



College of Business and Economics

Comparative Assessment of Healthcare Service Quality and Customer Satisfaction in Some Selected Public and Private Hospitals in Addis Ababa

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DECLARATION

I, the undersigned, declare that, this study “Comparative Assessment of Healthcare Service Quality and Customer Satisfaction in Some Selected Public and Private Hospitals in Addis Ababa.” is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the study have been duly acknowledged.

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Abstract

Globally many researches have been made in the area of patient satisfaction and service quality, however only few of them are from Africa and particularly Ethiopia. Although there are many efforts made by the government of Ethiopia, the current state of healthcare service quality in health facilities has different types of quality related issues. The purpose of this study was to assess and compare level of healthcare service quality and customers' satisfaction in public and private hospitals in Addis Ababa. The SERVQUAL measurement scale based on Gap Model was used on the study. Black Lion, Saint Paul, Korean and Hayat hospitals were selected for the study with a total of 400 sample size, 100 from each hospital. A descriptive research design was used and the study revealed that perceived healthcare service quality highly explains the satisfaction of customers. All the 22 variables of healthcare service quality and the satisfaction of customers were strongly positively correlated for all the hospitals under the study. Correlation of customer satisfaction with factors that are external to healthcare service quality shows that level of education of respondents has a weak negative correlation with customer satisfaction at Saint Paul hospital. Gender is significantly correlated with customer satisfaction at Hayat hospital. All the hospitals have service quality gap in all the five dimensions of service quality and Black Lion hospital has the highest (-1.84) gap compared to all the other hospitals. The least gap was observed in Korean hospital (-0.49). The level of satisfaction of customers in the hospitals was 20%, 31.63%, 73.25% and 43.56% for Black Lion, Saint Paul, Korean and Hayat hospital respectively. The findings of this study will help different stakeholders working to improve healthcare service quality by guiding where to act.

Key Word: Customer Satisfaction, Service Quality, Healthcare Service, SERVQUAL

CHAPTER ONE

Introduction

1.1 Background of the Study

Service Quality in General:

Service quality is a difficult concept to quantify and assess as it has an intangible nature. Thus since long time defining quality has become a complex task. In different literature most researchers agree with service quality best be explained as a disconfirmation paradigm where expectations are either met, not achieved or surpassed (Brown and Swartz, 1989; Parasuraman, Berry and Zeithaml 1994). In addition to this definition, understanding the constituents of quality has also been extensively researched. The seminal work of Parasuraman, Berry and Zeithaml (1985) determines its findings from assessing factors based on the multidimensionality of service quality, which has since become an accepted statement in service quality literature.

Parasuraman et al. (1985) also defines a framework describing the service quality gap model. This model identifies five gaps of prevalent imperfect information in patient-healthcare provider interactions. The most important gap has been identified as Gap 5 which pertains to the expected versus perceived quality of service delivery from the healthcare provider to the patient. Within this framework, the famous measuring tool the SERVQUAL questionnaire, is implemented (Parasuraman, Berry and Zeithaml, 1988). The SERVQUAL tool enables researchers to identify, not only the gaps in perceptions and expectations in services quality from patients, but also identify which factors (or dimensions) underlie the quality construct.

Service Quality in Healthcare Service:

In different countries Healthcare institutions intend to use different business models such as total quality management, continuous quality improvement, just-in-time, BPR, benchmarking and among others to re-design their processes and improve quality. Studies made in other countries which have implemented BPR as a tool for their healthcare service quality improvement, dramatic improvements have been reported. However, in Ethiopia, although the Ethiopian government began implementing health care reform through BPR in 2009, there is limited

evidence demonstrating its success or failure. Knowing the way health care reforms have succeeded or failed would help policy makers accommodate continued reform efforts in the future and provide insight into possible levels of improvement in the health care system. The Ethiopian government ministry of health also believes that in all strategies and quality improvement works patient satisfaction is the main component and is integral part of health services delivered to the population (FMOH, 2010).

Healthcare Service Quality and Customers Satisfaction:

Customer satisfaction is a principal criterion for determining the service quality that is actually delivered to the customers (Vavra, 1997). According to Shierdan (1998) companies can effectively differentiate from the competition with enhanced customer service to have a competitive advantage with better service quality.

Emerging literature in healthcare service shows that patient satisfaction is a leading concern that is interlinked with strategic decisions in the health services. Patient satisfaction should be an essential element to assessment of quality in healthcare systems. Researches also show that service quality has a close relationship with patient satisfaction. Quality of healthcare service has been indicated in a number of studies to be an antecedent to satisfaction (Cronin and Taylor, 1992; Fornell et al., 1996). As this relationship becomes more evident and important in recent years, research has been focused on determine the strength of this relationship (Smith and Engelbrecht, 2001; Choi, Chankon, Hanjoon, and Lee, 2005). Understanding the antecedents of satisfaction is not only important in maintaining a competitive advantage, but also studies have shown that improved healthcare service satisfaction is related to improved treatment adherence and attendance of follow-up consultations (Fan et al., 2005; Fornell et al., 1996).

Customer satisfaction is taken as a prerequisite for customer retention and loyalty, and also helps in realizing economic goals like profitability, market share, return on investment etc. There has been a common consensus among many researchers that service quality and customer satisfaction are two distinct constructs but are closely related to one another (Sureshchandar, Rajendran, & Anantharaman, 2002).

Healthcare Service Quality in Ethiopia:

There are tremendous efforts made by the government of Ethiopia increasingly focused on improving the quality of healthcare services over the past 20 years. This is evident in the Health Sector Development Plan (HSDP) IV, which discusses various elements of quality including accelerating speed of delivery, improving service integration, avoiding missed opportunities, increasing effectiveness, enhancing patient safety, and ensuring the availability of resources together with program designs for prioritized diseases and conditions for better outcomes.

Following the country wide government initiatives such as Business Process Reengineering (BPR) and Balanced Scorecard, implementation of the reformed health management information system (HMIS), the recent quality of the federal ministry of health, Kaizen, quality improvement methodologies have been adopted as a means of achieving better health care and health outcomes. The Ethiopian Hospitals Management Initiative (EHMI), which was started in 2006, is a pioneering initiative to introduce a standardized based quality approach. This subsequently progressed to Ethiopian Hospitals Reform Implementation Guidelines (EHRIG) incorporating the concepts of blue print for hospitals, the health care financing strategy and the Business Process Reengineering BPR. The hospital reform was supplemented by the introduction of Key Performance Indicators for hospitals through the hospital performance monitoring and improvement guideline in 2011. The Ethiopian Hospitals Alliance for Quality (EHAQ) and Clean and Safe Hospitals initiative (CASH) are based on experiences in implementing Ethiopian Hospital Reform Implementation Guidelines (EHRIG). According to the annual performance report of health sector development program out of 73 hospitals and 823 health centers collecting and retaining revenues, 90% have started retaining their revenues and 95% have utilized the funds to improve the quality of care. Given the tremendous work and interest in quality in Ethiopia, there is momentum around the role that quality can play in helping to achieve our national health goals.

Although all these efforts have been made, the current state of healthcare service quality in health facilities has still range of quality related issues such as; Some facilities have not successfully implemented quality standards and established quality structures, inadequately staffed facilities due to staff attrition / turnover, absenteeism, lack of motivation or incentives, provider basic skill gaps limit ability to provide quality patient care; capacity of hospitals for

practicums is low limiting hands-on experience, quality improvement concepts are not covered in medical school/pre-service training or CME, healthcare professionals may not be “fit to practice” but are not reviewed once accredited/licensed, facilities may continue to provide services even though they are unable to meet minimum requirements of standards, national health and health related indicators show that much work has still to be made to improve the healthcare service quality.

Complaints about poor patient care in hospitals are common and the most cited health institutions for this are government hospitals. Due to poor patient care and satisfaction in government hospitals, it failed to attract healthcare customers. In addition, the government hospitals health workers poor attention, negative attitudes and behaviors towards their clients/patients, intense competition between public and private health institutions, lack of modern equipment and significant shift of customers from government hospitals to private hospitals are adversely affecting the government hospitals revenue and it leads to decline in revenue, poor quality service delivery for clients/patients, acute financial crunch and failer to modernize government hospitals to satisfy the need of patients.

1.2Statement of the Problem:

There are many researches made in the area of patient satisfaction and service quality globally, however only few of them have been made in Africa and particularly in Ethiopia, and they were also not fairly exhaustive. For instance, in a certain study (Birhanu et al., 2012), determinants of patient satisfaction with outpatient services were studied and the variables applied in the expectation evaluation were only six while the SERVQUAL scale can have twenty two, and gap analysis between expectation and perception of quality was also not made.

Although there are many efforts made by the government of Ethiopia, the current state of healthcare service quality in health facilities is still seen to have different types of quality related issues. Different studies have pointed out that the level of patient satisfaction in different types of health facilities and hospitals is different. Studies made in Ethiopia have reported that the overall levels of satisfaction range from 52% to 57%. A study conducted on adult patient satisfaction with nursing care at public hospitals in Addis Ababa, admitted in the medical, surgical and gynecological wards, shows that the overall rating of satisfaction was found to be 67%. In a

research conducted in the outpatient pharmacy of Gondar University Referral Hospital the overall mean satisfaction of patients of the outpatient pharmacy was found to be low. The overall satisfaction level of outpatient service users in Felege Hiwot referral hospital, Bahir Dar was 58.3%. According to a study made in Mettu town, south west Ethiopia the overall level of patient satisfaction level with the outpatient healthcare services rendered at four growing health centers was 57.9%. The World Bank report also shows that only 53% of households who visited government health facilities were satisfied with their visit. Some studies show that private hospitals have better healthcare service quality compared to government owned facilities. Therefore, areas of strength and weakness in both facilities should be studied and identified to make an effective public/private partnership and collaboration.

Some studies show that there is a clear association between socio-demographic characteristics of patients with patient satisfaction (Bleich et al., 2009) while some report that such an association does not exist (Ndambuki, 2013). It is therefore important to explore if such a relationship exists in the Ethiopian hospitals context or not. In fact Bleich et al., (2009) suggested that further research be conducted to confirm the effect of factors external to the healthcare provider on patient satisfaction. This research addresses the gaps mentioned above and the gaps shown in the highlighted studies by enhancing the number of socio-demographic factors and carrying out an empirical analysis to determine association with customer satisfaction with healthcare service quality.

Service quality needs to be constantly monitored in order to gain a competitive advantage. Service quality becomes even more important in sectors like healthcare where the information regarding technical aspect of the service offered is often limited or unknown to the patient. In these conditions the patients evaluate the entire service based on how it was provided to them (Lockwood, 1994). Hence it becomes increasingly important to identify the drawbacks in current healthcare system. This research hopefully is a way forward to analyze allocation of resources towards improvement of healthcare, the past performance of our healthcare system, and the quality of service provided to the patients and identifying the determinants which leads to customer satisfaction.

The gap that was observed in the Ethiopian healthcare service is that; there are only few non exhaustive healthcare service quality researches made, the current state of healthcare service has

many quality related issues and overall satisfaction levels of patients are found to be low. The dimensions of service quality those have gaps are not clearly assessed and identified.

1.3 Research Questions:

- What is the level of satisfaction of customers in public and private hospitals in Addis Ababa?
- What characteristics of healthcare service quality dimensions correlate with customers' satisfaction in public and private hospitals in Addis Ababa?
- What factors external to healthcare service quality correlate with customers' satisfaction in public and private hospitals in Addis Ababa?
- What is the pattern of healthcare service quality gap by tangibility, reliability, responsiveness, assurance and empathy dimensions in public and private hospitals in Addis Ababa?

1.4 Objective of the Study:

1.4.1 General Objective of the Study:

The general objective of the study is to assess and compare level of healthcare service quality by tangibility, reliability, responsiveness, assurance and empathy dimensions and customers' satisfaction in public and private hospitals in Addis Ababa.

1.4.2 Specific Objectives:

1. To measure and compare the level of customers satisfaction in public and private hospitals in Addis Ababa.
2. To assess and measure the correlation of characteristics of healthcare service quality dimensions with customers satisfaction in public and private hospitals in Addis Ababa.
3. To identify and measure correlations of factors external to healthcare service quality that associate with customers' satisfaction in public and private hospitals in Addis Ababa.
4. To measure and compare healthcare service quality gaps by tangibility, reliability, responsiveness, assurance and empathy dimensions in public and private hospitals in Addis Ababa.

1.5 Importance of the Study:

1.5.1 For the Hospitals' Staff and Management:

Lots of activities are being done and lots of resources have been invested to improve the health care service quality in the country and still we have wide gap to reach the level of service quality we owe to reach. Therefore, this study is intended to help hospital management and staff to focus on which specific characteristics of the health care service to improve the quality. The only way a private healthcare provider can better align to the ever demanding patients and retain them is to exceed their expectations by constantly measuring their expectations and perceptions. A healthcare service quality expectation has an indisputable effect on the preference of a health care provider. Therefore, this research has indispensable importance to the private hospitals to understand the needs of their customers and to satisfy and retain them.

1.5.2 For Health Care Service in Ethiopia:

This work has been made with focus and priority. Therefore, this study is intended to give areas of focus and priority, and compare the service quality of both private and public sector healthcare services from patients' perspective to take share best practices. To improve the quality of healthcare services, satisfying patients and clients is the primary goal of the Ethiopian government's reform programme. Patients' and clients' opinions must be heard and their satisfaction with services should be optimized through regular surveys on client satisfaction.

1.5.3 For Academicians and Researchers:

This research is expected to contribute to the body of knowledge in the areas of service quality especially to one of the less researched area of healthcare service quality and customer satisfaction. And, it is expected to be an area of interest to researchers and academicians who may need to contextualize it to the Ethiopian context and would fill a current and existing gap in information.

1.5.4 For Customers:

There is growing consensus that assessment of the quality of hospital services should be based in part, on patients' perceptions of healthcare service quality and their satisfaction. The The

research is expected to contribute to improved healthcare service delivery at the hospitals selected for the study and other hospitals that may use the study findings to benefit from this.

1.6 Scope of the Study:

This study was conducted at two big public teaching hospitals (Black Lion and Saint Paul Hospitals), and two big private teaching hospitals (Korean Hospital and Hayat hospital) only in Addis Ababa. It focuses mainly on assessing the patients' perspective of healthcare service quality by using gap model and the five dimensions of SERVQUAL scale (tangibility, reliability, responsiveness, assurance and empathy) to analyze their level of satisfaction.

1.7 Definition of Terms:

1.7.1. Customer Satisfaction:

According to Liu and Chin, (2010) customers are satisfied when they get more benefits than their cost and satisfaction is the extent to which the customers' expectations have been met.

1.7.2. Service Quality:

The quality of service as used in this study was based on the revised SERVQUAL instrument which divides the quality of service into five distinct dimensions of Tangibles, Reliability, Responsiveness, Assurance and Empathy (Parasuraman, Berry, and Zeithaml, 1991). Each of the dimensions has a set of questions that identify the key aspects of the service provided.

1.7.3. Healthcare Service Quality:

The institute of medicine (IOM) has defined quality of healthcare as "The degree to which health services for individuals and population increase the likelihood of desired health outcomes and are consistent with current professional knowledge". In past years the concern for service quality reached unprecedented level in various sectors.

The quality of healthcare service focuses on the total sum of processes, people, actions, and environment in which service is provided. This incorporates everything that is within the control of the healthcare provider to influence. Specific components of the healthcare service are often evaluated and may be clustered into subgroups like: institutional aspects (Birhanuet al., 2012);

patient and healthcare provider interaction (Birhanu et al., 2012; Elleuch, 2008); responsiveness, assurance and communication (Andaleeb, 2001); settings and appearance of the healthcare facility (Elleuch, 2008); infrastructure and organization (Weissenstein, et al., 2011). This indicates that in different settings different aspects of quality of the healthcare service have been evaluated.

1.8 Organization of the Study:

A standard SERVQUAL questionnaire with 22 expectations and 22 perceptions related questions was used after translation and slight modification was made after testing to fit to the local context. Ethical issues of patients were seriously considered for informed consent, confidentiality, anonymous information and other issues. Questionnaires were filled in waiting areas with close support by the researcher and collected in same date. Data coding book was prepared and data was entered into SPSS version 23 and entry correctness was checked for any entry related errors and it was free from any error. Data analysis was made by using SPSS version 23. Comparative analysis was made for all descriptive results of the study and interpreted accordingly.

