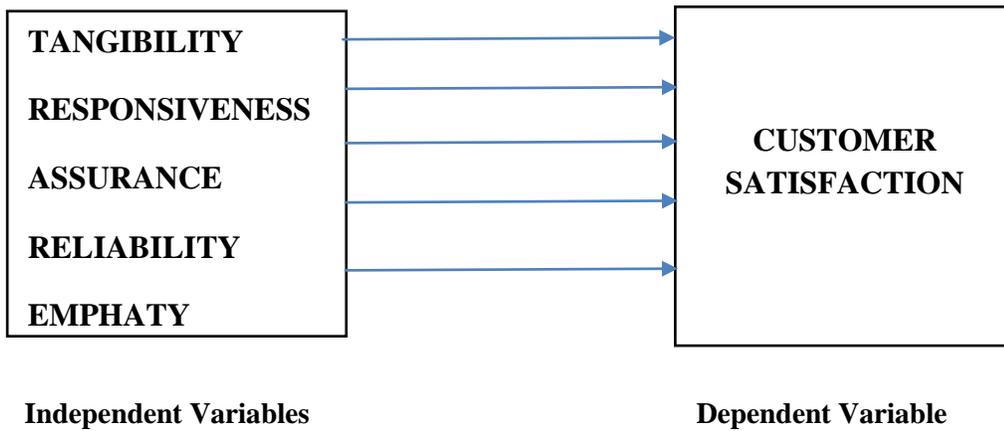
Figure 2.3: Conceptual Frame work

CHAPTER THREE

METHODOLOGY OF THE RESEARCH

This chapter contains the Methodology part that helped in collecting the research data. It includes the research approach, research design, target population, sample size, sampling procedure, type of data collection instruments, data collection procedures and data analysis techniques. Each topic was elaborated briefly below.

3.1. Research Approach

Mixed method reseach approach was used in considering the research objective and to gain a better understanding about the research problem. Mixed methods research approach was used because the study focuses on the effects of service quality on customer satisfaction. Mixed research includes a mix of quantitative and qualitative methods in a research study.

Qualitative research is primary exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research while quantitative research is used to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics. It is used to quantify attitudes, opinions, behaviors and other defined variables and generalize results from a larger sample population (Susan, 2011).

The goal of mixed methods research in this research is to draw from the strengths and minimize the weaknesses of both qualitative and quantitative methods in single studies (Creswell, 2009). As for mixed method research, quantitative and qualitative methods complement each other. Results from one method are used to elaborate on results from the other method (Cresswell, 2008 quoted in Migiro & Magangi, 2011). Creswell (2014) acknowledged that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone. In addition, mixed methods research offers greater promise for researchers to see methodological describe and develop techniques that are closer to what researchers actually use in practice (Johnson & Onwuegbuzie, 2004). The other rationale for the choice of mixed methods in this research is the possibilities of triangulation of multiples sources of both qualitative and quantitative data to study research topics. These writers have also

concluded that the use of quantitative and qualitative methods in combination to investigate social phenomenon yields greater information that cannot be achieved through reliance of a single method.

3.2. Research Design

Burns and Grove (2003), described research design as a "blueprint for conducting a study with maxium control over factors that may interfere with the validity of the findings". Parahoo (1997) describes a research design as a plan that describe how, when , and where data are to be collected and analysed. Polit *et al.* (2001) define a research design as "the researcher's overall fir answering the research question or tesing the research hypothesis".

In this research thus, a concurrent triangulation type of research design was followed in order to answer the research hypothesis. According to Burns and Grove (2003), concurrent triangulation method research is designed to provide a picture situation as it triangulated evidence. Descriptive and Inferential statistics was used, For this study therefore, the stated research design was followed for the purpose of obtaining the level of patients/customers satisfaction who use Arsho Medical Laboratory for different purposes.

3.3. Target Population

Parahoo (1997) describes population as the total number of units from which data can be collected such as individuals, artifacts, events or organizations. Burns and Grove (2003) describe population as all the elements that meet the criteria for inclusion in a study.

The target population for survey is the entire set of units for which the survey data are to be used to make inferences. Thus, the target population defines those units for which the findings of the survey are meant to generalize. Paul (2008).

The target population of the study was customers and customer service managers of Arsho Medical Laboratory (AML). Arsho in total has 6 branches located in Addis Ababa. For the purpose of the study, the researcher selected all the branches.

3.4. Sampling Size

The study focused on the customers of all the six branches and the customer service managers. The branches are Meskel Flower, Piazza Branch , Cathedral Branch , Haya Hulet Mazoria Branch , Megenagna Branch and Chew Berenda Branch.

Accordingly, to minimize sampling problems and to keep the representativeness of target respondents selected from the population, the proposed study employs two sets of formula.

The first formula selected in the study is the one proposed by Krejcie & Morgan (1970) for determining needed sample size in social science research when the population is known. The formula can be stated as:

Formula 1: $S = \dfrac{X^2 NP(1-P)}{D^2(N-1)+X^2 P(1-p)}$

Where: S = required sample size;   X2= the table value of chi-square for 1 degree of freedom at 0.05 confidence level (3.841); N = the population size; P = the population proportion (assumed to be 0.50 as this would provide the maximum sample size); and d = the degree of accuracy expressed as a proportion (.05).

$$S = \frac{(3.841)26{,}133(0.5)(1-0.5)}{(0.05)^2(26{,}133-1)+(3.841)0.5(1-0.5)}$$

$$S = \frac{25{,}094.21}{65.33+0.96}$$

$$S = \frac{25{,}094.21}{66.29}$$

$$S = 378$$

The second formula selected in the study is the one proposed by Cochran (1977) as a finite population correction to determine the final sample that turns out to be 5% or more of the total population. The formula can be stated as:

Formula 2: $n1 = \dfrac{S}{1 + \frac{S}{N}}$

Where: S = is desired sample size;   n1= is the new value for the sample size adjusted using Cochran's population correction formula; N = is the total number of the population from which 'n' is being drawn.

$$n1 = \frac{378}{1 + \dfrac{378}{26{,}133}}$$

$$n1 = \frac{378}{1 + \dfrac{378}{26{,}133}}$$

$$n1 = \frac{378}{1.0144}$$

$$n1 = 372$$

The questionnaires was distributed proportionally among the 6 branches and three of the customer service managers were interviewed.

Out of the three laboratories found in Addis Ababa, the researcher chose Arso Medical Laboratory because it is one of the leading and the oldest laboratories. It has six branches and two new more about to open up around Saris and Enkulal Fabrica. It also plans to diversify the laboratories outside Addis Ababa in the near future .

To conduct this study, convenience sampling technique was used. Convenience sampling also known as the haphazard or avaliability sampling is a non probability sampling method is an easy method to acquire, accessible and inexpensive method (Roosevelt, 1936). Out of the 372 questionnaires, 62 of the questionnaire was each distributed to Meskel Flower, Piazza Branch , Cathedral Branch , Haya Hulet Mazoria Branch , Megenagna Branch and Chew Berenda Branch each. All patients were given an equal chance. The questionnaire was written in both Amharic and English.

3.5. Data Source And Type

The data sources for the research was both primary and secondary sources. According to Naresh (2010), primary data will be organized for the specific purpose of addressing the problem on hand. The primary data that was used were questionnaire and interview. Besides that, primary data refers to firsthand information or data obtained originally by the researcher on the variables of interest for the specific purpose of the study (Sekaran & Bougie, 2009). In this context thus, the primary data was collected from sample customer who come to Arsho laboratory to get services. The data was supported by unpublished documents, and other statistical data which was gained from the laboratory offices. In utilizing secondary sources, published articles, research works, previous studies, books, government official reports and other sources were reviewed. In addition to this, as the research objectives invite a mixed method research, collection and analysis of both qualitative and quantitative data was a necessity. Hence, the researcher collected both types of data through various data collection instruments.