CHAPTER TWO

Literature Review

2.1. Empirical Review:

Starting from 1980s a new trend of thought was initiated towards service quality. As customers became more informed and demanding, companies realized that product quality was not a single element to gain a competitive advantage and realized that it should be combined with service quality as well (Gupta et al., 2005, p. 390).

In order to better understand service quality, it is important to see the nature of a service itself. Services could be described by three specific characteristics, namely intangibility, heterogeneity, and inseparability as it was suggested by Parasuraman et al. (1985, p. 42). Intangibility of services refers to inability to measure value of it before sales occur comparing to products. Heterogeneity refers to the nature that quality of a service delivery could vary from one day to another, which may occur due to various factors such as mood of service providers and customers, difficulties in copying the same way of delivering services and other factors. The third characteristic of services, inseparability, refers to a feature that services emerge during an interaction between clients and frontline employees (Parasuraman et al., 1985, p. 42). Taking into account listed characteristic of services, we could conclude that services are complex elements compared to products and they hold considerable amount of subjective issues. As a result of these natures of services which are found to be complex, service quality could be identified as complex as well.

Healthcare industry has shown one of the fastest growth in recent years. Nowadays many service providers have realized that achieving customer satisfaction is a key element towards long term business capability and success. In today's scenario with the customers becoming more and more empowered and financially sound the service providers are destined to look for quality over price (Andaleeb, 1998).

In the past few decades service quality has become a major area of attention to practitioners, managers and researchers due to its strong impact on business performance, lower costs,

customer satisfaction, customer loyalty and profitability. For an organization to be competitive in the market it is necessary to take hold of and channelize information for the purpose of enhancing service quality (Kettinger & Lee, 1997).

The quality of healthcare service focuses on the total sum of processes, people, actions, and environment in which service is provided. This incorporates everything that is within the control of the healthcare provider to influence. Specific constituents of the healthcare service are often evaluated and may be grouped into categories like: institutional aspects (Birhanu et al., 2012); patient and healthcare provider interaction (Birhanu et al., 2012; Elleuch, 2008); responsiveness, assurance and communication (Andaleeb, 2001); settings and appearance of the healthcare facility (Elleuch, 2008); infrastructure and organization (Weissenstein, et al., 2011). This shows that in different settings different aspects of quality of the healthcare service have been evaluated.

Studies made in different countries show that poor quality of healthcare services in the public sector has resulted in greater use of the private sector despite the fact that private healthcare service providers are usually costly for the majority of people in developing countries. However, in opposite to this fact the healthcare service providers in developing countries appear to be ignoring the importance of patients' perceptions regarding healthcare services.

Raposo et al. (2008) analyzed patients' satisfaction levels in a set of four Portuguese primary healthcare centers in order to find out what dimensions of healthcare service quality influences patient satisfaction most. The results showed that the level of patient satisfaction was modest and the effects on satisfaction were linked to Patient/Doctor relationship, Quality of facilities and Interaction with the administrative staff. The conclusions from various studies found different experiences in the formation of satisfaction, namely, perceived image, perceived value, expectations and quality (both functional and technical) (Raposo, Alves, & Duarte, 2008). They finally identified four major factors namely nursing care; hospital facilities, staff and medical care have significant impact on patient satisfaction according to their study made in the US healthcare system. They underlined that patients' perceptions are significantly influenced by hospital support functions.

Regarding the level of education of patients, Braunsberger & Gates (2002) identified that patients with low level of education perceived the performance to be higher than the patients with higher level of education. More educated patients tend to be less satisfied because they have higher expectations or they apply stringent standards while evaluating the healthcare service provided.

W. Lee, Chen, & Wu (2010) studied the relationship between quality of medical treatment and patient satisfaction. They developed a model which inspires the relationship between medical management, medical quality and customer satisfaction.

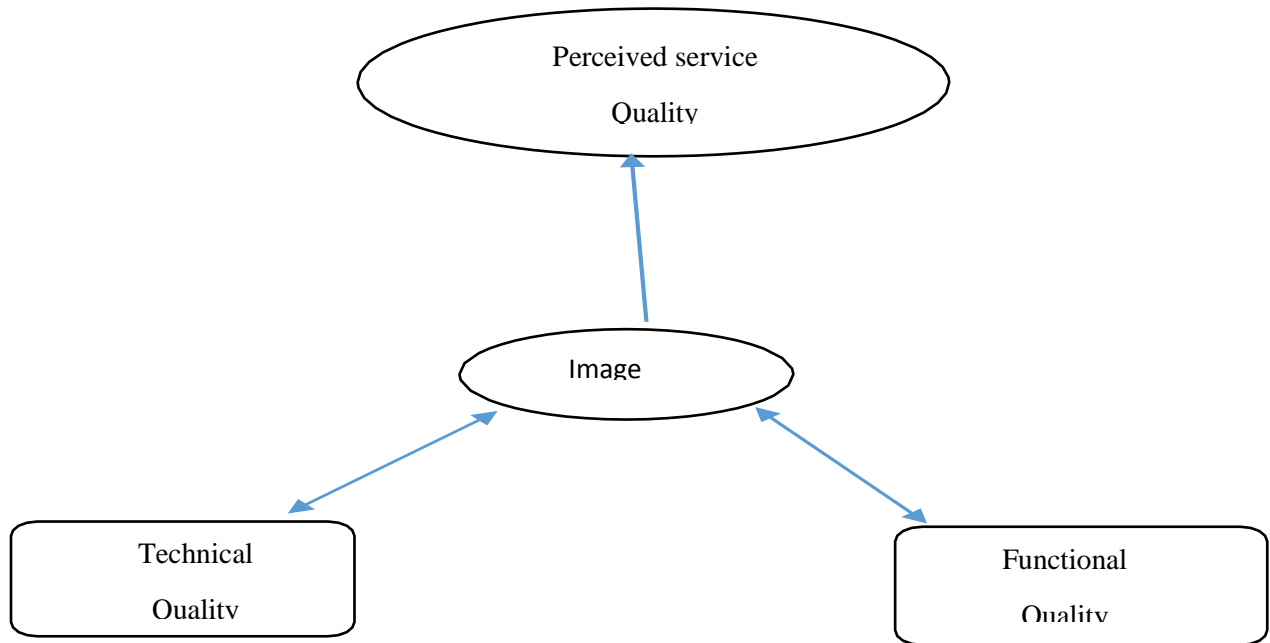
Das & Hammer (2007) pointed out that doctors who are graduated from government medical colleges at free of cost or at the expense of taxpayers' money did not show any compassion to patients when treating patients in government hospitals and on the other hand the private sector is not glorified by any means as they make patients to buy avoidable medicines and make them undergo unnecessary medical procedures. After their study they came out with a model having components: procedure, interaction and outcome which are physician related, clinical staff related and non-clinical staff related and all these three converging towards patient satisfaction.

2.2. Theoretical Review:

There are various models of service quality measuring, which are developed by different researchers over the past few decades. Here we will look into some of the frequently used ones, their theoretical framework and the factors used in measuring service quality.

i. Technical and Functional Service Quality Model: Gronroos (1984):

Figure 2.1 Technical and functional service quality model , Source:(Gronroos, 1984)



For a firm to be successful it needs to better understand the perception of consumers towards its service quality. Gronroos identified three components which can affect the overall service quality. These are: Technical quality, Functional quality and Image of the organization.

Technical quality refers to the outcome of a particular service and it involves what a customer receives from a service encounter. Functional quality refers to the way a service is provided to the customer. It focuses on the process of service delivery. Both the functional quality and the technical quality affect the image of an organization. Image of an organization is often referred as corporate quality which is attributed by its current and potential customers.

ii. Gap Model: Parasuraman et al. (1988)

Parasuraman, Zeithamal and Berry developed this model based on gap analysis and they identified five gaps as shown below;

Gap 1: Difference between expectations of customers' about a service and perceptions of management for those expectations. Management is not clear about the customers' expectations.

Gap 2: Difference between management perceptions of customer expectations and service quality specifications. This is failure of management to interpret customers' expectations into correct service quality specifications.

Gap 3: Difference between service quality specifications for a service and the actual service delivery.

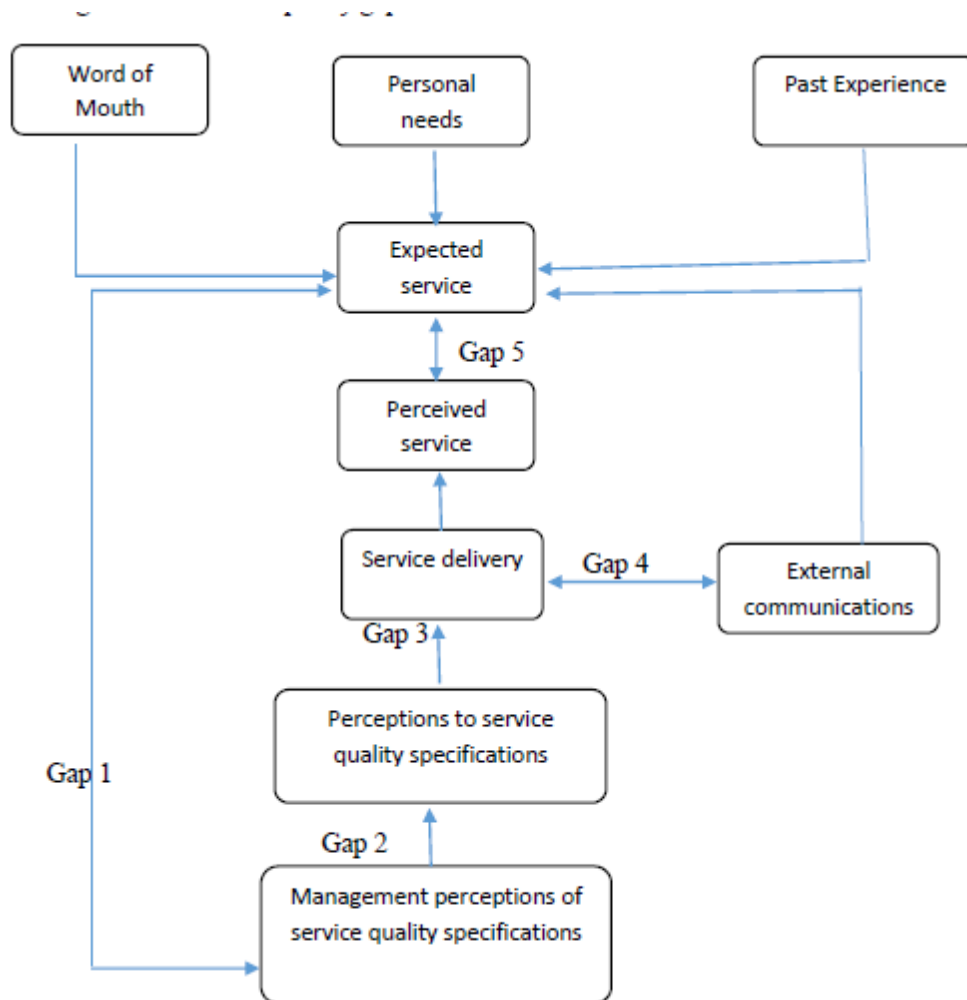
Gap 4: Difference between the actual service delivery and the external communications about the service offered.

Gap 5: Difference between the customer's perception about a service and their expectations. This gap depends upon the previous four gaps.

According to this model the overall service quality is measured by

$$\text{Service Quality (SQ)} = \Sigma (P - E)$$

Figure 2.2 Service Quality Gap Model



Source: (Parasuraman, Zeithaml, & Berry, 1988)

Where,

P = Performance perception

E = Service quality expectation

The measurement scale based on the above gap model was named SERVQUAL. SERVQUAL measures both customers' expectations prior to the service and their perceptions that they have experienced after receiving the service. This is the model that is used in this research.

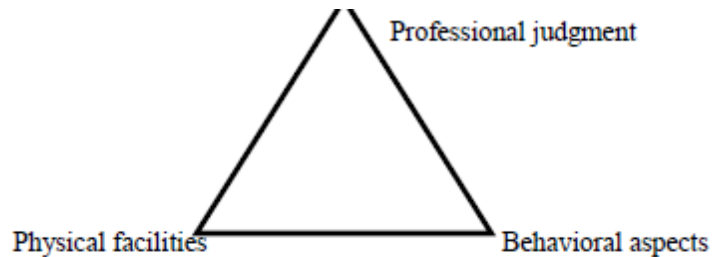
iii. Attribute and Service Quality Model: Haywood and Farmer (1988)

This model states that high quality service is achieved if the customer's preferences and expectations are matched consistently. According to this model, service has three basic attributes as show below;

1. Physical facilities and processes : These includes the location of the firm, interior decoration, speed, range of services offered, size of the firm, capacity etc.
2. Behavioral aspects: This includes communication speed, courtesy, friendliness, warmth reception, attitude of employees, grievance handling, problem solving, politeness etc.
3. Professional Judgment: This includes professional competence, judgment, honesty, knowledge, innovation etc. of service providers.

According to this model each of the three attributes form an apex of a triangle. Too much emphasis on one attribute and exclusion of the other two attributes will eventually result in a adverse condition.

Figure 2.3 Attribute and Service Quality Model



Source: (Seth, Deshmukh, & Vrat, 2005)

iv. Synthesis Model of Service Quality: Brogowiz et al. (1990)

This model states that even though a customer has not yet received any service, a service quality gap exists which is mainly due to word of mouth communication about the service, advertising or other communications. Thus it is important to add potential customers' perceptions of service quality in addition to actual customers' perceptions of service quality. This model comes out with an integral framework of combining traditional managerial framework, service design and operations and marketing activities. Synthesis model of service quality has three factors: company image, external influences and traditional marketing activities. These three factors influence both technical and functional service quality expectations.

v. Performance Only Model : Cronin & Taylor (1991)

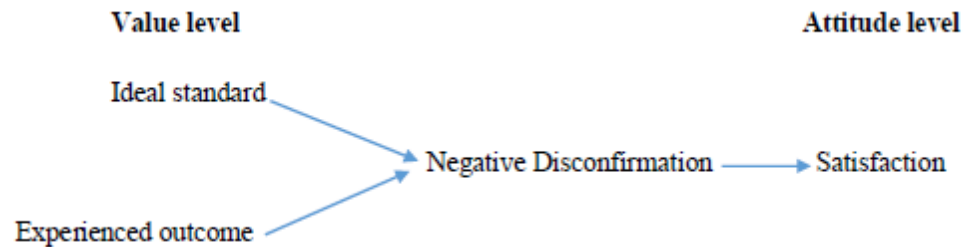
Cronin and Taylor investigated the measurement of service quality and its relationship with customer satisfaction and purchase intentions. They compared the perceptions minus expectations scores (difference scores) with that of perceptions only scores and concluded that perception only measurement is a better predictor of service quality. The measurement scale developed by them is called SERVPERF and they have illustrated that service quality is a form of attitude and it is better captured by performance only measure. They argued that service quality is a combination of satisfaction and attitude. They maintained that performance instead of performance minus expectations determine service quality.

vi. Ideal Value Model of Service Quality: Mattsson (1992)

According to different service quality studies expectation is a belief about having desired attributes. It is used as a standard for evaluation of the service offered. There are other standards such as experience based service expectations, ideal level of service, minimum tolerable level of service and desirable level of service. This value based service quality model recommends the use of a perceived ideal standard against which the customer experience about the service is compared.

The figure below depicts that implicit negative disconfirmation on a pre-conscious level, is then hypothesized to determine satisfaction.

Figure 2.4 Ideal value model of service quality



Source: (Seth, Deshmukh, & Vrat, 2005)

vii. Attribute and Overall Effect Model: Dabholkar (1996)

This model was proposed for self service options as it is gaining increased presence due to increased labor costs. Two models were proposed for measuring service quality;

(i) The attribute model works on the basis of cognitive approach of decision making. This model advocates that expectations are formed from a compensatory process which is used to evaluate attributes associated with the technology based self-service option.

(ii) The overall affect model is based on the consumers feelings towards the usage of a particular technology. It is based on the affect approach to decision making.

In both the models the expected service quality would influence consumer's intentions to use technology based self-service options.

viii. Pivotal, Core and Peripheral (PCP) Attribute Model (Philip & Hazlett, 1997):

In this model there are three main classes of attributes: Pivotal, Core and Peripheral. According to this model every model consists of these three attributes to define service quality. `

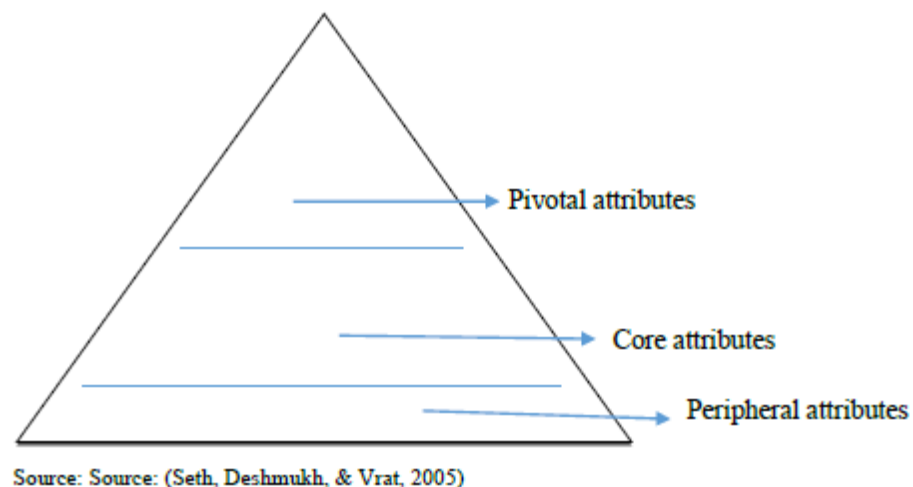
(i) The pivotal attributes are the core attributes which are considered to have most determining influence on why a particular customer approaches a particular organization and exerts the great influence on satisfaction levels. They are the final output from a service encounter.

(ii) The core attributes are the ones which form around the pivotal attributes is the combination of people, process and organizational structure through which the customers achieve the pivotal attribute.

(iii) The peripheral attributes are defined as the extra additions to make the service encounter a whole some process.

When a customer evaluates any service encounter, the pivotal attributes gain much importance, but as the service is more frequently used and other two attributes namely core and peripheral attributes may gain more importance.

Figure 2.5 PCP attribute model



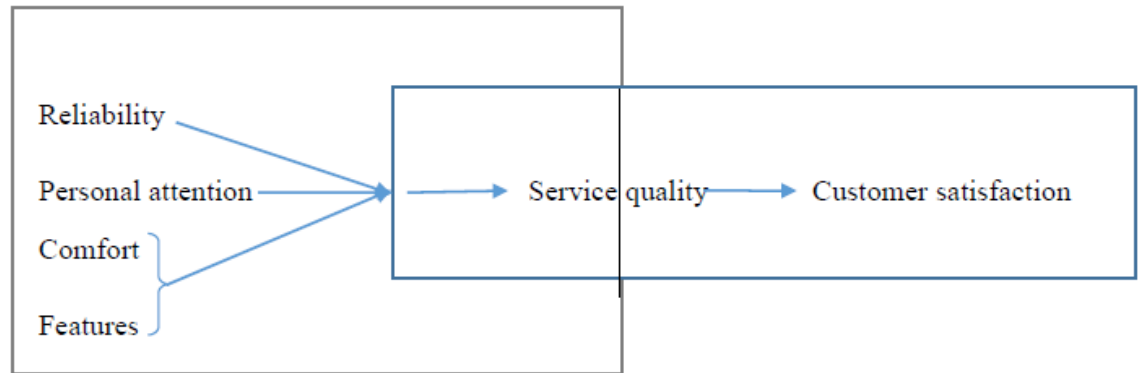
ix. Service Quality, Customer Value and Customer Satisfaction Model: oh (1999)

This model is an integrative model of service quality containing service quality, customer value and customer satisfaction. It mainly focuses on the post purchase decision process. It incorporates all the key variables such as perceptions, service quality, customer value, repeated purchase intentions and word of mouth communications. The word of mouth communication is a direct, combined function of perceptions, customer value, customer satisfaction and repeated purchase intentions. This model shows the importance of customer value in customer's post purchase decision making process. Perceived price has a negative effect on perceived customer value and has no relationship with perceived service quality.

x. **Antecedents and Mediator Model (Dabholkar, 1996)**

This model includes an examination of antecedents, consequences and mediators of service quality in order to provide a deeper understanding of conceptual issues related to service quality.

Figure 2.6 Antecedents and mediator model



Source: Source: (Seth, Deshmukh, & Vrat, 2005)

Model Used in this Study:

Service quality gap model was used in this research to measure the service quality of the hospitals from patients' perspectives. The SERVQUAL tool enables researchers to identify, not only the gaps in perceptions and expectations in services quality from patients, but also identify which factors (or dimensions) underlie the quality construct. The SERVQUAL scale has also shown to have superior ability to identify areas of service quality that require managerial intervention (Jain and Gupta, 2004). The SERVQUAL instrument has been repeatedly used in the healthcare industry to evaluate the quality of service in hospitals and customer satisfaction (Ramez, 2012; Alrubaiee and Alkaa'ida, 2011). Both SERVPERF and SERVQUAL scales are adequate and equally valid predictors of service quality. SERVQUAL is rich in its diagnostic value mainly because of its service quality prediction is through gap model. Although the SERVQUAL tool has criticisms, it is widely used as a reliable and valid tool for service quality assessment. Therefore, it was decided to use gap model of service quality measurement that uses the SERVQUAL scale.

2.3. Conceptual Framework:

2.3.1. Measurement Scale:

The conceptualization and measurement of service quality has been dominated by the use of the SERVQUAL scale due to its superior ability to identify areas of service quality that require managerial intervention (Jain and Gupta, 2004). Putting into consideration the argument by (Lee, 2004) that the customer focuses more on how he is being treated as a person as opposed to clinical care outcomes and the fact that the study should lead to managerial intervention, it is reasonable to use the SERVQUAL instrument for evaluation of quality of service in a hospital environment. According to Lee, one would also say that it is the service delivery aspects that distinguish one hospital from another in terms of quality of service more than the actual technical work of treating sick patients. The SERVQUAL instrument has been used in the healthcare industry to evaluate the quality of service in hospitals (Ramez, 2012; Alrubaiee and Alkaa'ida, 2011). Among many examples, Amjeriya & Malviya (2012) used the SERVQUAL instrument to measure service quality and customer satisfaction. Customer satisfaction is the key factor which determines the success of an organization in relationships with the customers.

Parasuraman et al. (1985) identified service quality dimensions in five broad dimensions: Tangible; Reliability; Responsiveness; Assurance; and Empathy. Tangibles include the physical appearance of the service delivery facilities, equipment and staff. Reliability is the extent to which the service provider meets the promises made with regard to different aspects of service provision. Responsiveness is the employees' willingness and promptness in responding to customers' needs. Assurance is the level of confidence of the customer in the service provided and to what extent employee actions inspire that confidence. Empathy is the firm's readiness to give each customer personal attention.

Andaleeb (2001) did a study on hospitals in Bangladesh and used Responsiveness, Assurance, Communication, Discipline, Baksheesh and Satisfaction as factors for measuring service quality. All the five dimensions taken for the study were found to have significant relation with customer satisfaction. The personnel, front line employees and the support staff are most important in providing better facilities there by enhancing customer satisfaction. Therefore, it is crucial to assess the healthcare service quality and patient satisfaction in a holistic approach as it is in this study instead of just focusing on technical parameters alone.

Ozanne et al. did a study in the healthcare system of New Zealand and after analyzing the service quality perceptions they concluded that with different Geographic, Demographic and Behavioral characteristics there is difference in service quality perceptions and they are important (Ms & Ozanne, 2013). They used 10 dimensions to measure service quality which are reliability, Tangibles, Assurance, Empathy, Food, Access, Outcome, Admission, Discharge and Responsiveness.

Barksdale & Johnson (1994) developed a model which highlights the patient-physician relationship maintenance process. The results of their study indicate that in a managed healthcare setting availability of physician has an impact on the patient-physician relationship. Patient's affective attitude and satisfaction can be influenced by the manner physicians treat patients. When patients are assigned to different physicians they may not feel participated in the relationship.

According to Das and Hammer, the quality of medical care is perceived by most people to have direct impact on patient's health status, and its perception is much lower in many low-income countries. Private sector healthcare service providers are found for being responsive to customer's expectations. The quality of care differs for poor and wealthy patients. The poor patients receive less quality of care as generally they visit government general hospitals and get the usual treatment without much interaction with the physician. The wealthier patients tend to see more competent service providers and have a strong interaction leading to better service (Das & Hammer, 2007).

There is a strong relationship between the quality of hospital healthcare services, patient satisfaction with those services, reputation of the hospital and the hospital performance. The hospital reputation can be increased by focusing on patient care and being people friendly (Hegji, Self, & Findley, 2007).

Rodrigues et al. (2011) compared two common constructs used for measuring service quality. Researchers have made various attempts to systematically identify the variables which can effectively quantify service quality. Among the various metrics identified the most commonly used ones are SERVQUAL and SERVPERF.

Carrillat, Jaramillo, & Mulki (2007) conducted a meta-analysis of studies involving SERVPERF or SERVQUAL scales and concluded that both scales are adequate and equally valid predictors of service quality. SERVQUAL is rich in its diagnostic value mainly because of its service quality prediction is through gap model. SERVPERF on the other hand is better in terms of its validity and reliability.

2.3.2. Customer Satisfaction:

Satisfaction is a person's feelings of perceived performance and expectations. If a hospital healthcare service performance falls below expectations, the patient becomes dissatisfied. Likewise, if the healthcare services performed match or exceed expectations, the patient becomes satisfied. Patients will evaluate a service as satisfying when it is useful, effective and beneficial to them (Coutler.A., 2003). By the same token to service quality, satisfaction is also a very complex concept to deal with. It is multi-dimensional and difficult to measure (Kotler P., 2005) because at this moment the product is an idea and not an object. However, patients' judgments are significant indicators of the quality of care, accuracy of diagnoses and the effectiveness of treatment (Epstein AM, 2004). When satisfaction is measured, changes can be very essential to make the service delivery process flawless. Thus identifying the needs and wants of customers can create incredible suggestions, stimulate minds and develop familiarity (Rasmusson, 2000 & Lawrence, 2004). The ultimate outcome of a highly satisfied customer is loyalty (Kotler P. , 2000c). Measuring patient satisfaction also relates to changes in healthcare service practices to improve the quality of care provided.

Customer satisfaction is influenced by specific service features and perceptions of quality. Increased customer satisfaction can provide benefits like customer loyalty, extending the life cycle of a customer expanding the life of merchandise the customer purchase and increases customers positive word of mouth communication. When the customer is satisfied with the service of the company, it can make the customer to purchase frequently and to recommend services to potential customers. It is impossible for a business organization to grow up in case the company ignores or disregards the needs of customers.

While assessing the importance of the level of customer satisfaction it is also equally important to look after the factors which contribute towards customer satisfaction especially the quality of

service. The results emphasize that with increased patient involvement in decision making process better customer satisfaction can be achieved. The physical condition of the hospital (Tangibles) also have considerable effect on customer satisfaction (White & Yu, 2005).

The personnel, front line employees and the support staff are most important in providing better facilities and thus enhance patients' satisfaction. Effective customer service comes from satisfied employees. Patient empowerment also plays a major role in satisfaction as they will be in a better position to understand the treatment procedures and its results (Asubonteng, McCleary, & Swan, 1996).

A number of studies have shown that a causal relationship exists between the quality of healthcare service and patient satisfaction. Derose, Hays, McCaffrey & Baker (2001) reported that the gender of the physician influenced patient satisfaction. In a study made here in Ethiopia, interpersonal interaction between healthcare staff and patients including perception of empathy, technical competency, patient enablement and nonverbal communication were shown to have a significant impact on patient satisfaction (Birhanu et al., 2012). In Bangladesh responsiveness, assurances, and communication, were found to significantly correlate with patient satisfaction (Andaleeb, 2001). A study in Bahrain reported that the reliability dimension was the most important factor influencing service quality and that a causal relationship existed between overall service quality and patient satisfaction (Ramez, 2012). In South Korean healthcare delivery system, Cho et al. (2004) identified that patient satisfaction was positively influenced by service quality dimensions. Focusing on private hospitals Zamil et al., (2012) reported that the quality of healthcare service had an impact on patient satisfaction.

In Ghana it was determined that patients have associated private healthcare service providers with higher quality compared to public healthcare service providers (Nketiah-Amponsah and Hiemenz, 2009). In Kenya, Wanjau et al. (2012) indicated that employee capacity among other things affected service delivery, quality perception and loyalty in public hospitals.

The healthcare service situation in the private sector in Kenya is possibly different from that of the public sector. The level of focus on all the five dimensions of the SERVQUAL instrument might receive very limited attention in the public sector compared to the private sector. Patients often use the public sector in Kenya largely because they do not have much choice. In Kenya

patients using the private hospitals may have a higher sense of being entitled to good service given that they pay more for the services and are often within the middle class group that is relatively more aware of and seek to exercise individual rights.

Considering differences in cultures and healthcare systems when measuring service quality it is important that measurement items be developed to match the unique aspect of the specific service environment (Murti et al., 2013; Dabholkar, Thrope, and Rentz, 1996). One study revealed that patients associated quality of healthcare with seven dimensions namely access, communication, personality and demeanor of provider, quality of medical care process, continuity of care, quality of healthcare, and office staff (Anderson, Barbara and Feldman, 2007). In Germany an evaluation of parental satisfaction with paediatric services, three dimensions of healthcare service namely, infrastructure and organization, communicative and empathic competence of staff, and overall impressions were used (Weissenstein et al., 2011). Alrubaiee and Alkaa'ida (2011) further demonstrated that patient perception of healthcare quality had a positive impact both on patient satisfaction and patient trust.

Bleich et al., (2009) confirmed that patient experience as associated with the healthcare system explained only 10.4% of the variation in patient satisfaction. Studies show that some of the factors affecting patient satisfaction include: the relationship between medical staffs and patients, the patient's expectations of products/services quality and patient's perception of services/products quality compared to the cost and the time patients must spend on.

In recent years the push for efficient customer service has dramatically increased because of increased competition from private players, improved technologies and growing customer needs for satisfaction. Efficient usage of customer satisfaction and customer loyalty provides an excellent opportunity for a firm to maximize revenues. Most attempts today at measurement have focused on how external clients perceive the quality of services provided by organizations.

Çaha (2004) did a study in Turkey private healthcare sector and he found that patients prefer private hospitals because they believe that superior treatment is obtained only from private sector healthcare services. Even though there were drawbacks from private sector healthcare service providers the demand for private healthcare services is still expected to increase. Satisfaction

seems to be the single important determinant which pulls patients towards private healthcare services.

2.3.3. Factors External to Healthcare Quality that Correlate with Customer Satisfaction:

Socio-Demographic Characteristics Influence on Customer Satisfaction:

According to the Bleich et al., (2009) the bulk of influence on patient satisfaction is from external factors and suggested that more studies be done to identify the external factors. Many other studies have also found a relationship between some socio-demographic patient characteristics and patient satisfaction. Age, level of education, marital status, sex, race, health status have been found to be predictors of patient satisfaction, (Alrubaiee and Alkaa'ida, 2011; Bleich et al., 2009; Murante, 2010). With regard to age Bleich, et al., (2009) reported that younger patients were less likely to be satisfied compared to older patients. Similarly some studies have also reported that there is no relationship between patient satisfaction and socio - demographic characteristics (Ndambuki, 2013). Socio-demographic patient characteristics are external to the healthcare delivery system and are often not within the control of the healthcare provider. However it is important for the healthcare provider to understand which socio-demographic factors affect patient satisfaction and appropriately respond to them.

In a study in Ghana (Nketiah et al., 2009), gender, maternal age and level of education were found to have statistically significant effect on patient satisfaction. In another study (Young et al., 2000), age, health status and race have a significant influence on patient satisfaction. In a study conducted on inpatients in Sweden, Rahmqvist (2001) a correlation between age of the patient, the level anxiety and the level of patient satisfaction has been observed. Regarding health status, patients with better health were found less likely to be satisfied compared to sicker patients (Bleich et al., 2009). Among elderly patients in America, male patients, lower self-rated overall health, and having emotional problems were less likely to be satisfied with the healthcare service they have received (Zhang, Rohrer and Farrell, 2007).