3.6. Data Collection Tools

Accoriding to Karim (2013), Accrate and systematic data collection is crtical to conducting scientific research. Depending on the research type, methods of data collection include: Documents review, observation, questioning, measuring or a combination of different methods. Data for this study was collected using both qualitative and quantitative research methods.

1. Questionnaire

Questionnaire is defined as the series of questions aim to gather prompt and accurate information from respondents. Thus, in order to perform a good research, a good questionnaire must be designed. Questionnaire allows collection of both subjective and objective data in a large sample of the study population in order to obtain results are statistically significant. Karim (2013).

2. Key Informant Interviews

Interview is a one to one conversation where the interviewer can ask the interviewee some questions and where the interviewee can respond. Data can be collected by listening to individuals, recording, filiming their responses or a combination of methods. Karim (2013)

3.Document Analysis

Documents from Arsho Medical Laboratory, Review and analysis of important documents related to the study was reviewed inorder to get sufficient data that supports the findings of the study.

3.7. Methods of Data Analysis

After collecting the data it was analysed using mixed methods data analysis technique which made the work easier for the researcher to analyse and process the data. Qualitative data was analysed using content analysis. The data gathered through questionnaire was code entered into computer analyzed and presented in the form of tables by using Statistical Package for Social Sciences (SPSS). And the data was analyzed descriptively as well as using correlation and regression analysis. Important and relevant statistical tests were further applied to find the relationship between service quality and customers' satisfaction.

3.8. Reliability and Validity

To measure the consistency of the questionnaire particularly standardized questionnaire was used. To carry out the reliability analysis, Cronbach Alpha was used. Cronbach's Alpha is a measure of internal consistency of questions within the questionnaire and checks if the questions of the questionnaire were understood and if the data are reliable for analysis (Travakol & Dennick, 2011). Cronbach's Alpha reliability test was run on the data collected to determine the reliability of the data. Results showed that all the values were above 0.865 indicating acceptable reliability. Nunally (1978) suggested that the minimum of 0.70 would be acceptable. This implies that there was a higher level of consistency in the questionnaire in measuring all the variables of the study.

Table 3.9 Cronbach Alpha test result

No	Items	N of items	Cronbach Alpha
1	Background information	6	.777
2	Assurance	5	.850
3	Reliability	5	.844
4	Tangibles	4	.818
5	Responsiveness	4	.834
6	Empathy	4	.822
7	Customer Satisfaction	5	.855

Items are the variables (1 dependent and 5 independent)

Source: SPSS output

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1. Introduction

The purpose of this research is to examine the effects of service quality on customer satisfaction: the case of Arsho Medical Laboratory. The data was gathered from all the 6 branches of Arsho Medical Laboratory. Data analysis is generated from the results of survey which was conducted through questionnaire and interview. The chapter presents a discussion on the final results and the process through which it was obtained. Finally the statistical methods of analysis were discussed, which included a descriptive analysis, a correlation and regression analysis, and SPSS version 20.

Out of the 372 questionnaires distributed to the respondents, 301 questionnaires were returned. Which make it about 80.9% response rate. The response rate was considered appropriate since Nulty, (2008) argues that any response rate above 75% is classified as appropriate. The rate of return of questionnaire was computed as follows

$$\text{Rate of return} = (R / (S-ND)) \times 100$$

Where;

R = number of questionnaires that were returned

S = total number of questionnaires sent out, and

ND = number of questionnaires unable to be delivered ("returned to sender")

Rate of return= 301 / (372-0) X100

Rate of return= 80.9%

4.2. Demographic Characteristics of Respondents

4.2.1. Gender Profile of the Respondents

Table 4.2.1. Gender Profile of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	170	56.5	56.5	56.5
	Female	131	43.5	43.5	100.0
	Total	301	100.0	100.0	

Source: Own Survey, 2018

The sample of respondents contained more male (56.5%) than female (43.5%).

4.2.2. Educational Level of The Respondents

Table 4.2.2. Education level of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 10	22	7.3	7.3	7.3
10 completed	22	7.3	7.3	14.6
Certificate	38	12.6	12.6	27.2
Diploma	56	18.6	18.6	45.8
Degree	127	42.2	42.2	88.0
MSc and above	36	12.0	12.0	100.0
Total	301	100.0	100.0	

Source: Own survey, 2018

According to table 4.2., the majority of the respondents 127 (42.2%) have degree, 56 (18.6%) have a diploma, 38 (12.6%) have a certificate, 36 (12%) have MSc and above, and 22 (7.3%) are below 10 and 10 completed each.

4.2.3. Age Profile of the Respondents

Table 4.2.3. Age Profile of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 25	86	28.6	28.6	28.6
26-35	126	41.9	41.9	70.4
36-50	62	20.6	20.6	91.0
Above 50	25	8.3	8.3	99.3
Total	301	100.0	100.0	

Source: Own survey, 2018

The table above shows that, 126 (41.9%) respondents are below 25 years, 86 (28.6 %) respondents are between the ages of from 26 to 35 years, 62 (20.6 %) respondents are between the ages of from 36 to 50 years and 25 (8.3% respondents) are above 50. The data shows that majority of the respondents are those age groups from 26 upto 35.

4.2.4. Purpose of Laboratory Usage

Table 4.2.4. Purpose of laboratory usage

	Frequency	Percent	Valid Percent	Cumulative Percent
For regular checkup	80	26.6	26.6	26.6
Because of reference	85	28.2	28.2	54.8
When sick	136	45.2	45.2	100.0
Total	301	100.0	100.0	

Source: Own survey, 2018

According to the above table 136 (45.2%) of the respondents use the laboratory service when they get sick, 85 (28.2%) of the respondents use the laboratory service because of reference, and

80(26.6%) of the respondents use the laboratory service for regular checkup. The data shows that the majority respondents are those that use the laboratory when sick.

4.2.5. Duration of Laboratory Service Usage

Table 4.2.5. Duration of Laboratory Service usage

	F	P	Valid Percent	Cumulative Percent
Customer less than one year	84	27.9	27.9	27.9
Customer for 2-3 year	112	37.2	37.2	65.1
Customer for 4-5 year	61	20.3	20.3	85.4
Customer above 5years	43	14.3	14.3	99.7
Total	301	100.0	100.0	

Source: Owns urvey, 2018

According to the table above, 112 (37.2%) of respondents are Customer for 2-3 year, 84 (27.9%) respondents are Customer less than one year, 61 (20.3%) of the respondents are Customer for 4-5 year, 43(14.3%) respondents are students, 34 (11.3%) of the respondents are unemployed and 12 (4%) of the respondents are Customer above 5years. The data shows that the majority of the respondents are Customer for 2-3 year.

4.2.6. Employment Status of the Respondent

Table 4.2.6. Employment Status of the Respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Government Employees	63	20.9	20.9	20.9
Self-employed business owner	66	21.9	21.9	42.9
Employee of private firms	84	27.9	27.9	70.8
Unemployed	34	11.3	11.3	82.1
Farmer	12	4.0	4.0	86.0
Student	42	14.0	14.0	100.0
Total	301	100.0	100.0	

Source: Own survey, 2018

According to the table above, 84 (27.9%) of respondents are employee of private firms, 66 (21.9%) respondents are self employed business owner, 63 (20.9%) of the respondents are government employees, 42(14%) respondents are students, 34 (11.3%) of the respondents are unemployed and 12 (4%) of the respondents are farmers. The data shows that the majority of the respondents are employees of private firms.

4.3. Assurance

There are many factors that can affect customers' satisfaction, but only five factors factors were adopted which are tangible, assurance, empathy, responsiveness and reliability that adopt from Parasuraman *et al.,* (1988). According to Goh (2013), The research finding tells us that assurance dimension is very significant to determine the level of customer satisfaction in banking industry. Assurance is defined as knowledge and behavior of an employee and conveys trust and confidence to their customers. The study conducted by Meron (2015) on the impact of service quality on customer satisfaction in the banking industry confirmed that all the five dimensions of SERVQUAL model of service quality have positive impacts on customer satisfaction and assurance is the dominant service quality dimension which affects customer satisfaction.