From the above studies it is evident that socio-demographic factors have an impact on patient satisfaction. The level of such an impact varies from one setting to another and also specific socio-demographic factors may have an impact in one community and not have in another.

Economic Factors Influence on Customer Satisfaction:

Economic factors such as GDP (Bleich, et al., 2009), have been shown to influence the level of customer satisfaction. Higher GDP per capita leads to higher levels of satisfaction. Patients in countries with higher incomes per capita show higher satisfaction with healthcare services (Bleich, et al., 2009). It has been documented that patients using private hospitals in developing countries report higher levels of satisfaction compared to those using public hospitals (Nketiah et al., 2012). Although Bleich, et al., (2009) reported that there was no difference in satisfaction levels based on the mode of healthcare financing, as the study was done in the European Union with low levels of unemployment, high incomes and broad social protection systems, therefore studies need to be made to understand the local context.

Other Service Industries' Influence on Customer Satisfaction with Healthcare Quality:

Lee (2004) proposes that in determining their satisfaction with healthcare services, patients compare the quality of service with service levels in all other service industries that they have been exposed to. Possible ways of evaluating this is to find out the service providers that are rated the best in one's environment and determining if the patients have supported them or not and the impact of that on their level of satisfaction. Another option is to evaluate if patients who work in the conventional service industry have the same level of satisfaction as patients that do not work in the service industry.

As customers compare service quality across different service industries, determining which industries they rate better than hospitals would help hospitals identify characteristics of service delivery in those industries can be applied in the hospital service delivery processes. According to Kim and Mauborgne (2015), the services may be of different in form or even function. For example, although hospitals and hotels are different in both services and function, customers mostly visit the physical location of the service, give some personal details, engage directly with staff, pay bills, obtain different services at different touch points, and, if they are inpatients, there is an aspect of discharge in the hospital is similar to check out in a hotel.

CHAPTER THREE

Methodology

3.1. Research Design:

Cooper and Schindler (2014) define research design as the blueprint for collection, measurement, and analysis of data. In this study a descriptive research design was used. A descriptive research design is structured with clearly stated investigative questions (Cooper and Schindler, 2014) and gives descriptions of characteristics associated with study population, estimates proportion of population with these characteristics and discovers associations among different variables. The descriptive design was the most appropriate to use because the research questions required a description of the population and determination of correlation or association between customer characteristics, quality of service, customer satisfaction, and customer loyalty. A survey of the population was applied to allow for collection of large amounts of data economically (Saunders, Lewis and Thornhill, 2003).

The study was conducted in two of the biggest private teaching hospitals with different specialty services (MCM Korean Hospital and Hayat General Hospital) and in two of the biggest public hospitals (Black Lion Hospital and Saint Paul Hospital) in Addis Ababa.

3.2. Population and Sampling Design:

3.2.1. Population:

A population is the total collection of elements about which an inference will be made (Cooper and Schindler, 2014). The population in this study was the patients who use public and private hospitals in Addis Ababa. The study was carried out in the outpatient departments with the outpatient users serving as the study population.

3.2.2. Sampling Design:

3.2.2.1. Sampling Frame:

Sampling is the process of selecting some elements in a population based on which a conclusion about the entire population may be drawn (Cooper and Schindler, 2014). A sampling frame is all

cases in the population from which to sample (Saunders et al., 2003). The sampling frame was all patients attending Black Lion, Saint Paul, Korean and Hayat hospitals during the survey period.

3.2.2.2. Sampling Technique:

A sampling technique is the process through which a sample size is arrived at. Sampling techniques are either probability or non-probability (Cooper and Schindler, 2014). Convenience non-probability sampling was applied on the study. In each of the four hospitals all patients that are registered to receive healthcare service and had at least once experience of service in the hospital were requested to fill the questionnaire and only those who were volunteer have filled the questionnaires.

3.2.2.3. Sample Size:

These hospitals were selected for being teaching hospitals with broad specialty services, having large number of customers, have quality management activities, have large number of employees and were volunteer to let the research to be made.

Table 3.1 Sample Size

Sector	Hospital	Total Sample
Private	MCM Korean Hospital	100
	Hayat General Hospital	100
Public	Black Lion Hospital	100
	Saint Paul Hospital	100

3.3. Selection of Hospitals and Data Collection Methodology:

Black Lion Hospital is chosen because it is the largest referral hospital with approximately 370,000- 400,000 patients a year and the main teaching hospital in the country, with over 800 beds. It is also an institution where specialized clinical services that are not available in other

public or private institutions are rendered to the whole nation. Saint Paul hospital is chosen because it is the second largest public hospital in the country built in 1969 with the help of German evangelical church aimed to serve the poor. Saint Paul hospital has more than 350 beds and sees approximately more than 300,000 patients a year. It has more than 1200 clinical and non-clinical staff and it has a catchment population of more than 5 million. There was a research made in Black Lion Hospital on quality of nursing care service and patient satisfaction and the result was found to be good but the overall level of satisfaction was poor, hence the researchers recommended further researches should be made on the general hospital services to identify other confounders and uncover the major causes of dissatisfaction among patients.

Among the private hospitals, MCM (Korean) General Hospital, which is founded in 2004 by Myungsung Presbyterian Church of South Korea with the aim to provide quality health care service to Ethiopians and to train Ethiopian medical professionals, is selected because it is entitled the first state-of-the-art hospital in Addis Ababa and it is marked a “Green Level” which is the best grade in the standardization of hospital review of the Ethiopian board of health. Hayat hospital is also one of the biggest and pioneer private teaching hospitals in Ethiopia.

This study involves collection of primary data from customers in the four hospitals. Primary data collection can be done by observation, interviewing respondents using difference techniques or administering questionnaires (Bogdan and Biklen, 2011). In using a questionnaire, a sample representing the population under study may be surveyed using a self-administering questionnaire (Mertens, 2009). A questionnaire is suitable because it yields standardized information that allows for comparison (Robson, 2002) and facilitates examination and explanation of relationships between variables.

For this study a questionnaire was used to collect the primary data. The questionnaire contains two parts. The first one captures the demographic profile of the respondents. It contains 10 questions based on gender, age, district where the respondents belongs, occupation of the respondent, monthly family income, number of previous visits to the same hospital, number of family members, name of the hospital and the respondent’s type.

The second part contains SERVQUAL scale to measure the psychometric part. And, it is divided into two parts in line with the SERVQUAL scale (Parasuraman et al., 1991). One part evaluated

customer expectations using a set of 22 statements covering the five dimensions of service quality namely, Tangibles, Reliability, Responsiveness, Assurance and Empathy. Customers were asked to choose a number that indicated their level of expectation on each of the statements using a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The second part evaluated the level of customer perception of quality at the four hospitals using a set of 22 statements in line with the SERVQUAL scale. Again a seven point Likert scale was applied.

The third section comprises three questions. One question evaluates the overall satisfaction level of the customer with service by asking “How satisfied were you with the care you received in the hospital?” using a seven point Likert scale ranging from 1 (Extremely Dissatisfied) to 7(Extremely Satisfied). The third question requires to have the customer assign levels of importance of the five dimensions of service quality by allocating percentage totaling to 100%.

3.4. The Measurement Instrument and the SERVQUAL Dimensions:

The healthcare service quality was assessed using the SERVQUAL questionnaire, which identifies five underlying components of service quality namely; reliability, empathy, assurance, responsiveness and tangibles. Each component is comprised of couple of questions as listed below on a Likert scale of 1 to 7 (strongly disagree to strongly agree). The questionnaire has totally a set of 22 statements which are accordingly altered to gather both expected and perceived scores.

The SERVQUAL questionnaire was used to measure both the patient’s expectation and perception of healthcare service quality. The questionnaire has 22 questions for both expectation and perception measures altered accordingly under the five underlying dimensions namely, tangibles, reliability, responsiveness, assurance and empathy. The five dimensions are represented by the set of questions as shown in the subtopics below.

Tangibles refer to the appearance of facilities. The conditions of the surrounding environment including equipment, staff and cleanliness are all elements of this dimension. Physical environment has been shown to be positively related to patients judgment of service quality(Grewal, Gotlieb, and Marmorstein, 2000).

Reliability refers to the ability to perform promised services accurately and dependably (Parasuraman et al., 1991). In the healthcare system one of the factors includes illness diagnostic precisions.

Responsiveness refers to the willingness of staff to help patients and provide prompt support (Parasuraman et al., 1991).

Assurance is the ability to convey trust and confidence through courteous and knowledgeable behavior (Parasuraman et al., 1991). This includes competence, respect, communication and good interpersonal relationships. This is a very important aspect of service delivery in which patients may feel uncertain in their ability to evaluate the outcome of a high risk service.

Empathy is the provision of care and the ability to show compassion. Being approachable and sensitive are the key elements of this dimension (Parasuraman et al., 1991).

3.4.1. Patients Expectations of Healthcare Service Quality:

This part of the instrument evaluates the patient's expectation of healthcare service quality in line with the SERVQUAL dimensions for service quality.

Tangibles:

It was measured by four questions E1 to E4 and their mean was taken as the score;

E1. Excellent hospitals will have modern-looking equipment

E2. The physical facilities at excellent hospitals will be visually appealing

E3. Employees of excellent hospitals will be neat – appearing

E4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in an excellent hospital

Reliability:

It was measured by five questions E5 to E9 and their mean was taken as the score;

E5. When excellent hospitals promise to do something by a certain time, they will do so.

E6. When customers have a problem, excellent hospitals will show a sincere interest in solving it.

E7. Excellent hospitals will perform the service right the first time

E8. Excellent hospitals will provide their services at the time they promised to do so

E9. Excellent hospitals will insist on error free records

Responsiveness:

It was measured by four questions E10 to E13 and their mean was taken as the score;

E10. Employees of excellent hospitals will tell customers exactly when service will be performed

E11. Employees of excellent hospitals will give prompt service to customers

E12. Employees of excellent hospitals will always be willing to help customers

E13. Employees of excellent hospitals will never be too busy to respond to customer requests

Assurance:

It was measured by four questions E14 to E17 and their mean was taken as the score;

E14. The behavior of employees of excellent hospitals will instil confidence in customers

E15. Customers of excellent hospitals will feel safe in their transactions

E16. Employees of excellent hospitals will be consistently courteous with customers

E17. Employees of excellent hospitals will have the knowledge to answer customer questions

Empathy:

It was measured by five questions E18 to E22 and their mean was taken as the score;

E18. Excellent hospitals will give customers individual attention

E19. Excellent hospitals will have operating hours convenient to all their customers

E20. Excellent hospitals will have employees who give customers personal attention.

E21. Excellent hospitals will have customers' best interests at heart

E22. The employees of excellent hospitals will understand the specific needs of their customers.

3.4.2. Patients Perception of Healthcare Service Quality:

This part of the instrument evaluates the patient's perception of healthcare service quality in line with the SERVQUAL dimensions for service quality. Similar technique is used as the expectations measure with a difference that perceptions of the customer towards the hospital are measured.

Tangibles:

P1. Black Lion Hospital has modern-looking equipment

P2. Black Lion Hospital's physical facilities are visually appealing

P3. Black Lion Hospital's employees are neat appearing

P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at Black Lion Hospital

Reliability:

P5. When Black Lion Hospital promises to do something by a certain time, it does it.

P6. When you have a problem, Black Lion Hospital shows a sincere interest in solving it.

P7. Black Lion Hospital performs the service right the first time

P8. Black Lion Hospital provides its services at the time it promises to do so

P9. Black Lion Hospital insists on error free records

Responsiveness:

P10. Employees of Black Lion Hospital tell you exactly when service will be performed

P11. Employees of Black Lion Hospital give you prompt service.

P12. Employees of Black Lion Hospital are always willing to help you

P13. Employees of Black Lion Hospital will never be too busy to respond to your requests

Assurance:

P14. The behavior of employees of Black Lion Hospital instil confidence in customers

P15. You feel safe in your transactions with Black Lion Hospital

P16. Employees of Black Lion Hospital are consistently courteous to you

P17. Employees of Black Lion Hospital have the knowledge to answer your questions

Empathy:

P18. Black Lion Hospital gives you individual attention

P19. Black Lion Hospital has operating hours convenient to all its customers

P20. Black Lion Hospital has employees who give you personal attention

P21. Black Lion Hospital has your best interests at heart

P22. Employees of Black Lion Hospital understand your specific needs

3.5. Data Analysis Methods

The descriptive statistics of the study was compared among the hospitals included in the study. Inferential statistical analysis was conducted to determine association between variables. Correlation was done to find out how external factors relate to customer satisfaction and how healthcare service quality relates to customer satisfaction. Factor analysis was made on patient's expectation and perception to reduce the number of variables based on Eigen values. The service quality variables were grouped into the five dimensions of service quality in line with the SERVQUAL scale and loaded onto the factors. The mean score of the variables under each of the five dimensions of quality was also computed and the difference between expectation and perception was calculated. A multiple linear regression model was fitted to determine the effect

of these independent dimensions of healthcare service quality on the dependent variable (Patients satisfaction) using the equation below. And results of these analysis were compared among the hospitals selected for the study.

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

Where Y is the patient satisfaction(dependent variable), a the Y intercept or constant, and β_1 to β_5 are coefficients of the five independent variables which are the five dimensions of quality and X1 to X5 are the dimensions of service quality. The results of the inferential analysis was presented and the data was analyzed using SPSS.

3.6. Ethical Consideration:

Collection of data from patients/customers by any means was made only after acquisition of letter of ethical clearance from Addis Ababa University College of Business and Economics and respective hospital management and after obtaining willingness from respondents after an informed consent. Participants were guaranteed confidentiality of information collected and non-participation would not have any negative effect.

CHAPTER FOUR

Results and Discussion

As the questionnaires were filled by the customers under a close support by the researcher on waiting areas and returned back on same date all the 400 questionnaires were filled correctly and all of them were used for the analysis. That is the response rate was 100% for all the four hospitals.

4.1. Demographic Information:

4.1.1. Distance Travelled to the Hospital by the Customers:

Table 4.1 displays that around 70% of the customers in each hospital traveled not more than 20 km to come to the hospital they have visited, with a slightly different pattern in Black Lion Hospital with 40% of the customers coming from a distance of more than 30km, of which most of them have mentioned that they have come from rural areas with a referral from other health facilities.

Table 4.1 Distance Travelled to the Hospitals by the Customers

Hospital			Frequency	Percent	Valid Percent	Cumulative %
Black Lion	Valid	Less than 10km	27	27.0	27.0	27.0
		10 to 20km	25	25.0	25.0	52.0
		21 to 30km	8	8.0	8.0	60.0
		More than 30km	40	40.0	40.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid	Less than 10km	37	37.8	37.8	37.8
		10 to 20km	31	31.6	31.6	69.4
		21 to 30km	11	11.2	11.2	80.6
		More than 30km	19	19.4	19.4	100.0
		Total	98	100.0	100.0	
Korean	Valid	Less than 10km	40	39.6	39.6	39.6
		10 to 20km	34	33.7	33.7	73.3
		21 to 30km	10	9.9	9.9	83.2
		More than 30km	17	16.8	16.8	100.0
		Total	101	100.0	100.0	
Hayat	Valid	Less than 10km	39	38.6	38.6	38.6
		10 to 20km	31	30.7	30.7	69.3
		21 to 30km	15	14.9	14.9	84.2
		More than 30km	16	15.8	15.8	100.0
		Total	101	100.0	100.0	

4.1.2. Level of Education:

Most of the customers who responded in private hospitals (33.2%) have first degree and most of the customers in public hospitals (30.8%) have level of education of grade 9 to 12.

Table 4.2 Level of Education

Hospital			Frequency	Percent	Valid Percent	Cumulative Percent
Black Lion	Valid	Not Read and Write	1	1.0	1.0	1.0
		Informal Education	2	2.0	2.0	3.0
		Grade 1 to 8	9	9.0	9.0	12.0
		Grade 9 to 12	27	27.0	27.0	39.0
		Diploma/TVET	20	20.0	20.0	59.0
		First Degree	37	37.0	37.0	96.0
		Master's Degree and Above	4	4.0	4.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid	Not Read and Write	8	8.2	8.2	8.2
		Informal Education	2	2.0	2.0	10.2
		Grade 1 to 8	12	12.2	12.2	22.4
		Grade 9 to 12	34	34.7	34.7	57.1
		Diploma/TVET	16	16.3	16.3	73.5
		First Degree	22	22.4	22.4	95.9
		Master's Degree and Above	3	3.1	3.1	99.0
		Other	1	1.0	1.0	100.0
Total	98	100.0	100.0			
Korean	Valid	Grade 1 to 8	3	3.0	3.0	3.0
		Grade 9 to 12	19	18.8	18.8	21.8
		Diploma/TVET	19	18.8	18.8	40.6
		First Degree	38	37.6	37.6	78.2
		Master's Degree and Above	21	20.8	20.8	99.0
		Other	1	1.0	1.0	100.0
		Total	101	100.0	100.0	
Hayat	Valid	Not Read and Write	4	4.0	4.0	4.0
		Informal Education	8	7.9	7.9	11.9
		Grade 1 to 8	7	6.9	6.9	18.8
		Grade 9 to 12	27	26.7	26.7	45.5
		Diploma/TVET	17	16.8	16.8	62.4
		First Degree	29	28.7	28.7	91.1
		Master's Degree and Above	5	5.0	5.0	96.0
		Other	4	4.0	4.0	100.0
Total	101	100.0	100.0			

4.1.3. Occupation:

Most of customers in private hospitals (28.2%) are business men/women whereas most of the customers in public hospitals are private company employees (23.2%).

Table 4.3 Occupation of Customers by Hospitals

Hospital			Frequency	Percent	Valid Percent	Cumulative Percent
Black Lion	Valid	Government Employee	28	28.0	28.0	28.0
		Unemployed	2	2.0	2.0	30.0
		Private Employee	24	24.0	24.0	54.0
		NGO Employee	6	6.0	6.0	60.0
		Business Man/Woman	15	15.0	15.0	75.0
		House Wife	9	9.0	9.0	84.0
		Student	4	4.0	4.0	88.0
		Farmer	7	7.0	7.0	95.0
		Retired	5	5.0	5.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid	Government Employee	15	15.3	15.3	15.3
		Unemployed	6	6.1	6.1	21.4
		Private Employee	22	22.4	22.4	43.9
		NGO Employee	3	3.1	3.1	46.9
		Business Man/Woman	23	23.5	23.5	70.4
		House Wife	11	11.2	11.2	81.6
		Student	10	10.2	10.2	91.8
		Farmer	6	6.1	6.1	98.0
		Retired	2	2.0	2.0	100.0
		Total	98	100.0	100.0	
Korean	Valid	Government Employee	15	14.9	14.9	14.9
		Private Employee	26	25.7	25.7	40.6
		NGO Employee	14	13.9	13.9	54.5
		Business Man/Woman	33	32.7	32.7	87.1
		House Wife	5	5.0	5.0	92.1
		Student	4	4.0	4.0	96.0
		Farmer	1	1.0	1.0	97.0
		Other	1	1.0	1.0	98.0
		Retired	2	2.0	2.0	100.0
		Total	101	100.0	100.0	
Hayat	Valid	Government Employee	16	15.8	15.8	15.8
		Unemployed	4	4.0	4.0	19.8
		Private Employee	30	29.7	29.7	49.5
		NGO Employee	3	3.0	3.0	52.5
		Business Man/Woman	24	23.8	23.8	76.2
		House Wife	13	12.9	12.9	89.1
		Student	8	7.9	7.9	97.0
		Farmer	1	1.0	1.0	98.0
		Other	1	1.0	1.0	99.0
		Retired	1	1.0	1.0	100.0
Total	101	100.0	100.0			

4.1.4. Occupation of Customers by Public vs Private Sector

Ownership			Frequency	Percent	Valid Percent	Cumulative Percent
Public	Valid	Government Employee	43	21.7	21.7	21.7
		Unemployed	8	4.0	4.0	25.8
		Private Employee	46	23.2	23.2	49.0
		NGO Employee	9	4.5	4.5	53.5
		Business Man/Woman	38	19.2	19.2	72.7
		House Wife	20	10.1	10.1	82.8
		Student	14	7.1	7.1	89.9
		Farmer	13	6.6	6.6	96.5
		Retired	7	3.5	3.5	100.0
		Total	198	100.0	100.0	
Private	Valid	Government Employee	31	15.3	15.3	15.3
		Unemployed	4	2.0	2.0	17.3
		Private Employee	56	27.7	27.7	45.0
		NGO Employee	17	8.4	8.4	53.5
		Business Man/Woman	57	28.2	28.2	81.7
		House Wife	18	8.9	8.9	90.6
		Student	12	5.9	5.9	96.5
		Farmer	2	1.0	1.0	97.5
		Other	2	1.0	1.0	98.5
		Retired	3	1.5	1.5	100.0
		Total	202	100.0	100.0	

4.1.5. Level of Anxiety (Feelings):

In all of the hospitals most of the respondents were not anxious (ranging from 44 to 62%) and private hospitals have slightly higher numbers of customers who were not anxious (58%).

Table 4.5 Level of Anxiety (Feeling) by Hospitals

Hospital			Frequency	Percent	Valid Percent	Cumulative %
Black Lion	Valid	Anxious	20	20.0	20.0	20.0
		Moderately Anxious	36	36.0	36.0	56.0
		Not Anxious	44	44.0	44.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid	Anxious	18	18.4	18.4	18.4
		Moderately Anxious	35	35.7	35.7	54.1
		Not Anxious	45	45.9	45.9	100.0
		Total	98	100.0	100.0	
Korean	Valid	Anxious	13	12.9	12.9	12.9
		Moderately Anxious	25	24.8	24.8	37.6
		Not Anxious	63	62.4	62.4	100.0
		Total	101	100.0	100.0	
Hayat	Valid	Anxious	22	21.8	21.8	21.8
		Moderately Anxious	24	23.8	23.8	45.5
		Not Anxious	55	54.5	54.5	100.0
		Total	101	100.0	100.0	

Table 4.6 Level of Anxiety (Feeling) by Public vs Private

Ownership			Frequency	Percent	Valid Percent	Cumulative Percent
Public	Valid	Anxious	38	19.2	19.2	19.2
		Moderately Anxious	71	35.9	35.9	55.1
		Not Anxious	89	44.9	44.9	100.0
		Total	198	100.0	100.0	
Private	Valid	Anxious	35	17.3	17.3	17.3
		Moderately Anxious	49	24.3	24.3	41.6
		Not Anxious	118	58.4	58.4	100.0
		Total	202	100.0	100.0	

4.1.6. Payment Modality

In all the study hospitals majority of the customers (ranging from 58 to 75%) were making payments out of their pocket (i.e from their income without any reimbursement) with the higher percent observed in private hospitals. In public hospitals the second ranking payment modality is free service via letters written from their Kebele showing that they are very poor and not able to afford services. Korean Hospital has free service for Korean war veterans. Hayat hospital has also free service scheme for some patients as a social responsibility. Payment modality “covered by employer” is either paid by the customer and reimbursed by the employer or get service by credit agreements with the employer company without cash payments by the customer.

Table 4.7 Payment Modality by Hospitals

Hospital			Frequency	Percent	Valid Percent	Cumulative Percent
Black Lion	Valid	Out of Pocket	58	58.0	58.0	58.0
		Covered by Employer	8	8.0	8.0	66.0
		Insurance	9	9.0	9.0	75.0
		Free	24	24.0	24.0	99.0
		Other	1	1.0	1.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid	Out of Pocket	63	64.3	64.3	64.3
		Covered by Employer	7	7.1	7.1	71.4
		Insurance	2	2.0	2.0	73.5
		Free	26	26.5	26.5	100.0
		Total	98	100.0	100.0	
Korean	Valid	Out of Pocket	76	75.2	75.2	75.2
		Covered by Employer	18	17.8	17.8	93.1
		Insurance	3	3.0	3.0	96.0
		Free	1	1.0	1.0	97.0
		Other	3	3.0	3.0	100.0
		Total	101	100.0	100.0	
Hayat	Valid	Out of Pocket	76	75.2	75.2	75.2
		Covered by Employer	19	18.8	18.8	94.1
		Insurance	2	2.0	2.0	96.0
		Free	3	3.0	3.0	99.0
		Other	1	1.0	1.0	100.0
		Total	101	100.0	100.0	

4.1.7. Main Source of Healthcare Information

Majority of customers of public hospitals (44.4%) use TV as their main source of healthcare information followed by families and friends (23.7%), whereas majority of customers of private hospitals use families and friends (33.7%) as their main source of healthcare information with

most of them having healthcare professionals as families or friends. . After testing the questionnaire it was also found that schools, health facilities and health extension workers are part of main sources of healthcare information for some customers.

Table 4.8 Main Source of Healthcare Information

Ownership			Frequency	Percent	Valid Percent	Cumulative Percent	
Public	Valid	TV	88	44.4	44.4	44.4	
		Radio	15	7.6	7.6	52.0	
		Print Media	7	3.5	3.5	55.6	
		Internet	35	17.7	17.7	73.2	
		Family and Friends	47	23.7	23.7	97.0	
		Other	2	1.0	1.0	98.0	
		Health Facilities	2	1.0	1.0	99.0	
		health extension workers	1	.5	.5	99.5	
		School	1	.5	.5	100.0	
		Total		198	100.0	100.0	
Private	Valid	TV	60	29.7	29.7	29.7	
		Radio	10	5.0	5.0	34.7	
		Print Media	6	3.0	3.0	37.6	
		Internet	51	25.2	25.2	62.9	
		Family and Friends	68	33.7	33.7	96.5	
		Other	2	1.0	1.0	97.5	
		Health Facilities	2	1.0	1.0	98.5	
		School	3	1.5	1.5	100.0	
		Total		202	100.0	100.0	

4.1.8. Perceptions of Service Quality across Service Industries:

Majority of the respondents in Black Lion (34%), Saint Paul (45.9%) and Hayat (35.6%) hospital perceive that banks as their best quality service providers, whereas majority of customers of Korean hospital (30.7%) perceive that air lines provide best quality service compared to the others.

Table 4.9 Perceptions of Best Service Quality across Service Industries

Hospital			Frequency	Percent	Valid Percent	Cumulative Percent
Black Lion	Valid	Hotels	11	11.0	11.0	11.0
		Hospitals	25	25.0	25.0	36.0
		Airlines	27	27.0	27.0	63.0
		Banks	34	34.0	34.0	97.0
		Other	2	2.0	2.0	99.0
		7	1	1.0	1.0	100.0
		Total	100	100.0	100.0	
Saint Paul	Valid		1	1.0	1.0	1.0
		Hotels	10	10.2	10.2	11.2
		Hospitals	17	17.3	17.3	28.6
		Airlines	24	24.5	24.5	53.1
		Banks	45	45.9	45.9	99.0
		Other	1	1.0	1.0	100.0
		Total	98	100.0	100.0	
Korean	Valid	Hotels	21	20.8	20.8	20.8
		Hospitals	25	24.8	24.8	45.5
		Airlines	31	30.7	30.7	76.2
		Banks	24	23.8	23.8	100.0
		Total	101	100.0	100.0	
Hayat	Valid		1	1.0	1.0	1.0
		Hotels	27	26.7	26.7	27.7
		Hospitals	18	17.8	17.8	45.5
		Airlines	18	17.8	17.8	63.4
		Banks	36	35.6	35.6	99.0
		Other	1	1.0	1.0	100.0
		Total	101	100.0	100.0	

The factors external to healthcare service that are proposed to affect the satisfaction of customers at the healthcare facilities and included in this study were; distance traveled from home to the healthcare facility visited on that day, level of education of the respondents, occupation of the respondents, level of anxiety of the respondents, type of payment modality for the service they received, regular source of healthcare information for the respondents and perceived best quality service provider across different service giving sectors.

Based on the descriptive statistics found from the study around 70% of the customers in each hospital traveled not more than 20 km to come to the hospital they have visited, with a slightly different pattern in Black Lion Hospital with 40% of the customers coming from a distance of more than 30km, of which most of them have mentioned that they have come from rural areas

with a referral from other health facilities. Most of the respondents in private hospitals (33.2%) have first degree and most of the customers in public hospitals (30.8%) have level of education of grade 9 to 12. Most of customers in private hospitals (28.2%) are business men/women whereas most of the customers in public hospitals are private company employees (23.2%). In all of the hospitals most of the respondents were not anxious (ranging from 44 to 62%) and private hospitals have slightly higher numbers of customers who were not anxious (58%). In all the study hospitals majority of the customers (ranging from 58 to 75%) were making payments out of their pocket with the higher percent observed in private hospitals. In public hospitals the second ranking payment modality is free service via letters written from their Kebele showing that they are very poor and not able to afford services. Korean Hospital has free service for Korean war veterans. Hayat hospital has also free service scheme for some patients as a social responsibility. Majority of customers of public hospitals (44.4%) use TV as their main source of healthcare information followed by families and friends (23.7%), whereas majority of customers of private hospitals use families and friends (33.7%) as their main source of healthcare information with most of them having healthcare professionals as families or friends. . After testing the questionnaire it was also found that schools, health facilities and health extension workers are part of main sources of healthcare information for some customers. Majority of the respondents in Black Lion (34%), Saint Paul (45.9%) and Hayat (35.6%) hospital perceive that banks as their best quality service providers, whereas majority of customers of Korean hospital (30.7%) perceive that air lines provide best quality service compared to the others.

4.2. Expectations of Customers for Healthcare Service Quality:

4.2.1. Expectation of Healthcare Service Tangibility

As indicated in Table 4.10 the mean of expectations of customers with regard to healthcare service tangibility dimension was 6.22, 6.53, 6.33 and 6.27 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively. Modern-looking equipment had the highest expectation score at Black Lion and Hayat hospital whereas at Saint Paul and Korea it was neat appearance of the hospitals that scored the highest.

Table 4.10 Expectation of Healthcare Service Tangibility

Quality Expectation	Quality Expectation Score			
	Black Lion	St. Paul	Korean	Hayat
E1. Excellent hospitals will have modern-looking equipment	6.55	6.63	6.59	6.57
E2. The physical facilities at excellent hospitals will be visually appealing	6.26	6.47	6.27	6.14
E3. Employees of excellent hospitals will be neat – appearing	6.23	6.78	6.64	6.33
E4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in an excellent hospital	5.83	6.22	5.80	6.02
Mean	6.22	6.53	6.33	6.27

4.2.2. Expectation of Healthcare Service Reliability:

As indicated in Table 4.11 the mean of expectations of customers with regard to healthcare service reliability dimension was 5.93, 6.19, 6.29 and 6.32 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively. Customers in private hospitals expect the service to be reliable slightly more than customers in public hospitals.

Table 4.11 Expectation of Healthcare Service Reliability

Quality Expectation	Quality Expectation Score			
	Black Lion	St. Paul	Korean	Hayat
E5. When excellent hospitals promise to do something by a certain time, they will do so.	5.79	6.07	6.14	6.43
E6. When customers have a problem, excellent hospitals will show a sincere interest in solving it.	6.00	6.26	6.34	6.39
E7. Excellent hospitals will perform the service right the first time	6.07	6.23	6.31	6.26
E8. Excellent hospitals will provide their services at the time they promised to do so	5.67	6.21	6.25	6.22
E9. Excellent hospitals will insist on error free records	6.12	6.19	6.39	6.29
Mean	5.93	6.19	6.29	6.32

4.2.3. Expectation of Healthcare Service Responsiveness:

As indicated in Table 4.12 the mean of expectations of customers with regard to healthcare service responsiveness dimension was 6.19, 6.50, 6.37 and 6.30 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively. Customers of public hospitals have the highest score for expectation of service responsiveness was for getting prompt services whereas private hospitals were for always being willing to help customers.