Table 4.3. Assurance

	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
		F.	%	F.	%	F.	%	F	%	F	%
1	Employees of Arsho laboratory have the knowledge to answer questions	1	.3	7	2.3	31	10.3	96	31.9	166	55.1
2	Employees of Arsho laboratory have courtesy to inspire trust and confidence	2	.7	9	3	40	13.3	125	41.5	125	41.5
3	Employees of Arsho laboratory have the ability to openly discuss solutions when problems arise.			15	5	55	18.3	105	34.9	126	41.9
4	Employees of Arsho laboratory are respectful in providing services	1	.3	12	4	39	13	126	41.9	123	40.9

| 5 | Employees of Arsho laboratory provide you the adequate information on the services you requested | 2 | .7 | 12 | 4 | 41 | 13.6 | 122 | 40.5 | 124 | 41.2 |

Source: Survey Result 2018

The above table shows that 166(55.1) respondents strongly agree, 96 (31.9%) of the respondents agree, 31(10.3%) of the respondents answered neutral. While 7(2.3%) of the respondents disagree and 1(.3) strongly disagree. The data show that majority of the respondents which constitute about 55.1% strongly agreed to the questions Employees of Arsho laboratory have the knowledge to answer questions. 125(41.5%) respondents strongly agree and agree each, 40(13.3%) of the respondents answered neutral. While 9(3%) of the respondents disagree and 2(.7) strongly disagree. The data show that majority of the respondents which constitute about 41.5% strongly agreed to the questions Employees of Arsho laboratory have courtesy to inspire trust and confidence. 126(41.9%) respondents strongly agree, 105(34.9%) respondents agree, 55(18.3%) of the respondents answered neutral. While 15(5%) of the respondents disagree. The data show that majority of the respondents which constitute about 41.9% strongly agreed to the questions. 123(40.9%) respondents strongly agree, 126(41.9%) respondents agree, 39(13%) of the respondents answered neutral. While 12(4%) of the respondents disagree and 1(0.3%) Strongly disagree. The data show that majority of the respondents which constitute about 41.9% agreed to the questions. 124(41.2%) respondents strongly agree, 122(40.5%) respondents agree, 41(13.6%) of the respondents answered neutral. While 12(4%) of the respondents disagree and 2(0.7%) Strongly disagree. The data show the majority if the respondents which constitute about 41.2% strongly agreed to the questions.

4.4. Reliability

According to J. Joshua (2015), Service Quality in banking sector is the most important criteria and asset for evaluating and satisfying customers and thereby increases the customer loyalty and average retention rate of customers. Joshua showed that among the service quality determinants, reliability, assurance and empathy play a pivotal role and prior research suggests that customer perceptions and expectations are more likely to be different across service sectors.

Table 4.4. Reliability

	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
		F	%	F	%	F.	%	F	%	F	%
1	Employees of Arsho laboratory provide service at the time they promise to do.	4	1.3	4	1.3	50	16.6	98	32.6	145	48.2
2	Employees of Arsho laboratory perform service right the first time(error free)	5	1.7	19	6.3	50	16.6	107	35.5	120	39.9
3	Employees of Arsho laboratory show sincere interest in solving a problem you face.	4	1.3	12	4	39	13	117	38.9	129	42.9
4	Arsho laboratory keeps your medical history and records accurately			15	5	51	16.9	116	38.5	119	39.5
5	Customers have confidence in the laboratory service	2	.7	8	2.7	42	14	102	33.9	147	48.8

Source: Own survey, 2018

The above table shows that 145(48.2%) respondents strongly agree, 98 (32.69%) of the respondents agree, 50(16.6%) of the respondents answered neutral. While 4(1.3%) of the respondents disagree and strongly disagree each. The data show that majority of the respondents which constitute about 48.2% strongly agreed to the questions Employees of Arsho laboratory provide service at the time they promise to do so. 120(39.9%) respondents strongly agree, 107 (35.5%) of the respondents agree, 50 (16.6%) of the respondents answered neutral. While 19(6.3%) of the respondents disagree and5(1.7%) strongly disagree each. The data show that majority of the respondents which constitute about 39.9% strongly agreed to the questions Employees of Arsho laboratory perform service right the first time(error free). 129(42.9%) respondents strongly agree, 117 (38.9%) of the respondents agree, 39 (13%) of the respondents answered neutral. While 12(4%) of the respondents disagree and 4(1.3%) strongly disagree each. The data show that majority of the respondents which constitute about 42.9% strongly agreed to the questions Employees of Arsho laboratory show sincere interest in solving a problem you face. 119(39.5%) respondents strongly agree, 116 (38.5%) of the respondents agree, 51 (16.9%) of the respondents answered neutral. While 15(5%) of the respondents disagree. The data show that majority of the respondents which constitute about 39.5% strongly agreed to the questions Arsho laboratory keeps your medical history and records accurately. 147(48.8%) respondents strongly agree, 102 (33.9%) of the respondents agree, 42 (14%) of the respondents answered neutral. While 8(2.7%) of the respondents disagree and 2(0.7%) strongly disagree each. The data show

that majority of the respondents which constitute about 48.8% strongly agreed to the questions Customers have confidence in the laboratory service.

4.5. Tangibles

According to Joanna(2005), the results show that there exists a significant relationships between service tangibility, customer satisfaction and loyality in three of the six industries: denistry, travel agency, and restaurants. Lehtinen & Lehtinen, (1982) views service quality in terms of physical quality (corporate image),quality and interactive quality. Physical quality refers to the tangible aspects of the service. Corporate quality refers to how current and potential customers, as well as other publics, views (image) of the service provider. Interactive quality concerns the interactive nature of the service and refers to a two-way flow that occurs between service provider and the customer, or his/her representative, including both animated and automated interactions (Lehtinen & Lehtinen, 1982).

Table 4.5. Tangibles

	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
		F	%	F	%	F	%	F	%	F	%
1	Arsho laboratory has up-to-date equipment and technology	2	.7	3	1	29	9.6	98	32.6	169	56.1
2	Arsho laboratory's physical facilities are visually appealing	3	1	6	2	27	9	95	31.6	170	56.5
3	Arsho laboratory's employees are well-dressed and appear neat	2	.7	9	3	39	13	120	39.9	131	43.5
4	The physical facilities and technology of Arsho laboratory goes with the type of service provided			9	3	40	13.3	111	36.9	141	46.8

Source: Own survey, 2018

169(56.1%) respondents strongly agree, 98 (32.6%) of the respondents agree, 29 (9.6%) of the respondents answered neutral. While 3(1%) of the respondents disagree and 2(0.7%) strongly disagree. The data show that majority of the respondents which constitute about 56.1% strongly agreed to the questions Arsho laboratory has up-to-date equipment. 170(56.5%) respondents strongly agree, 95 (31.6%) of the respondents agree, 27 (9%) of the respondents answered

neutral. While 6(2%) of the respondents disagree and 3(1%) strongly disagree. The data show that majority of the respondents which constitute about 56.5% strongly agreed to the questions Arsho laboratory's physical facilities are visually appealing. 131(43.5%) respondents strongly agree, 120 (39.9%) of the respondents agree, 39 (13%) of the respondents answered neutral. While 9(3%) of the respondents disagree and 2(0.7%) strongly disagree. The data show that majority of the respondents which constitute about 43.5% strongly agreed to the questions Arsho laboratory's employees are well-dressed and appear neat. 141(46.8%) respondents strongly agree, 111 (36.9%) of the respondents agree, 40 (13.3%) of the respondents answered neutral. While 9(3%) of the respondents disagree. The data show that majority of the respondents which constitute about 46.8% strongly agreed to the questions the physical facilities and technology of Arsho laboratory goes with the type of service provided.

4.6. Responsiveness

Responsiveness are reflects of the willingness to help customers and provide prompt service.