Table 4.12 Expectation of Healthcare Service Responsiveness

Quality Expectation	Quality Expectation Score			
	Black Lion	St. Paul	Korean	Hayat
E10. Employees of excellent hospitals will tell customers exactly when service will be performed	6.19	6.46	6.36	6.27
E11. Employees of excellent hospitals will give prompt service to customers	6.28	6.59	6.35	6.37
E12. Employees of excellent hospitals will always be willing to help customers	6.20	6.56	6.52	6.44
E13. Employees of excellent hospitals will never be too busy to respond to customer requests	6.07	6.37	6.25	6.10
Mean	6.19	6.50	6.37	6.30

4.2.4. Expectation of Healthcare Service Assurance:

As indicated in Table 4.13 the mean of expectations of customers with regard to healthcare service assurance dimension was 6.06, 6.51, 6.38 and 6.22 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.13 Expectation of Healthcare Service Assurance

Quality Expectation	Quality Expectation Score			
	Black Lion	St. Paul	Korean	Hayat
E14. The behavior of employees of excellent hospitals will instil confidence in customers	6.18	6.45	6.32	6.19
E15. Customers of excellent hospitals will feel safe in their transactions	5.91	6.51	6.21	6.12
E16. Employees of excellent hospitals will be consistently courteous with customers	6.23	6.51	6.53	6.31
E17. Employees of excellent hospitals will have the knowledge to answer customer questions	5.92	6.56	6.44	6.25
Mean	6.06	6.51	6.38	6.22

4.2.5. Expectation of Healthcare Service Empathy:

As indicated in Table 4.14 the mean of expectations of customers with regard to healthcare service empathy dimension was 5.80, 6.45, 6.29 and 6.10 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.14 Expectation of Healthcare Service Empathy

Quality Expectation	Quality Expectation Score			
	Black Lion	St. Paul	Korean	Hayat
E18. Excellent hospitals will give customers individual attention	6.15	6.51	6.41	6.24
E19. Excellent hospitals will have operating hours convenient to all their customers	5.83	6.52	6.20	6.10
E20. Excellent hospitals will have employees who give customers personal attention.	5.82	6.47	6.43	6.10
E21. Excellent hospitals will have customers' best interests at heart	5.88	6.51	6.31	6.18
E22. The employees of excellent hospitals will understand the specific needs of their customers.	5.34	6.23	6.10	5.90
Mean	5.80	6.45	6.29	6.10

4.3. Perception of Customers for Healthcare Service Quality:

In this part we evaluate the perception of customers for healthcare service quality in their respective hospitals they have visited in line with the SERVQUAL dimensions for service quality.

4.3.1. Perception of Healthcare Service Tangibility:

Table 4.15 shows that s the customers' mean perception score of service tangibility was 4.58, 5.23, 6.15 and 5.38 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively. Only Korean hospital has a mean perception score of service tangibility more than 6. The perception score of tangibility of written materials and documents visually appealing at Black Lion hospital is the only score that is less than 4 (i.e. 3.7).

Table 4.15 Perception of Healthcare Service Tangibility

Quality Perception	Quality Perception Score			
	Black Lion	St. Paul	Korean	Hayat
P1. Black Lion Hospital has modern-looking equipment	5.34	5.50	6.45	5.72
P2. Black Lion Hospital's physical facilities are visually appealing	4.22	4.90	6.34	5.14
P3. Black Lion Hospital's employees are neat appearing	4.99	5.60	6.31	5.57
P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at Black Lion Hospital	3.77	4.90	5.48	5.08
Mean	4.58	5.23	6.15	5.38

4.3.2. Perception of Healthcare Service Reliability:

Table 4.16 shows that the customers' mean perception score of service reliability was 3.85, 4.63, 5.62 and 5.31 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.16 Perception of Healthcare Service Reliability

Quality Perception	Quality Perception Score			
	Black Lion	St. Paul	Korean	Hayat
P5. When Black Lion Hospital promises to do something by a certain time, it does it.	3.99	4.57	5.48	5.17
P6. When you have a problem, Black Lion Hospital shows a sincere interest in solving it.	4.24	5.06	5.79	5.53
P7. Black Lion Hospital performs the service right the first time	3.40	4.30	5.44	5.25
P8. Black Lion Hospital provides its services at the time it promises to do so	3.43	4.17	5.38	5.22
P9. Black Lion Hospital insists on error free records	4.21	5.04	5.99	5.36
Mean	3.85	4.63	5.62	5.31

4.3.3. Perception of Healthcare Service Responsiveness:

Table 4.17 shows that the customers' mean perception score of service responsiveness was 4.19, 4.66, 5.75 and 5.44 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.17 Perception of Healthcare Service Responsiveness

Quality Perception	Quality Perception Score			
	Black Lion	St. Paul	Korean	Hayat
P10. Employees of Black Lion Hospital tell you exactly when service will be performed	4.71	4.64	5.82	5.44
P11. Employees of Black Lion Hospital give you prompt service.	3.72	4.41	5.73	5.43
P12. Employees of Black Lion Hospital are always willing to help you	4.26	5.17	5.84	5.59
P13. Employees of Black Lion Hospital will never be too busy to respond to your requests	4.08	4.43	5.60	5.31
Mean	4.19	4.66	5.75	5.44

4.3.4. Perception of Healthcare Service Assurance:

Table 4.18 shows that the customers’ mean perception score of service assurance was 4.33, 5.13, 5.96 and 5.55 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.18 Perception of Healthcare Service Assurance

Quality Perception	Quality Perception Score			
	Black Lion	St. Paul	Korean	Hayat
P14. The behavior of employees of Black Lion Hospital instill confidence in customers	4.04	5.14	5.83	5.54
P15. You feel safe in your transactions with Black Lion Hospital	4.51	5.29	6.01	5.33
P16. Employees of Black Lion Hospital are consistently courteous to you	3.94	4.92	6.01	5.68
P17. Employees of Black Lion Hospital have the knowledge to answer your questions	4.84	5.18	6.00	5.65
Mean	4.33	5.13	5.96	5.55

4.3.5. Perception of Healthcare Service Empathy:

Table 4.19 shows that the customers’ mean perception score of service empathy was 4.06, 4.89, 5.75 and 5.48 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.19 Perception of Healthcare Service Empathy

Quality Perception	Quality Perception Score			
	Black Lion	St. Paul	Korean	Hayat
P18. Black Lion Hospital gives you individual attention	4.43	4.98	5.83	5.72
P19. Black Lion Hospital has operating hours convenient to all its customers	4.05	5.03	5.70	5.26
P20. Black Lion Hospital has employees who give you personal attention	4.23	5.14	5.89	5.59
P21. Black Lion Hospital has your best interests at heart	3.88	5.03	5.81	5.56
P22. Employees of Black Lion Hospital understand your specific needs	3.73	4.26	5.52	5.27
Mean	4.06	4.89	5.75	5.48

4.3.6. Point Allocations to Dimensions of Service Quality:

The 22 questions of quality perception were broadly grouped into five categories and customers divided 100 points to the five categories indicating their level of quality perception to a total sum of 100%. Tangibles scored the highest at three of the hospitals under the study; 24.4% at Black Lion hospital, 23.75% at Saint Paul hospital and 26.00% at Korean hospital, whereas the highest point allocated at Hayat hospital was reliability with an average point of 20.80%.

Table 4.20 Point Allocations to Dimensions of Service Quality

Point Allocation to Dimensions of Services Quality at the four hospitals				
Healthcare Service Quality Dimensions	Average Points Allocated			
	Black Lion	St. Paul	Korean	Hayat
Tangibles The appearance of hospital’s physical facilities, equipment, personnel, and communication material	24.22%	23.75%	26.00%	20.50%
Reliability The ability of the hospital to perform the promised service dependably and accurately	20.47%	19.90%	18.58%	20.80%
Responsiveness The willingness of the hospital to help customers and provide prompt service	18.33%	17.22%	18.03%	18.58%
Assurance The knowledge and courtesy of the hospital’s employees and their ability to convey trust and confidence	19.70%	21.05%	19.22%	20.60%
Empathy The caring, individualized attention the hospital provides customers.	17.28%	18.08%	18.17%	19.52%
Total	100%	100%	100%	100%

4.4. Gap between Customer Expectation and Perception of Healthcare Service Quality:

AS per Gap model the final service quality gap score was computed for each hospital in the study according to the formula below.

$$\text{Service Quality (SQ)} = \Sigma (P - E)$$

Table 4.21 Gap between Customer Expectation and Perception of Healthcare Service Quality

Dimensions	Perception Average				Expectation Average				Gap Score			
	Black Lion	St. Paul	Korean	Hayat	Black Lion	St. Paul	Korean	Hayat	Black Lion	St. Paul	Korean	Hayat
Tangibility	4.58	5.23	6.15	5.38	6.22	6.53	6.33	6.27	-1.64	-1.3	-0.18	-0.89
Reliability	3.85	4.63	5.62	5.31	5.93	6.19	6.29	6.32	-2.08	-1.56	-0.67	-1.01
Responsiveness	4.19	4.66	5.75	5.44	6.19	6.50	6.37	6.30	-2.0	-1.84	-0.62	-0.86
Assurance	4.33	5.13	5.96	5.55	6.06	6.51	6.38	6.22	-1.73	-1.38	-0.42	-0.67
Empathy	4.06	4.89	5.75	5.48	5.80	6.45	6.29	6.10	-1.74	-1.56	-0.54	-0.62
Mean Gap									-1.84	-1.53	-0.49	-0.81

Among the five dimensions of service quality the highest service quality gap for Black Lion hospital was observed for service reliability and the least gap was observed for service tangibility. The customers expect Black Lion hospital to keep its promises however they are getting below their expectations. Relatively Black Lion hospital is better on its tangibles, where the service quality gap score is the least. This means that the customers are relatively comfortable with the equipment, materials, nice appearance of employees and environment.

For Saint Paul hospital the highest service quality gap was observed for service responsiveness and the least gap, alike Black Lion hospital, it was observed for service tangibility. The customers expect Saint Paul hospital to respond to their needs however they are getting below their expectations. Relatively Saint Paul hospital is better on its tangibles, where the service quality gap score is the least. From this we can see that the tangibles in the public hospitals are good. To improve customer satisfaction by improving the healthcare service in public hospitals the government should be aware of that it is the service reliability and responsiveness that needs much work (which needs much work on peoples mind) than merely focusing on tangibles.

Among the private hospitals also tangibles are not the major area to improve the gap in service quality in the eyes of the customers. Alike Black Lion and Saint Paul hospitals Korean hospital has also the least service quality gap score was observed on service tangibility, whereas the highest service quality gap score was observed with service reliability. Therefore, Korean hospital should also focus on working on its employees mind and keeping promises for customers to improve the healthcare service quality in the eyes of the customers and to increase their satisfaction. Employees of Hayat hospital show good empathy to customers, whereas they should focus on improving their service reliability, meaning they should keep their promises whenever they promise to do something to their customers.

Based on the service quality gap, Korean hospital has the least gap followed by Hayat hospital, Saint Paul hospital and finally by Black Lion hospital. In other words, the private hospitals are better than the public hospitals with regard to service quality gap.

4.5. Customer Satisfaction with Healthcare Services:

As we can see in Table 4.5 below in this section we will see the overall level of satisfaction of customers with the healthcare service at their respective hospitals visited. Among the customers participated in the study, the percent of customers who were extremely satisfied was 5%, 7.14%, 24.75% and 15.84% in Black Lion, Saint Paul, Korean and Hayat hospital respectively. While, those reported for being very satisfied was 15%, 24.49%, 48.50% and 27.72% in Black Lion, Saint Paul, Korean and Hayat hospital respectively. This gives us a combined favorable score of satisfaction of 20%, 31.63%, 73.25% and 43.56% for Black Lion, Saint Paul, Korean and Hayat hospital respectively. Of the respondents those reported for being somehow satisfied was 24%, 35.71%, 14.86% and 34.65% respectively in Black Lion, Saint Paul, Korean and Hayat hospital. 24%, 21.43%, 7.93% and 15.85% of the respondents preferred to be neutral for their level of satisfaction question in Black Lion, Saint Paul, Korean and Hayat hospital respectively. The frequency table and percent explanation is preferable used here to take cutoff point of satisfaction and determine the overall satisfaction levels of customers in each hospital.

The mean of customer satisfaction in each hospital is 4.19, 4.9082, 5.8119 and 5.3069 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively with standard deviations of 1.47501, 1.19351, 1.05558 and 1.12909 in same order. This also matches with the order of customers satisfaction computed in frequencies and percent's.

Table 4.22 Customer Satisfaction with Healthcare Services

Satisfaction Level	Black Lion Hospital		St. Paul Hospital		Korean Hospital		Hayat Hospital	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Extremely Satisfied	5	5%	7	7.14%	25	24.75%	16	15.84%
Very Satisfied	15	15%	24	24.49%	49	48.50%	28	27.72%
Somehow Satisfied	24	24%	35	35.71%	15	14.86%	35	34.65%
Neutral	24	24%	21	21.43%	8	7.93%	16	15.85%
Somehow Dissatisfied	16	16%	8	8.16%	3	2.97%	5	4.95%
Very Dissatisfied	14	14%	2	2.04%	1	0.99%	1	0.99%
Extremely Dissatisfied	2	2%	1	1.03%	0	0%	0	0%
Not Stated	0	0%	0	0%	0	0%	0	0%
Total	100	100%	98	100%	101	100%	101	100%

Using overall customer satisfaction scores the order of satisfaction is Korean hospital (73.25%), Hayat hospital (43.56%), Saint Paul hospital (31.63%) and the least Black Lion hospital (20%). This order of the hospitals on customer satisfaction also is in agreement with the service quality

gap score order. Both measures reveal that customers of Korean hospital are the top satisfied customers followed by Hayat hospital, Saint Paul and Black Lion hospital. When we compare public and private hospitals, customers in private hospitals are more satisfied than customers in the public hospitals.

4.6. Aspects of Healthcare Service Quality that Correlate with Customer Satisfaction:

In this section we will evaluate if there are any aspects of healthcare service that correlate with the satisfaction of customers.

4.6.1. Correlation between Healthcare Service Quality and Customer Satisfaction:

Pearson correlations show that all the 22 variables of healthcare service quality and the satisfaction of customers are positively correlated and the correlations are statistically significant at the 0.01 level (2 tailed) with a p value of 0.000 at all the hospitals of the study.

Table 4.23 Correlation between Healthcare Service Quality and Customer Satisfaction at Black Lion, Saint Paul, Korean and Hayat Hospital.

	Black Lion Hospital		Saint Paul Hospital		Korean Hospital		Hayat Hospital	
	Pearson Correlation	Significance Value (p)	Pearson Correlation	Significance Value (p)	Pearson Correlation	Significance Value (p)	Pearson Correlation	Significance Value (p)
P1. Black Lion Hospital has modern-looking equipment	0.437**	0.000	0.305**	0.002	0.275 **	0.005	0.398**	0.000
P2. Black Lion Hospital's physical facilities are visually appealing	0.512**	0.000	0.354**	0.000	0.440 **	0.000	0.442**	0.000
P3. Black Lion Hospital's employees are neat appearing	0.519**	0.000	0.444**	0.000	0.492 **	0.000	0.353**	0.000
P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at Black Lion Hospital	0.591**	0.000	0.468**	0.000	0.377 **	0.000	0.383**	0.000
P5. When Black Lion Hospital promises to do something by a certain time, it does it.	0.542**	0.000	0.490**	0.000	0.691 **	0.000	0.511**	0.000
P6. When you have a problem, Black Lion Hospital shows a sincere interest in solving it.	0.662**	0.000	0.566**	0.000	0.727 **	0.000	0.539**	0.000
P7. Black Lion Hospital performs the service right the first time	0.768**	0.000	0.526**	0.000	0.637 **	0.000	0.593**	0.000
P8. Black Lion Hospital provides its services at the time it promises to do so	0.687**	0.000	0.515**	0.000	0.681 **	0.000	0.400**	0.000

P9. Black Lion Hospital insists on error free records	0.678**	0.000	0.479**	0.000	0.580 **	0.000	0.476**	0.000
P10. Employees of Black Lion Hospital tell you exactly when service will be performed	0.501**	0.000	0.594**	0.000	0.564 **	0.000	0.489**	0.000
P11. Employees of Black Lion Hospital give you prompt service.	0.754**	0.000	0.628**	0.000	0.680 **	0.000	0.615**	0.000
P12. Employees of Black Lion Hospital are always willing to help you	0.772**	0.000	0.713**	0.000	0.820 **	0.000	0.696**	0.000
P13. Employees of Black Lion Hospital will never be too busy to respond to your requests	0.784**	0.000	0.552**	0.000	0.623 **	0.000	0.558**	0.000
P14. The behavior of employees of Black Lion Hospital instil confidence in customers	0.741**	0.000	0.638**	0.000	0.794 **	0.000	0.577**	0.000
P15. You feel safe in your transactions with Black Lion Hospital	0.763**	0.000	0.494**	0.000	0.737 **	0.000	0.493**	0.000
P16. Employees of Black Lion Hospital are consistently courteous to you	0.701**	0.000	0.627**	0.000	0.756 **	0.000	0.659**	0.000
P17. Employees of Black Lion Hospital have the knowledge to answer your questions	0.696**	0.000	0.430**	0.000	0.743 **	0.000	0.597**	0.000
P18. Black Lion Hospital gives you individual attention	0.754**	0.000	0.650**	0.000	0.773 **	0.000	0.476**	0.000
P19. Black Lion Hospital has operating hours convenient to all its customers	0.731**	0.000	0.586**	0.000	0.563 **	0.000	0.550**	0.000
P20. Black Lion Hospital has employees who give you personal attention	0.750**	0.000	0.708**	0.000	0.783 **	0.000	0.611**	0.000
P21. Black Lion Hospital has your best interests at heart	0.719**	0.000	0.699**	0.000	0.591 **	0.000	0.613**	0.000
P22. Employees of Black Lion Hospital understand your specific needs	0.675**	0.000	0.617**	0.000	0.756 **	0.000	0.517**	0.000
** Correlation is Significant at the 0.01 level (2 tailed)	level 0.01		N 98		N 101		N 101	

When the correlation of the 22 variables of healthcare service quality and customer satisfaction is computed for the study hospitals grouped as public and private hospitals, the result also shows that all of them are positively correlated and the correlation is significant at 0.01 level (2 tailed) with p value of 0.000.

At Black Lion hospital employees character of being never be too busy to respond to customers' requests had the highest(0.784) correlation with the satisfaction of customers. At Saint Paul hospital employees character of always being willing to help customers had the highest (0.713)

correlation with customer satisfaction. This shows that in public hospitals service responsiveness has the highest association with the customers' satisfaction. Both at Korean (0.820) and Hayat (0.696) hospitals the healthcare service quality factor that had the highest correlation with the customers' satisfaction was employees' willingness to help customers like the case in Saint Paul hospital. In private hospitals also service responsiveness has been observed for having the highest association with the customers' satisfaction. Therefore, all the hospitals should focus on their healthcare service responsiveness to satisfy their customers.

Table 4.24 Correlation between Healthcare Service Quality and Customer Satisfaction at Public and Private Hospitals

	Public Hospitals		Private Hospitals	
	Pearson Correlation	Significance Value (p)	Pearson Correlation	Significance Value (p)
P1. Black Lion Hospital has modern-looking equipment	0.383**	0.000	0.392**	0.000
P2. Black Lion Hospital's physical facilities are visually appealing	0.468**	0.000	0.482**	0.000
P3. Black Lion Hospital's employees are neat appearing	0.511**	0.000	0.445**	0.000
P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at Black Lion Hospital	0.569**	0.000	0.395**	0.000
P5. When Black Lion Hospital promises to do something by a certain time, it does it.	0.536**	0.000	0.605**	0.000
P6. When you have a problem, Black Lion Hospital shows a sincere interest in solving it.	0.642**	0.000	0.631**	0.000
P7. Black Lion Hospital performs the service right the first time	0.681**	0.000	0.610**	0.000
P8. Black Lion Hospital provides its services at the time it promises to do so	0.633**	0.000	0.536**	0.000
P9. Black Lion Hospital insists on error free records	0.614**	0.000	0.539**	0.000
P10. Employees of Black Lion Hospital tell you exactly when service will be performed	0.516**	0.000	0.536**	0.000
P11. Employees of Black Lion Hospital give you prompt	0.709**	0.000	0.650**	0.000

service.				
P12. Employees of Black Lion Hospital are always willing to help you	0.764**	0.000	0.752**	0.000
P13. Employees of Black Lion Hospital will never be too busy to respond to your requests	0.684**	0.000	0.592**	0.000
P14. The behavior of employees of Black Lion Hospital instil confidence in customers	0.723**	0.000	0.683**	0.000
P15. You feel safe in your transactions with Black Lion Hospital	0.670**	0.000	0.627**	0.000
P16. Employees of Black Lion Hospital are consistently courteous to you	0.693**	0.000	0.709**	0.000
P17. Employees of Black Lion Hospital have the knowledge to answer your questions	0.577**	0.000	0.667**	0.000
P18. Black Lion Hospital gives you individual attention	0.717**	0.000	0.619**	0.000
P19. Black Lion Hospital has operating hours convenient to all its customers	0.688**	0.000	0.568**	0.000
P20. Black Lion Hospital has employees who give you personal attention	0.750**	0.000	0.700**	0.000
P21. Black Lion Hospital has your best interests at heart	0.732**	0.000	0.604**	0.000
P22. Employees of Black Lion Hospital understand your specific needs	0.655**	0.000	0.633**	0.000
** Correlation is Significant at the 0.01 level (2 tailed)	N 198		N 202	

4.6.2. Factor Analysis of Healthcare Service Quality Perception Variables:

The aim of factor analysis is to orderly simplify a large number of intercorrelated measures to a few representative constructs or factors. It allows a researcher to “reduce” mass of numbers to a few representative factors, which can then be used for subsequent analysis. It is an analysis based on the assumption that all variables are correlated to some degree, hence those variables that share similar underlying dimensions should be highly correlated, and those variables that measure dissimilar dimensions should yield low correlations. It has three basic steps of computing the correlation matrix for all variables, extraction of initial factors and rotation of the extracted factors to a terminal solution.

As factor analysis is based on correlations between measured variables, a correlation matrix containing the intercorrelation coefficients for the variables is a requirement to be computed. Extraction determines the number of common factors needed to adequately describe the data. There are two commonly used criteria for determining the number of initial unrotated factors to be extracted; the Eigen values criterion and the Scree test criterion. Only factors with Eigen values of greater than or equal to 1 are taken to be significant; whereas all factors with eigenvalues less than 1 are disregarded.

Scree plot test is used to identify the optimum number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure. It is generated by plotting the eigenvalues (on the Y axis) against the number of factors in their order of extraction (on the X axis). The graph shows a steep slope between the large factors and the gradual trailing off of the rest of the factors. The point at which the curve first begins to straighten out is taken to indicate the maximum number of factors to extract. That is, those factors above this point of inflection are considered meaningful, and those below are not. As a general rule, the Scree plot test results in at least one and sometimes two or three more factors being measured significant than does the eigenvalue criterion (Cattell, 1966).

Factors produced in the initial extraction phase are usually difficult to interpret. The rotation step helps to “sharpen” the factors by identifying those variables that load on one factor and not on another. The ultimate effect of the rotation step is to achieve a simpler, theoretically more meaningful factor pattern.

The communalities tables below show that the customers expectation variables before and after extraction, and the communalities after extraction represent the amount of variance in each variable that is explained by the retained factors. For Black Lion hospital E9 has the least value(0.436) after extraction, which is less than 0.5. Similarly Korean hospital has 0.474 for E1.

For Black Lion hospital the Scree plot of the Eigen values shows that maximum of six factors should be extracted due to the fact that the curve first begins to straighten out between component 5 and component 6 and it is the same as the Eigen value criterion. For Saint Paul hospital the Scree plot of the Eigen values shows that maximum of seven factors (that is two factors more than the Eigen value criterion) should be extracted due to the fact that the curve plateaus off between component 6 and component 7. The Eigen value criterion found that five

factors need to be extracted. For Korean hospital the Scree plot of the Eigen values shows that maximum of six factors (two factors more than that of the Eigen value criterion) should be extracted due to the fact that the curve first begins to straighten out between component 5 and component 6. For Hayat hospital the Scree plot of the Eigen values shows that maximum of five factors (two factors more than that of the Eigen value criterion) should be extracted due to the fact that the curve first begins to straighten out between component 4 and component 5.

Tables 4.26 to 4.29 show that all the factors extractable from the analysis along with their eigenvalues, the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors for all the hospitals of the study. It was determined that cumulatively six factors explained 73.760% of the variance at Black Lion hospital, and from the Scree Plot and the total variance explained analysis, six factors were selected. It was determined that cumulatively five factors explained 74.645 % of the variance at Saint Paul hospital, and from the Eigen value criterion and the total variance explained analysis, five factors were selected. And, this is in line with the original SERVQUAL scale factor analysis. It was determined that cumulatively four factors explained 71.831 % of the variance at Korean hospital, and from the Eigen value criterion and the total variance explained analysis, four factors were selected. It was determined that cumulatively three factors explained 72.145% of the variance at Hayat hospital, and from the Eigen value criterion and the total variance explained analysis, three factors were selected. This means that the five dimensions approach of service quality measurement used in this study is fairly meaningful to use for measurement of service quality in context of the study made, however further researches should be made to refine that the factors to five and also to assess healthcare service quality using other models.

Factor loading following rotation was done for each hospital and displayed in Table 4.30 to 4.33. Loadings of factors of 0.5 and less were suppressed. For Black Lion hospital from the factor loading it was realized that two of the variables representing Tangibility (E1 and E2) loaded on factor 6. E3 loaded on factor 1 and 5, but the loading on factor 5 is suppressed as it is less than 0.5. E4 is loaded on factor 5. Among the variables representing Reliability E7 and E8 loaded meaningfully on Factor 3, however E8 has also loaded on factor 1 and 2 but it is suppressed as it is less than 0.5. E6 is discarded as it is loaded on factor 3 and 5, and with a suppressed loading on factor 4. E5 is loaded on factor 4. E9 is suppressed as it is less than 0.5. Among the variables representing Responsiveness E11, E12 and E13 were meaningfully loaded on factor 2, although

E11 has also suppressed loadings on factor 3 and 5, and E12 has suppressed loading on factor 3. Regarding variables representing Assurance E14 and E16 are loaded on factor 1. E15 a suppressed loading on factor 1 and 2 hence it is discarded. E17 is loaded on factor 2 and it has a suppressed loading on factor 1. Among the variables representing empathy E18, E19 and E21 are loaded on factor 1, with E21 having a suppressed loading on factor 4. E20 is discarded as it is loaded both on factor 1 and 2. E22 is loaded on factor 4, and it has a suppressed loading on factor 1 and 2. The factor loading analysis shows that there is ambiguity on the loading pattern for all the hospitals under the study.

4.6.2.1. Factor Analysis of Healthcare Service Quality Perception Variables- Black Lion, Saint Paul, Korean and Hayat Hospital:

Table 4.25 Communalities of Customer Perception Variables

	Communalities							
	Black Lion		Saint Paul		Korean		Hayat	
	Initial	Extraction	Initial	Extraction	Initial	Extraction	Initial	Extraction
E1	1.000	.733	1.000	.623	1.000	.474	1.000	.754
E2	1.000	.838	1.000	.739	1.000	.676	1.000	.822
E3	1.000	.664	1.000	.749	1.000	.580	1.000	.717
E4	1.000	.773	1.000	.650	1.000	.740	1.000	.644
E5	1.000	.772	1.000	.702	1.000	.584	1.000	.587
E6	1.000	.795	1.000	.715	1.000	.799	1.000	.690
E7	1.000	.807	1.000	.838	1.000	.683	1.000	.770
E8	1.000	.700	1.000	.850	1.000	.842	1.000	.801
E9	1.000	.436	1.000	.687	1.000	.746	1.000	.688
E10	1.000	.680	1.000	.712	1.000	.693	1.000	.687
E11	1.000	.683	1.000	.719	1.000	.806	1.000	.599
E12	1.000	.839	1.000	.763	1.000	.736	1.000	.722
E13	1.000	.769	1.000	.725	1.000	.657	1.000	.634
E14	1.000	.737	1.000	.721	1.000	.603	1.000	.619
E15	1.000	.611	1.000	.733	1.000	.764	1.000	.783
E16	1.000	.797	1.000	.776	1.000	.870	1.000	.715
E17	1.000	.710	1.000	.805	1.000	.807	1.000	.754
E18	1.000	.776	1.000	.765	1.000	.841	1.000	.806
E19	1.000	.746	1.000	.830	1.000	.688	1.000	.793
E20	1.000	.810	1.000	.732	1.000	.770	1.000	.873
E21	1.000	.782	1.000	.850	1.000	.743	1.000	.834
E22	1.000	.769	1.000	.739	1.000	.702	1.000	.580

Extraction Method: Principal Component Analysis.

Figure 4.1 Scree Test Analysis of Customer Perception Variables –Black Lion Hospital

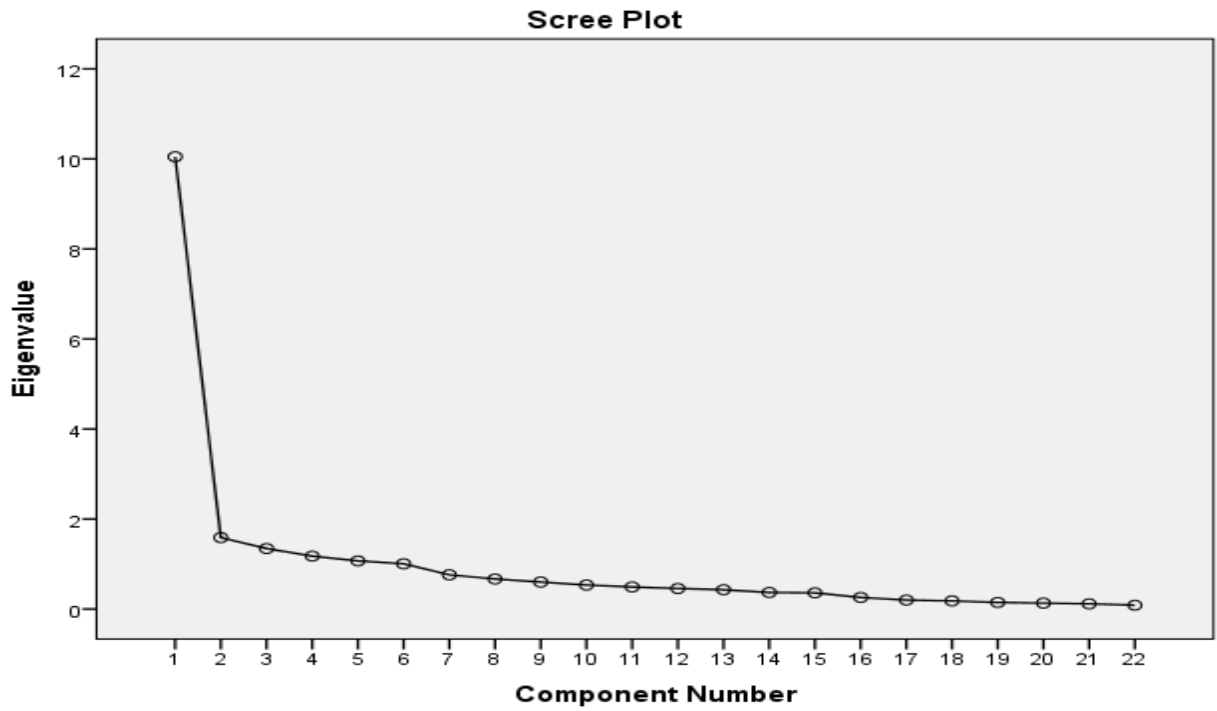


Figure 4.2 Scree Test Analysis of Customer Perception Variables –Saint Paul Hospital