Table 4.6. Responsiveness

No	Description	Strongly Disagree		Disagree		Neutral		Strongly agree		Agree	
		F	%	F	%	F	%	F	%	F	%
1	There are always adequate number of employees to respond to your needs at the branches of Arsho laboratory's	3	1	9	3	53	17.6	100	33.2	136	45.2
2	Employees of Arsho laboratory are always helpful	3	1	16	5.3	49	16.3	115	38.2	118	39.2
3	Employees Arsho laboratory are never busy to respond to your enquires	4	1.3	21	7	50	16.6	108	35.9	118	39.2
4	The company is delivering results on time	9	3	15	5	53	17.6	113	37.5	111	36.9

Source: Own survey, 2018

136(45.2%) respondents strongly agree, 100 (33.2%) of the respondents agree, 53 (17.6%) of the respondents answered neutral. While 9(3%) of the respondents disagree and 3(1%) strongly disagree. The data show that majority of the respondents which constitute about 45.2% strongly agreed to the questions There are always adequate number of employees to respond to your needs at the branches of Arsho laboratory's. 118(39.2%) respondents strongly agree, 115 (38.2%) of the respondents agree, 49 (16.3%) of the respondents answered neutral. While 16(5.3%) of the

respondents disagree and 3(1%) strongly disagree. The data show that majority of the respondents which constitute about 45.2% strongly agreed to the questions. Employees of Arsho laboratory are always helpful. 118(39.2%) respondents strongly agree, 108 (35.9%) of the respondents agree, 50 (16.6%) of the respondents answered neutral. While 21(7%) of the respondents disagree and 4(1.3%) strongly disagree. The data show that majority of the respondents which constitute about 39.2% strongly agreed to the questions Employees Arsho laboratory are never busy to respond to your enquires. 111(36.9%) respondents strongly agree, 113 (37.5%) of the respondents agree, 53 (17.6%) of the respondents answered neutral. While 15(5%) of the respondents disagree and 9(3%) strongly disagree. The data show that majority of the respondents which constitute about 37.5% agreed to the questions the company is delivering results on time.

4.7. Empathy

Scholl (1994), expressing empathy for a patient's problems is one of the most important sources of satisfaction among patients. Yet, as in many instances in the service sector, it is usually the last encounter with staff that customers use to determine their overall satisfaction with all previous

Table 4.7. Empathy

	Description	Strongly Disagree "1"		Disagree "2"		Neutral "3"		Agree "4"		Strongly Agree "5"	
		F	%	F	%	F	%	F	%	F	%
1	Arsho laboratory's branches are easily accessible to you	6	2	18	6	38	12.6	93	30.9	146	48.5
2	Employees of Arsho laboratory's employees understand your specific needs	5	1.7	13	4.3	51	16.9	125	41.5	107	35.5
3	Technicians show empathy when taking samples	4	1.3	12	4	52	17.3	107	35.5	125	41.5
4	The laboratory has operating at hours convenient to customers	5	1.7	12	4	55	18.3	114	37.9	115	38.2

Source: Own survey, 2018

146(48.5%) respondents strongly agree, 93 (30.9%) of the respondents agree, 38 (12.6%) of the respondents answered neutral. While 18(6%) of the respondents disagree and 6(2%) strongly

disagree. The data show that majority of the respondents which constitute about 48.5% strongly agreed to the questions Arsho laboratory's branches are easily accessible to you. 107(35.5%) respondents strongly agree, 125 (41.5%) of the respondents agree, 51 (16.9%) of the respondents answered neutral. While 13(4.3%) of the respondents disagree and 5(1.7%) strongly disagree. The data show that majority of the respondents which constitute about 41.5% strongly agreed to the questions Employees of Arsho laboratory's employees understand your specific needs. 125(41.5%) respondents strongly agree, 107 (35.5%) of the respondents agree, 52 (17.3%) of the respondents answered neutral. While 12(4%) of the respondents disagree and 4(1.3%) strongly disagree. The data show that majority of the respondents which constitute about 41.5% strongly agreed to the questions Technicians show empathy when taking samples. 115(38.2%) respondents strongly agree, 114 (37.9%) of the respondents agree, 55 (18.3%) of the respondents answered neutral. While 12(4%) of the respondents disagree and 5(1.7%) strongly disagree.. Besides, the key informant interview result shows that the qualities of services provided by Arsho Laboratory is assured based on the accreditation by Ethiopian Accreditation Office.

4.8. Customer Satisfaction

In a nutshell, Levy, (2009, NBRI, 2009) defines customer satisfaction could be the pleasure obtained from consuming an offer. 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). Customer satisfaction is one of the most important issue concerning business organization of all types, which is justified by the customer oriented philosophy and the principles of continuesimprovement in modern enterprise.(Arokiasamy, 2013).

Table 4.8. Customer Satisfaction

no	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%	F	%	F	%	F	%	F	%
1	I am satisifed with the overall service of the branch			7	2.3	36	12	105	34.9	153	50.8
2	I am a satisified customer of this labratory	1	.3	10	3.3	41	13.6	127	42.2	122	40.5
3	I am satisfied with the complain handling system of the laboratory	6	2	9	3	57	18.9	106	35.2	123	40.9
4	I am satisified with the level of service delivery time	3	1	18	6	43	14.3	113	37.5	124	41.2
5	I am satisified with the labratory's way of treating its customers	6	2	10	3.3	42	14	124	41.2	119	39.5

Source: Own survey, 2018

According to the above table 153(50.8%) respondents strongly agree, 105 (34.9%) of the respondents agree, 36 (12%) of the respondents answered neutral. While 7(2.3%) of the respondents disagree. The data shows that majority of the respondents which constitute about 50.8% strongly agreed to the questions I am satisifed with the overall service of the branch. 122(40.5%) respondents strongly agree, 127 (42.2%) of the respondents agree, 41(13.6%) of the respondents answered neutral. While 10(3.3%) of the respondents disagree and 1(.3) respondents strongly disagree. The data shows that majority of the respondents which constitute about 42.2% agreed to the questions I am a satisified customer of this labratory. 123(40.9%) respondents strongly agree, 106 (35.2%) of the respondents agree, 57 (18.9%) of the respondents answered neutral. While 9(3%) of the respondents disagree and 6(2%) respondents strongly disagree. The data shows that majority of the respondents which constitute about 40.9% strongly agreed to the questions I am satisfied with the complain handling system of the laboratory. 124(41.2%) respondents strongly agree, 113 (37.5%) of the respondents agree, 43 (14.3%) of the respondents answered neutral. While 18(6%) of the respondents disagree and 3(1%) respondents strongly disagree. The

data shows that majority of the respondents which constitute about 41.2% strongly agreed to the questions I am satisfied with the level of service delivery time.119(39.5%) respondents strongly agree, 124 (41.2%) of the respondents agree, 42 (14%) of the respondents answered neutral. While 10(3.3%) of the respondents disagree and 6(2%) respondents strongly disagree. The data shows that majority of the respondents which constitute about 41.2% agreed to the questions I am satisfied with the labratory's way of treating its customers. With this regards, the key informant interview conducted with the customer service manager of Arsho medical laboratories show that customers enjoy the services provided by the laboratory. In addition, he argued that the service which is provided has a good quality and the it provides laboratory service for its customers as much as possible because it is very critical.

4.9. Challenges of Service Quality

According to Antonio (2010), Service quality is a major issue because is the result of a judgmental value that involves both the expectations as well as the perceptions of the customers. Many organizations spend a lot of effort and money to measure quality without relating the results of measurement to necessary improvements. Dahlgaard and Dahlgaard-Park (2002) suggest using Deming's plan, do, study, act (PDSA) model to deal with this problem.

Table 4.9. Challenges of Service Quality

	Question 1. Which of the following is the correct answer regarding customer expectation		
	Description	Frequency	Percent
1	Employees can understand Customer Expectation based on race , age, generation and the like.	53	17.6
2	Employees can understand customer expectation based on the varied desires that they take into account when purchasing product	38	12.6
3	Employees communicate well with customers	44	14.6
4	Employees donot understand customer expectation	23	7.6
5	All can be answers except d	143	47.5
	Question 2. Which of the following is the correct answer regarding the companies way of reaching out to customers		
	Description	Frequency	Percent
1	The company provides customer feedback	84	27.9
2	The company advertises through print media, radios, televisions, phone emails, Social medias and face to face campaign.	58	19.3
3	The company neither provides customer advertisment nor provides advertisment	40	13.3
4	A and B are the correct answer	118	39.2
	Question 3. Which of the following is true about the company's employees		
	Description	Frequency	Percent
1	The company hires skilled professionals	86	28.6
2	The company has structured programs to teach and train new hires about company policies, values, culture, and practices in dealing with customers	39	13.0
3	The company has neither hired skilled professionals nor structured programs	19	6.3
4	A and B are the correct answer	155	51.5
	Question 4. Which of the following is true about the employees of the company		
1	The employees see the companies vision, fit into the culture and work with the company to achieve the companies goal.	63	20.9
2	The company retains it Employees	35	11.6
3	Staff turnover is low	37	12.3
4	All are answers	126	41.9
5	None of the above	40	13.3

Source: Own survey, 2018

According to the above table question 1, 143(47.5%) respondents answered All can be answers except d, 53(17.6%) respondents answered Employees can understand Customer Expectation based on race, age, generation and the like, 44 (14.6%) of the respondents answered Employees communicate well with customers, 38(12.6%) of the respondents answered Employees can understand customer expectation based on the varied desires that they take into account when purchasing product, 23(7.6%) of the respondents answered Employees donot understand customer expectation. The data shows that majority of the respondents which constitute about 47.5% answered "All can be answers except d" to the question "Which of the following is the correct answer regarding customer expectation".

When it comes to question 2, 118(39.2%) of the respondents answered A and B are the correct answers, 84(27.9%) of the respondents answered the company provides customer feedback, 58(19.3%) of the respondents answered the company advertises through print media, radios, televisions, phone emails, social medias and face to face campaign and 40(13.3%) the respondents answered the company neither provides customer feedback nor provides advertisement. The data shows that majority of the respondents which constitute about 39.2% answered A and B are the correct answers to the question "Which of the following is the correct answer regarding the companies way of reaching out to customers".   When it comes to question 3, 155(51.5%) of the respondents answered A and B are the correct answers, 86(28.6%) of the respondents answered the company hires skilled professionals, 39(13%) of the respondents answered the company has structured programs to teach and train new hires about company policies, values, culture, and practices in dealing with customers and 19(6.3%) of the respondents answered the company has neither hired skilled professionals nor structured programs. The data shows that majority of the respondents which constitute about 51.5% answered A and B are the correct answers to the question "Which of the following is true about the company's employees".

 The Last question, question 4, 126(41.9%) of the respondents answered all are answers, 63(20.9%) of the respondents answered the employees see the companies vision, fit into the culture and work with the company to achieve the companies goal, 40(13.3%) of the respondents answered none of the above, 37(12.3%) of the respondents answered staff turnover is low and 35(11.6%) of the respondents answered the company retains its employees. The data shows that majority of the respondents which constitute about 41.9% answered all are answers to the question " Which of the following is true about the employees of the company ". Besides, the key informant interview result shows that

Lack of skilled man power, lack of getting efficient and effective human resources, company being not able to provide adequate training to develop the skills and knowledge of the employees, lack of adequate chemicals and drugs, very tighter service provision rooms, increasing customers demand that put pressure on service provision, absence of certain laboratory tests in all laboratory centers and inadequate laboratory infrastructures were the major challenges which limited the proper provision of services at Arsho laboratories. In addition, existence of limited branches and absence of important supply of medical facilities and supplies limited the proper provision of quality services at the medical centers.

4.10. Pearson Correlation Analysis

To examine the relationship between explanatory variables of service quality dimensions (represented by tangibility, reliability, responsiveness, assurance, and empathy) and customer satisfaction, Pearson's correlation coefficient (r) which measures the strength and direction of a linear relationship between two variables is used. Values of Pearson's correlation coefficient are always between -1 and +1 (Haris et. al., 1997). A correlation coefficient of +1 indicates that two variables are perfectly related in a positive sense; a correlation coefficient of -1 indicates that two variables are perfectly related in a negative sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables. According to Meron (2015), the direction of the dependent variable's change depends on the sign of the coefficient. If the coefficient is a positive number, then the dependent variable will move in the same direction as the independent variable; if the coefficient is negative, then the dependent variable will move in the opposite direction of the independent variable. In this study, hence both the direction and the level of relationship between the dimensions of service quality and customer satisfaction are conducted using the Pearson's correlation coefficient. The result is shown in the following table.

Table 4.10. Pearson Correlation Analysis

		Assurance	Reliability	Tangibility	responsiveness	Empathy	Customer satisfaction
Assurance	Pearson Correlation	1	.797**	.640**	.750**	.628**	.719**
	Sig. (1-tailed)		.000	.000	.000	.000	.000
	N	301	301	301	301	301	301
Reliability	Pearson Correlation	.797**	1	.642**	.759**	.674**	.784**
	Sig. (1-tailed)	.000		.000	.000	.000	.000

	N	301	301	301	301	301	301
Tangibility	Pearson Correlation	.640**	.642**	1	.556**	.475**	.601**
	Sig. (1-tailed)	.000	.000		.000	.000	.000
	N	301	301	301	301	301	301
Responsiveness	Pearson Correlation	.750**	.759**	.556**	1	.683**	.700**
	Sig. (1-tailed)	.000	.000	.000		.000	.000
	N	301	301	301	301	301	301
Empathy	Pearson Correlation	.628**	.674**	.475**	.683**	1	.724**
	Sig. (1-tailed)	.000	.000	.000	.000		.000
	N	301	301	301	301	301	301
Customer satisfaction	Pearson Correlation	.719**	.784**	.601**	.700**	.724**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	
	N	301	301	301	301	301	301

**. Correlation is significant at the 0.01 level (1-tailed).

Source: SPSS Result, May 2018

Reliability 784** . 719 Assurance, tangibility .601, Responsiveness 0.700, Empathy .724

The above table indicates the Pearson correlation analysis conducted to examine the association between the explanatory variables (service quality dimensions), and the independent variable (customer satisfaction). The results indicate that service quality dimensions (tangibles, reliability, assurance, and empathy) have significant positive relationship with customer satisfaction in Arsho Medical laboratories.

Accordingly, the hypotheses was accepted, which postulate that there is a significant and positive relationship of service quality dimensions with customer satisfaction. As to the test statistics of the study, the test statistics for reliability assurance, tangibility, and responsiveness empathy are represented by 0.784, 0.719, 0.601, 0.700, and 0.724 respectively showing that there is a positive significant relationship between the explanatory and dependent variables.

Among service quality dimensions reliability and empathy have strong positive correlation with customer satisfaction as provided by the particular correlation coefficients of .0.784 and 0.724 respectively. Besides, assurance, and responsiveness have also higher association with customer satisfaction having correlation coefficient tangibility and customer association with correlation coefficient of 0.601. In addition, the direction of association between explanatory and dependent variables indicates that all explanatory variables have linear positive association with customer satisfaction. Hence, based on the result, it can be concluded that there is a significant positive

relationship between service quality dimensions and customer satisfaction. These findings of the study have similarity with the study conducted by Fasil (2016). He has conducted a study on the "Impact of Service Quality on Customer Satisfaction and Loyalty in Ethiopian Insurance Industry" and found out that all the five service quality dimensions have a strong correlation with customer satisfaction. In addition, a study conducted by Meron (2015) on the "Impact of service quality on customer satisfaction: the case of Bank of Abyssinia Share Company" concluded similar findings with this research. She concluded that there is a positive relationship between the service quality dimensions and customer satisfaction. Hence, any improvement in one of the dimensions will positively contribute in enhancing the customer satisfaction.

4.11. Regression Analysis

4.11.1. Introduction

In conducting this research, the study has also used a standardized survey instrument developed and used in existing literature. The survey instrument contains standardized questions and has been used by in Ethiopia context to assess the impacts of service quality on customer satisfaction by Meron (2015), Fail (2016) and Endalkachew (2013). Besides, before performing the regression analysis, the study has conducted important tests, which leads to the conclusion that the data fulfills the requirements for conducting regression analysis. Accordingly, the study has conducted normality, multicollinearity, autocorrelation, and heteroskedasticity tests. The test result is attached here with this thesis as annex number one on paged as. With this regards, the test statistics for assessment of normality show that both Skewness and Kurtosis statistics were within the range of +1 and -1 and all the variables demonstrate normal distributions. This is attested by Haris et al., (1997) as he argued the Skewness and Kurtosis tests show normality when the analysis statistic on Skewness and Kurtosis is within the range of +1 and -1. Besides, the test result for multicollinearity show that there is no multicollinearity problem in this study as the Pearson Correlation Coefficient of all variables among the predictor is less than 0.80.). This is in line with Wooldridge (2002) conclusion that if the Pearson Correlation Coefficient is less than 0.80 it implies that there is worry for concern regarding multicollinearity problem among explanatory variables.

Concerning assessment of autocorrelation, the study has conducted Durbin-Watson test. The Durbin-Watson statistic ranges in value from 0 to 4. A value near 2 indicates non-autocorrelation; a value toward 0 indicates positive autocorrelation; while a value toward 4 indicates negative autocorrelation. Accordingly, the study found that the Durbin-Watson test result is 1.663. From the

Durbin-Watson statistic table, when number of predicator variables is five and number of observations is more than 200 at 5% error level, it becomes clear that dL is 1.623 and dU is1.725. If the test statistic value (d) found as $dL < d < 4 - dU$, the test is conclusive and do not reject the null hypothesis that states no autocorrelation, positive or negative (Gujarati, 2003). Hence, the result for Durbin-Watson satisfies this conduction and it is concluded that there is no sufficient condition that there is a problem of autocorrelation. Finally, the study has conducted a test to see if there is a problem of heteroskedasticity using Glejser test. The test result show that the output coefficient obtained in the test is greater than 0.05 level of significance. This is shows that the values of all variables' significance are greater than 0.5 and show that there is no heteroskedasticity problem in the data.

4.11.2. Multiple Regression Analysis

The general objective of this study was to determine the effect of service quality on the customer satisfaction at Arsho medical laboratory. In line with this, the research aimed to test the research hypothesis that service quality has a significant effect on customers' satisfaction at 5% level of significance. besides, the multiple regression is conducted to test the specific research hypotheses formulated in chapter one of this thesis. Accordingly, the researcher decides to perform multiple linear regression analysis to test the research hypothesis and establish the relationship between the independent variables (service assurance, reliability, tangibility, responsiveness, and empathy) and dependent variable (customers' satisfaction). To this effect, the researcher conducted multiple linear regressions and found out the following.

According to table number 4.11.1, the model explains that 70.4% of the variations in the dependent variable are attributed to the influence of the independent variables. In other words, this implies idea that assurance, reliability, tangibility, responsiveness, and empathy explains 70.4% of the variation in customer satisfaction at Arsho Medical laboratories. The following table indicates the model summary.

Table 4. 11.1: Model Summary of Multiple Regression Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.839[a]	.704	.699	1.81302

Source: SPSS Output, May 2018

In this context, the explained variation is the variation in the dependent variable due to factors that are included in the regression model. As stated in literature, R^2 measures the proportion or variation in the dependent variable that is explained by the explanatory variables. If the value of R^2 is small then this puts into question the usefulness of the fitted regression model. In this study, however, as R^2 is larger it is possible to state that there is a significant relationship between the independent variables and dependent variable. Nevertheless, it is not good to pass final judgment until the model has been subjected to an objective statistical test.

In light of this, to consolidate the findings further, ANOVA test is conducted. ANOVA test for the significant of R^2 (i. e. the adequecy of the multiple linear regression model) is equivalent to testing the hypotheses). The purpose of this test is to prove that the regression model on relationship between independent variables and dependent variable is adequate or fit. In conducting the test, the study has formulated the following null and the null hypothesis states that all regression coefficients are insignificant (none of them explains the dependent variable) hence, rejecting Ho means such a model is adequet, and can be used for prediction or inferenctial purposes. Regarding the test, the folloiwng table indicates the result.

Table: 4.11.2: Adequacy of Multiple Regression Model

ANOVAª

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2307.994	5	461.599	140.430	.000ᵇ
	Residual	969.674	295	3.287		
	Total	3277.668	300			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Empathy, tangibility, responsiveness, Assurance, reliability

Source: SPSS Output, May 2018

The test statistic indicated in table number 4.12.2 shows that the model fit is significant in the relationship between the independent variables and dependent variable at p-value of 0.000, F=140.430 with 5 degree of freedom. The p-value is less than 0.05 and even 0.01 of significance level. Hence, the null hypothesis is rejected and concluded that at least one of the independent variables (assurance, reliability, tangibility, responsiveness, and empathy) has a significant effect on

customers' satisfaction. The implication is that it is possible to make valid inference about customers' satisfaction based on the independent variables. The next step would be to test for significance of each of the coefficients in the model. The following table indicates test statistic on individual regression coefficients.

Table: 4.11.3: Coefficients of the Multiple Regression Model

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.942	.875		1.076	.283
	Assurance	.114	.058	.115	1.964	.050
	Reliability	.362	.061	.363	5.958	.000
	Tangibility	.166	.064	.112	2.594	.010
	Responsiveness	.070	.059	.065	1.188	.236
	Empathy	.360	.054	.310	6.727	.000

a. Dependent Variable: Customer satisfaction

Source: SPSS output

It is seen in the results that the p-values for four independent variables (assurance, reliability, tangibility, and empathy) are less than 0.05. Thus, it is concluded that four variables significantly affect customers' satisfaction. From the signs of the estimated regression coefficients, it is possible to see that the direction of influence is linear meaning that the four independent variables affect customers' satisfaction positively. In general, the overall model as shown on table 4.12.3 indicates that reliability and empathy were highly significant at p-value of 0.000. In addition, tangibility and assurance were significant at p-value of 0.013, and 0.05, respectively. However, service responsiveness is not significant at 0.05. It is found that its effect is insignificant in the multiple regression models although it has a positive correlation with customers' satisfaction.

Specifically, the multiple regression analysis result show that among the five dimensions of service quality, reliability, empathy, tangibility and assurance significantly and positively affect customer satisfaction at Arsho medical laboratories at 5% of level of significance. However, the independent variables did have equal effect upon the dependent variable. With this regards, the coefficient of regression (beta value) for reliability (.362) is higher than other variables while the beta value of responsiveness is the lowest (.07). Besides, the coefficient of regression for assurance, tangibility

and empathy is represented by 0.114, 0.166 and 0.360. This implies that service reliability has the highest effect on customer satisfaction while responsiveness has the lowest effect. In addition, service empathy has the second highest effect followed by tangibility and assurance.

In general, the findings of the study is similar with the research finding of Meron (2015) on the impact of service quality on customer satisfaction in the banking industry confirmed that all the five dimensions of SERVQUAL model of service quality have positive impacts on customer satisfaction and assurance is the dominant service quality dimension which affects customer satisfaction.In addition, Endalkachew (2013) has assessed the impact of core banking and service quality in Commercial Bank of Ethiopia and revealed that service quality has a positive and significant impact on customer satisfaction.

4.12. Mean and Standard Deviation

Table 4.12. Mean and Standard Deviation

Dimensions	N	Mean	Std. Deviation
Assurance	5	3.3337	.78775
Reliability	5	3.3462	.77645
Tangibles	4	3.4225	.67098
Responsiveness	4	3.0988	.65049
Empathy	4	3.4076	.74105
Customer Satisfaction	5	3.3457	.75346

The mean values shows that the value of Assurance (mean of 3.3337), Reliability (mean of (3.3462), Tangibles (mean of 3.4225), Responsiveness (mean of 3.0988), Empathy(mean of 3.4076) and customer satisfaction (mean of 3.3457).

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary of Major Findings

This section shows the overall summary of the findings found in this study were summarized and presented below:

- It is found out from descriptive statistics that majority of the respondents agree that the services which they got from Arsho medical laboratories meet the requirements of service quality dimensions.

- With regards to customers' attendance for laboratory service, 45.2% of the respondents use the laboratory service when they get sick, 28.2% of the respondents seeks the service because people refer them for service provision while the remaining 26.6% of the respondents use the laboratory service for regular check-ups.

- Around 37.2% of respondents are customer for 2-3 year, 27.9% respondents are Customer less than one year, while 20.3% of the respondents are Customer for 4-5 year. Besides, 14.3% respondents are students, 11.3% of the respondents are unemployed and 4% of the respondents are Customer above 5years.

- Pearson correlation results show that the correlation value between service quality dimensions and customer satisfaction indicates statistically significant and positive relationship. This finding is supported by existing literature on the topic.

- Besides, the regression result regarding the predicted relationship between the explanatory variables (service assurance, reliability, tangibility, responsiveness and empathy) and the dependent variable show that each variable has a significant positive effect on customers' satisfaction at 0.000 level of significance. This indicates that all the five alternative hypotheses developed under chapter one are accepted. By implication the null hypothesis was rejected that states there is no relationship between the independent and dependent variables.

- However, the multiple regression result conducted to the combined effect of the explanatory variables and dependent variables, found that four of the explanatory variables (assurance, reliability, tangibility and empathy) significantly affect customer satisfaction while service responsiveness did not significantly affect customer satisfaction. The multiple regression

result further shows that the independent variables explain 70.4% of the variation in the dependent variable. This implies that 70.4% of the variation in customer satisfaction is attributed to the changes in the variation of the four variables. The combined model is also verified that the model is adequate at 0.000 level of significance.

- With regards to the challenges of service quality at Arsho medical laboratory, it is found in the study that the service provision at Arsho medical laboratories faced various administrative, technical, human resource and material supply problems. It is indicated in the interview with the manager of Arsho medical laboratories, it is found that lack of trained laboratory technicians and medical professional, lack of adequate chemicals and drugs, space problems, unmet customers demand, absence of certain laboratory tests in all laboratory centers and inadequate laboratory infrastructures were the major challenges which limited the proper provision of services at Arsho laboratories. Besides, it is affirmed by customers and managers of Arsho medical laboratories, it is impossible to maintain maximum satisfaction of customers with the few branches found in Addis Ababa. Customers who come from far areas are also harmed due to the extended time to get the services. In addition, it is stated that sever foreign currency shortage halted the company to import necessary medical and laboratory supplies and drugs. This in turn brought negative sentiment on the customer about the qualities of the services provided by the company.

5.2.Conclusion

Providing quality service is considered a crucial strategy for the accomplishment and survival in today's competitive environment (Dawkins & Reichheld, 1990; Parasuraman *et al.,* 1985). Anderson et al., (1994) stated that global views of service quality apply a strong influence on global perceptions of customer satisfaction with the firm that finally is made by customer loyalty and positive word of mouth communication. The need for survival and growth in ever increasing competitive markets are thus the main critical factors in the search for providing superior service quality and achieving customer satisfaction. Researchers have proven that providing good service quality to customers retains them, attracts new ones, enhances corporate image, positive word-of-mouth recommendation and above all guarantees survival and profitability (Negi, 2009 cited in Daniel & Berinyuy, 2010).

In this regards, this study has investigated the effects of service quality on customer satisfaction taking the case of Arsho medical laboratories.

➢ The study has the major objective of examining the effects of dimension of service quality on customer satisfaction. With this regards, the findings of the study has revealed that both the descriptive and inferential statistic show similar results. At individual level, all the five explanatory variables (assurance, reliability, tangibility, responsiveness and empathy) have significant positive effect on customer satisfaction at Arsho medical laboratories. However, the multiple regression analysis conducted to see the combined effects of the explanatory variables on customer satisfaction show that the all of the independent variables except responsiveness affect customer satisfaction at 0.000 level of satisfaction. The model summary of the multiple regression result show that 70.4% of the variation on customer satisfaction is attributable to the changes on the four independent variables. The combined model is also found to be adequate as the ANOVA result show that the model is fit at 0.000 level of significance. In the study it is proved that the service provision at Arsho medical laboratories faced various administrative, technical, human resource and material supply problems.

➢ It is indicated in the interview with the manager of Arsho medical laboratories and customers responses that there are few well-trained medical laboratory employees. The company is not providing adequate training to develop the skills and knowledge of the employees. Besides, lack of adequate chemicals and drugs, very tighter service provision rooms, increasing customers demand that put pressure on service provision, absence of certain laboratory tests in all laboratory centers and inadequate laboratory infrastructures were the major challenges which limited the proper provision of services at Arsho laboratories. In addition, existence of limited branches and absence of important supply of medical facilities and supplies limited the proper provision of quality services at the medical centers.

➢ In general, quality service was found out to be an important factor to satisfy customer satisfaction in the laboratory industry because customers are increasingly expecting higher quality of services, becoming time saver and wanting more conveniences. So, Laboratories should focus in service quality to satisfy their customers in every dimension of service quality. The combination of tangibility, reliability, responsiveness, assurance and empathy together has a significant positive effect on customer satisfaction.

5.3.Recommendation

Based on the findings of the study, the following recommendations are forwarded in order to promote and develop viable laboratory service at AML (Arsho Medical Laboratory).

➢ To improve quality services to satisfy customer's needs, laboratories should pay much attention on the customer complaints, customer's expectation and individual attention should be given to customers in order to better understand their needs and satisfy them.

➢ Laboratories should regularly undertake survey research activities to keep a regular track of customer satisfaction level and find out customer expectations about various service aspects.

➢ The Laboratory needs to extend its operating hours to 24 hours and 7 days a week so that customers can be able to use the service without any bias. Laboratories should provide continuous training to the employees on the five servqual dimensions to give a better and improved service to their customers.

➢ Arsho medical laboratories should work to attract well-trained medical laboratory professionals and provide continuous professional training to its staff.

➢ The company should also expand its branches to reach its customers at wider area coverage.

➢ As it is found in the study, the service provision at Arsho medical laboratories faced various administrative, technical, and material supply problems. Hence, the company should provide the necessary administrative and technical measures in order to fill these gaps.

➢ The federal government of Ethiopia should also facilitate an opportunity for Arsho medical laboratory to get adequate foreign currency in order to import important medical facilities and drugs.

➢ The company should also diversify its laboratory services to meet the increasing demands of its customers. It should work to launch new laboratory tests which were not provided at the centers.

➢ Finally, the medical laboratory should work to maintain adequate laboratory infrastructures needed to provide quality services. This will maintain provision of quality service to customers and in turn guarantee higher customer satisfaction.

5.4. Limitation of the study

Out of the three laboratories found in Addis Ababa this research addressed only Arsho Medical Laboratory due to financial and time constraints. Shortage of secondary data, some restrictions to access internal data literature were some of the limitations the author faced.

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1. Normality Test Result

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Assurance	301	-.978	.140	.570	.280
Reliability	301	-.831	.140	-.300	.280
Tangibility	301	-.938	.140	-.018	.280
Responsiveness	301	-.896	.140	.099	.280
Empathy	301	-.864	.140	.193	.280
Customer satisfaction	301	-.894	.140	.201	.280
Valid N (listwise)	301				

Source: SPSS Result, May 2018

2. Multicolliniarity Test Result

Correlations

		Assurance	reliability	Tangibility	responsiveness	Empathy
Assurance	Pearson Correlation	1	.797**	.640**	.750**	.628**
	Sig. (1-tailed)		.000	.000	.000	.000
	N	301	301	301	301	301
Reliability	Pearson Correlation	.797**	1	.642**	.759**	.674**
	Sig. (1-tailed)	.000		.000	.000	.000
	N	301	301	301	301	301
Tangibility	Pearson Correlation	.640**	.642**	1	.556**	.475**
	Sig. (1-tailed)	.000	.000		.000	.000
	N	301	301	301	301	301
Responsiveness	Pearson Correlation	.750**	.759**	.556**	1	.683**
	Sig. (1-tailed)	.000	.000	.000		.000
	N	301	301	301	301	301
Empathy	Pearson Correlation	.628**	.674**	.475**	.683**	1
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	301	301	301	301	301

**. Correlation is significant at the 0.01 level (1-tailed).

Source: SPSS result, May 2018

3. Autocorrelation Test Result

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.839[a]	.704	.699	1.81302	1.663

a. Predictors: (Constant), Empathy, tangibility, responsiveness, Assurance, reliability

b. Dependent Variable: Customer satisfaction

4. Heteroscedasticity Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.572	.595		6.007	.000
	Assurance	-.069	.040	-.176	-1.737	.083
	Reliability	-.061	.041	-.156	-1.477	.141
	Tangibility	.061	.043	.105	1.407	.160
	Responsiveness	.067	.040	.159	1.661	.098
	Empathy	-.107	.036	-.235	-2.943	.004

a. Dependent Variable: AbsUt

Annex Two

Questionnaires Prepared for Customers of Arsho Medical Laboratory

Branch _____

Dear Respondents,

I am Selamawit Taffese, MBA student at St. Mary's University; School of Graduate Studies; Department of Management. Currently, I am conducting a research in entitled "Effects of Service Quality on Customer Satisfaction: The Case of Arsho Medical Laboratory". I am conducting the study as a partial fulfillment of requirement MBA degree in General Business Management. The objective of this questionnaire is therefore, to obtain the necessary and relevant first-hand information that will be useful for the accomplishment of the aforementioned research. In light of this, the quality of this paper is highly relies on information you would kindly provide.

Besides, I guarantee you that the information you give on the questionnaire will solely be used for academic purpose. Thus, your responses ideas and comments are highly honored. In addition, the information you provide is kept confidential. Hence, your frank response and valuable support in responding to the questions raised is very important to the success of the study. To this end, I kindly request you to fill the questionnaire carefully and at your best knowledge in all regards. You should choose the answer you think is correct and free of bias. I am grateful in advance for your cooperation in filling this questionnaire.

<p align="center">Thank you in advance for your cooperation and kind responses!</p>

Part One: Background Information of Respondents

✓ Please tick (√) your answer

No.	Item	Responses	
1.	Gender	Male ☐	
		Female ☐	
2.	Education level	Below 10 ☐	
		10 ☐	
		com ☐	
		plet ☐	
		ed ☐	
		Cert ☐	
3.	Age	Below25 ☐	
		26-35 ☐	
		36-50 ☐	
		Above 50 ☐	
4.	For what purpose do you mainly use laboratory service?	For regular checkup ☐	
		Because of Reference ☐	
		When sick ☐	
		If for other purposes, please specify_____	
5.	For how long have you been using Laboratory service?	Customer less than one year ☐	
		Customer for 2-3years ☐	
		Customer 4-5years ☐	
		Customer above 5years ☐	
6.	What is your occupation?	Government Employees ☐	
		Self-employed	☐
		business owner	☐
		Employee of private	☐
		firms Unemployed	☐
		Farmers	

Part Two: Questions related to the five SERVQUAL dimensions

Please mark with tick (√) for your agreement with the following statement

NB: Strongly Agree: 5   Agree: 4   Neutral: 3   Disagree: 2   Strongly Disagree: 1

1. Assurance

No	Statement	5	4	3	2	1
1	Employees of Arsho laboratory have the knowledge to answer questions					
2	Employees of Arsho laboratory have courtesy to inspire trust and confidence					
3.	Employees of Arsho laboratory have the ability to openly discuss solutions when problems arise.					
4	Employees of Arsho laboratory are respectful in providing services					
5	Employees of Arsho laboratory provide you the adequate information on the services you requested					

2. Reliability

No	Statement	5	4	3	2	1
1	Employees of Arsho laboratory provide service at the time they promise to do so.					
2	Employees of Arsho laboratory perform service right the first time(error free)					
3	Employees of Arsho laboratory show sincere interest in solving a problem you face.					
4	Arsho laboratory keeps your medical history and records accurately					
5	Customers have confidence in the laboratory Service					

3. Tangibles

No	Statement	5	4	3	2	1
1	Arsho laboratory has up-to-date equipment and Technology					
2	Arsho laboratory's physical facilities are visually Appealing					
3	Arsho laboratory's employees are well-dressed and appear neat					
4	The physical facilities and technology of Arsho laboratory goes with the type of service provided					

4. Responsiveness

No	Statement	5	4	3	2	1
1	There are always adequate number of employees to respond to your needs at the branches of Arsho laboratory's					
2	Employees of Arsho laboratory are always helpful					
3	Employees Arsho laboratory are never busy to respond to your enquires					
4	The company is delivering results on time					

5. Empathy

No	Statement	5	4	3	2	1
1	Arsho laboratory's branches are easily accessible to you					
2	Employees of Arsho laboratory's employees understand your specific needs					
3	Technicians show empathy when taking samples					
4.	The laboratory has operating at hours convenient to customers					

Part Three: Measures of Customers Satisfaction

No	Statement	5	4	3	2	1
1	I am satisfied with the overall service of the branch					
2	I am a satisfied customer of this laboratory					
3	I am satisfied with the complain handling system of the laboratory					
4	I am satisfied with the level of service delivery time					
5	I am satisfied with the laboratory's way of treating its Customers					

Part Four: Multiple Questions Regarding the Challenge of Service Quality and Customer Satisfaction

1. Which of the following is the correct answer regarding Customer expectation?

    a. Employees can Understand Customer Expectation based on race, age, generation and the like.

    b. Employees can understand customer expectation based on the varied desires that they take into account when purchasing product

    c. Employees communicate with customers well.

    d. Employees donot understand customer expectation

    e. All can be answers except d

2. Which of the following is the correct answer regarding the companies way of reaching out to customers?

    a. The company provides customer feedback

b. The company advertises through print media, radios, televisions, phone emails, Social medias and face to face campaign.

c. The company neither provides customer advertisement nor provides advertisement

 d. A and B are the correct answer

3. Which of the following is true about the company's employees?

    a. The company hires skilled professionals

    b. The company has structured programs to teach and train new hires about company policies, values, culture, and practices in dealing with customers

    c. The company has neither hired skilled professionals nor structured programs

    d. A and B are the correct answer

4. Which of the following is true about the employees of the company?

    a. The employees see the companies vision, fit into the culture and work with the company to achieve the companies goal.

    b. The company retains it Employees

    c. Staff turnover is low

    d. All are answers

    e. None of the above

THANK YOU FOR YOUR COOPERATION!!!!!!

Annex Three

Interview Questions for Customer Service Managers

Interview Guidelines for Key Informants (Customer Service

Managers) Interview Questions for Customer Service Managers Interview Guidelines for Key Informants (Customer Service Managers)

Name of the interviewer _____

Position of the interviewee _____

Place of Interview _____

Branch Name _____

Date of Interview _____

1. How do you explain the qualities of services provided by Arsho Laboratory?

2. What are the effects of the laboratory service quality on your level of satisfaction as a customer of the laboratory?

3. What should the Laboratory do to increase the quality of services and raise the level of customer satisfaction?

4. Do you think there are challenges which hamper quality service provision at Arsho Laboratory? If yes, what are the challenges?

5. Do you think there are challenges which hamper customer satisfaction at Arsho Laboratory? If yes, what are the challenges?