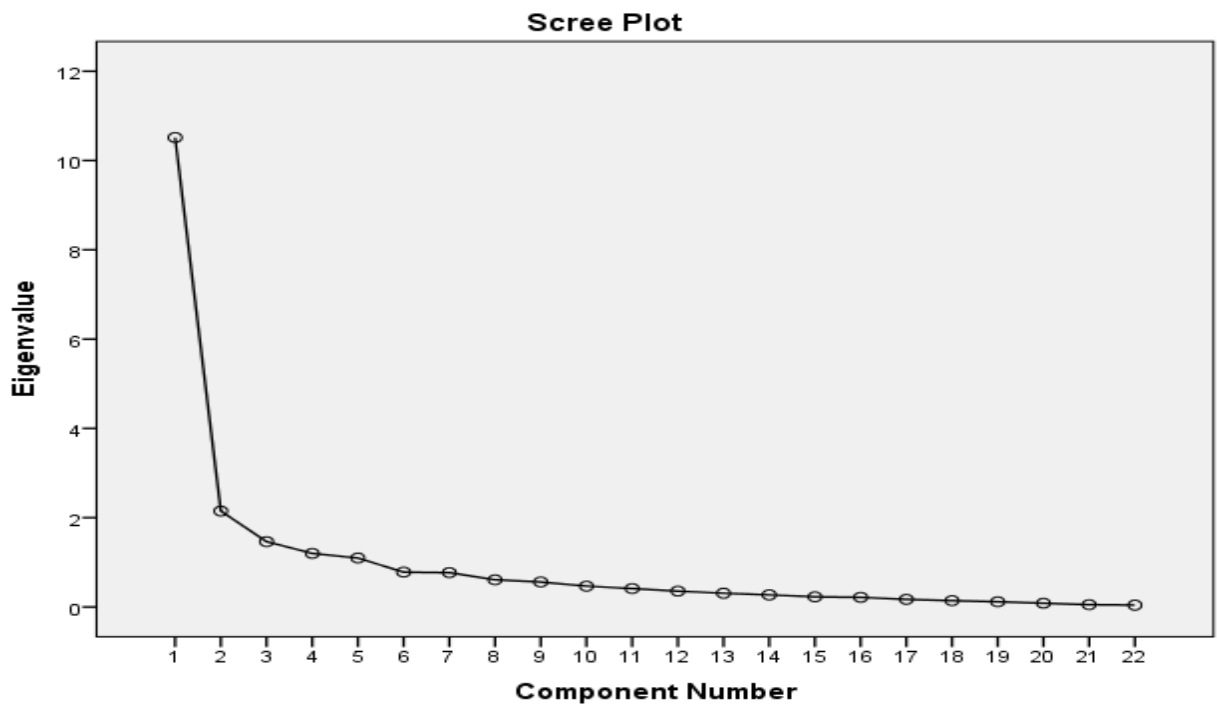


Figure 4.3 Scree Test Analysis of Customer Perception Variables –Korean Hospital

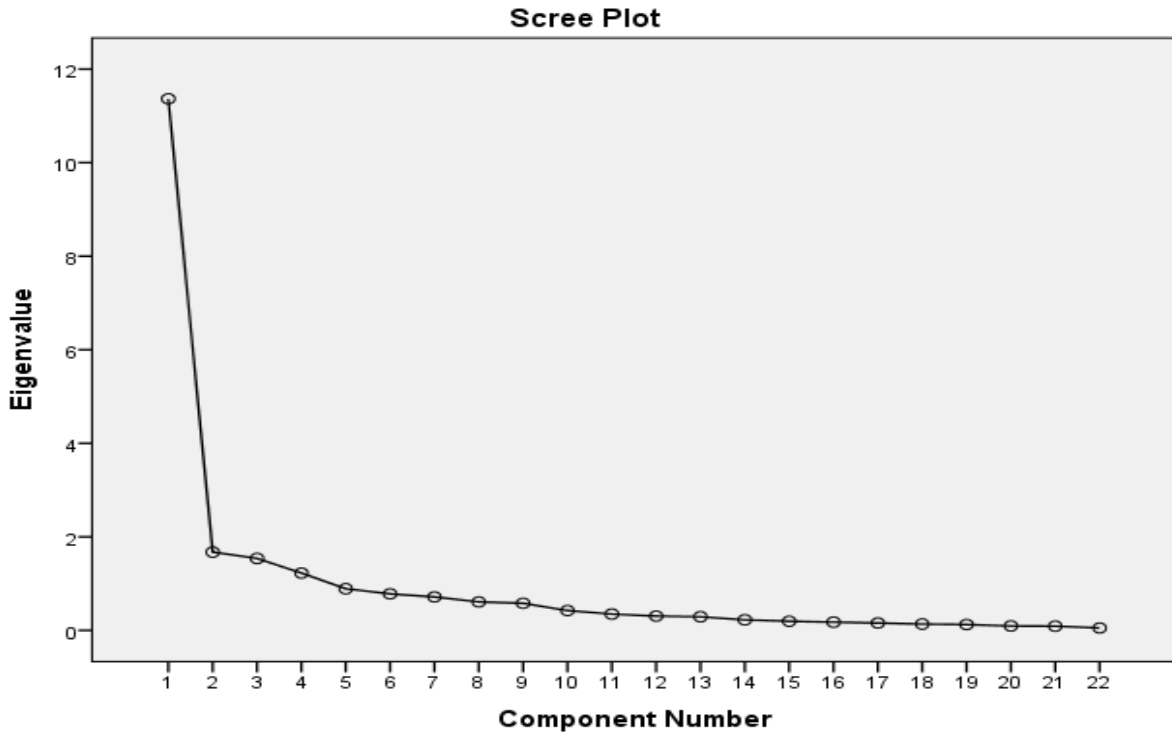


Figure 4.4 Scree Test Analysis of Customer Perception Variables –Hayat Hospital

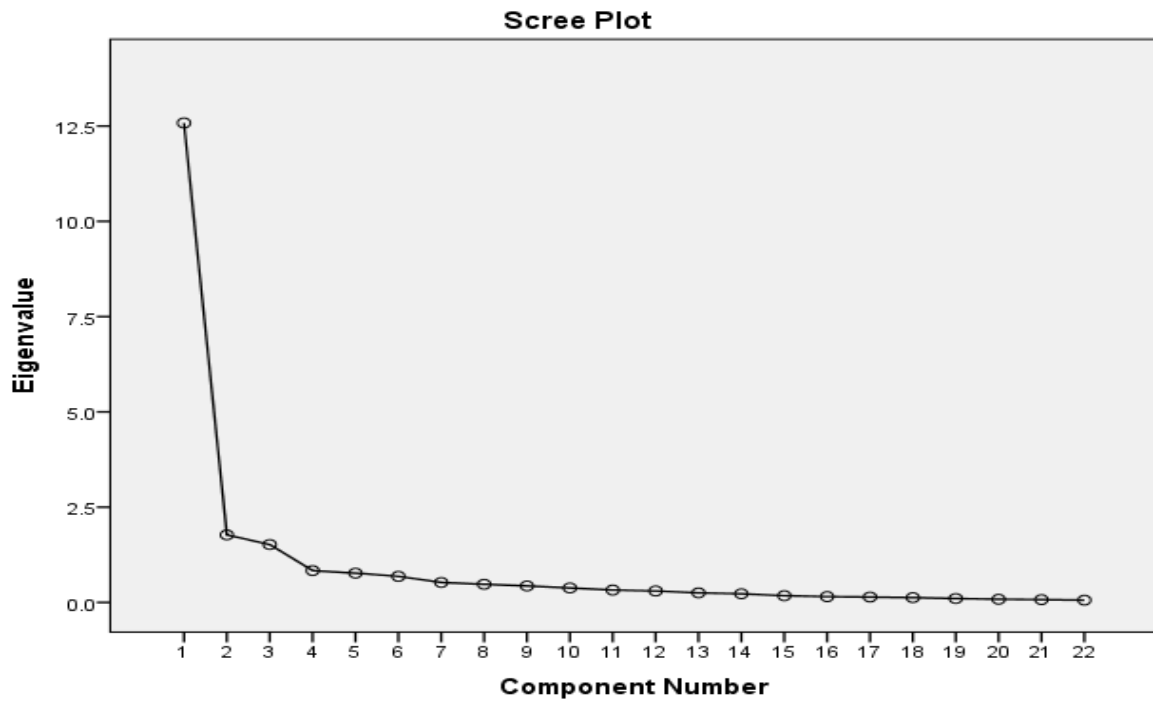


Table 4.26 Total Variance Explained by Perception Variables-Black Lion Hospital

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	10.049	45.675	45.675	10.049	45.675	45.675	5.247	23.848
2	1.588	7.216	52.891	1.588	7.216	52.891	3.312	15.056	38.905
3	1.343	6.105	58.997	1.343	6.105	58.997	2.207	10.033	48.937
4	1.175	5.339	64.336	1.175	5.339	64.336	2.017	9.167	58.104
5	1.069	4.859	69.195	1.069	4.859	69.195	1.761	8.003	66.108
6	1.004	4.565	73.760	1.004	4.565	73.760	1.684	7.653	73.760
7	.759	3.450	77.210						
8	.667	3.032	80.242						
9	.599	2.724	82.966						
10	.533	2.421	85.387						
11	.490	2.229	87.616						
12	.456	2.071	89.687						
13	.430	1.953	91.640						
14	.368	1.671	93.311						
15	.360	1.635	94.946						
16	.257	1.168	96.114						
17	.199	.904	97.018						
18	.180	.817	97.835						
19	.146	.665	98.499						
20	.132	.599	99.098						
21	.115	.521	99.619						
22	.084	.381	100.000						

Extraction Method: Principal Component Analysis.

Table 4.27 Total Variance Explained by Perception Variables-Saint Paul Hospital

Total Variance Explained-Saint Paul Hospital

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	10.515	47.796	47.796	10.515	47.796	47.796	5.049	22.951
2	2.148	9.765	57.561	2.148	9.765	57.561	4.474	20.336	43.287
3	1.463	6.651	64.211	1.463	6.651	64.211	3.932	17.872	61.158
4	1.199	5.451	69.663	1.199	5.451	69.663	1.671	7.595	68.754
5	1.096	4.982	74.645	1.096	4.982	74.645	1.296	5.891	74.645
6	.780	3.546	78.191						
7	.769	3.497	81.688						
8	.608	2.764	84.452						
9	.559	2.540	86.991						
10	.467	2.122	89.114						
11	.412	1.873	90.987						
12	.355	1.614	92.601						
13	.308	1.401	94.002						
14	.271	1.231	95.234						
15	.227	1.033	96.267						
16	.215	.979	97.246						
17	.171	.779	98.025						
18	.143	.649	98.673						
19	.116	.527	99.201						
20	.083	.379	99.580						
21	.051	.233	99.813						
22	.041	.187	100.000						

Extraction Method: Principal Component Analysis.

Table 4.28 Total Variance Explained by Perception Variables-Korean Hospital

Total Variance Explained-Korean Hospital									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.365	51.659	51.659	11.365	51.659	51.659	6.284	28.565	28.565
2	1.674	7.607	59.267	1.674	7.607	59.267	4.903	22.287	50.852
3	1.539	6.993	66.260	1.539	6.993	66.260	2.759	12.543	63.394
4	1.226	5.571	71.831	1.226	5.571	71.831	1.856	8.437	71.831
5	.890	4.044	75.875						
6	.781	3.548	79.423						
7	.716	3.255	82.678						
8	.609	2.767	85.445						
9	.580	2.635	88.079						
10	.424	1.925	90.005						
11	.349	1.586	91.591						
12	.306	1.390	92.981						
13	.291	1.323	94.304						
14	.225	1.025	95.329						
15	.196	.891	96.220						
16	.177	.803	97.023						
17	.158	.718	97.741						
18	.136	.618	98.359						
19	.125	.570	98.929						
20	.095	.430	99.359						
21	.091	.413	99.772						
22	.050	.228	100.000						

Extraction Method: Principal Component Analysis.

Table 4.29 Total Variance Explained by Perception Variables-Hayat Hospital

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
				Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.581	57.186	57.186	12.581	57.186	57.186	6.617	30.078	30.078
2	1.772	8.056	65.241	1.772	8.056	65.241	5.978	27.172	57.250
3	1.519	6.904	72.145	1.519	6.904	72.145	3.277	14.895	72.145
4	.836	3.802	75.947						
5	.769	3.496	79.443						
6	.685	3.113	82.555						
7	.525	2.386	84.941						
8	.477	2.168	87.110						
9	.432	1.964	89.074						
10	.379	1.724	90.798						
11	.325	1.478	92.276						
12	.301	1.368	93.644						
13	.252	1.144	94.787						
14	.227	1.033	95.820						
15	.176	.801	96.621						
16	.154	.699	97.321						
17	.142	.645	97.965						
18	.125	.570	98.536						
19	.104	.474	99.009						
20	.083	.375	99.385						
21	.074	.337	99.722						
22	.061	.278	100.000						

Table 4.30 Rotated Factor Loading Matrix for Perception Variable-Black Lion Hospital

Rotated Component Matrix^a Black Lion Hospital

	Component					
	1	2	3	4	5	6
E16ASCourteous	.807					
E14ASConfidence	.768					
E19EMOperatingHours	.764					
E18EMIndevAttention	.757					
E21EMInterestsatHeart	.725			.342		
E20EMPersonalAttention	.586	.542				
E3TAEmployees	.583				.451	
E10RSTellwhen	.519		.448			
E15ASTransactions	.498	.438				
E9RLRecords	.491					
E13RSNevertobusy		.813				
E12RSWillingtohelp		.770	.374			
E17ASKnowledge	.495	.648				
E11RSPromptservice		.527	.365		.362	
E7RLFirsttime			.825			
E8RLPromisedtime	.394	.381	.569			
E6RLInterest			.512	.412	.504	
E5RLPromise				.777		
E22EMUnderstandneeds	.373	.423		.671		
E4TAMaterials					.816	
E2TAFacilities						.865
E1TAEquipment						.765

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Table 4.31 Rotated Factor Loading Matrix for Perception Variable-Saint Paul Hospital

Rotated Component Matrix^a Saint Paul

	Component				
	1	2	3	4	5
E19EMOperatingHours	.816	.333			
E21EMInterestsatHeart	.784	.373			
E15ASTransactions	.780				
E22EMUnderstandneeds	.759				
E18EMIndevAttention	.751				
E20EMPPersonalAttention	.740				
E8RLPromisedtime	.346	.814			
E7RLFirsttime	.429	.790			
E11RSPromptservice		.765			
E5RLPromise		.714			
E9RLRecords		.614	.505		
E10RSTellwhen	.494	.553			
E17ASKnowledge			.773		
E14ASConfidence	.344		.733		
E12RSWillingtohelp	.360		.725		
E1TAEquipment			.694		
E16ASCourteous		.483	.679		
E13RSNevertobusy		.511	.578		
E6RLInterest	.352	.446	.521		
E2TAFacilities				.790	
E4TAMaterials			.340	.709	
E3TAEmployees					.762

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 4.32 Rotated Factor Loading Matrix for Perception Variable-Korean Hospital

Rotated Component Matrix^a Korean Hospital				
	Component			
	1	2	3	4
E15ASTransactions	.820			
E8RLPromisedtime	.794			
E9RLRecords	.774			
E19EMOperatingHours	.758			
E16ASCourteous	.673	.530	.336	
E5RLPromise	.666			
E22EMUnderstandneeds	.649	.472		
E18EMIndevAttention	.638	.530	.365	
E6RLInterest	.625	.412		.467
E20EMPersonalAttention	.617	.563		
E7RLFirsttime	.582		.518	
E17ASKnowledge		.822		
E21EMInterestsatHeart		.796		
E13RSNevertotoobusy		.785		
E11RSPromptservice	.478	.674		
E14ASConfidence	.411	.607		
E12RSWillingtohelp	.482	.596	.383	
E2TAFacilities			.797	
E3TAEmployees			.716	
E1TAEquipment			.627	
E4TAMaterials				.779
E10RSTellwhen	.358	.414		.627

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 4.33 Rotated Factor Loading Matrix for Perception Variable-Hayat Hospital

Rotated Component Matrix^a		Hayat Hospital		
	Component			
	1	2	3	
E7RLFirsttime	.804			
E8RLPromisedtime	.778	.346		
E6RLInterest	.759			
E13RSNevertobusy	.745			
E10RSTellwhen	.722		.405	
E12RSWillingtohelp	.700	.440		
E9RLRecords	.663	.437		
E11RSPromptservice	.663	.371		
E17ASKnowledge	.620	.515		
E5RLPromise	.589	.442		
E16ASCourteous	.555	.448	.454	
E20EMPersonalAttention		.857		
E19EMOperatingHours		.843		
E21EMInterestsatHeart		.837		
E15ASTransactions		.807		
E18EMIndevAttention	.559	.694		
E22EMUnderstandneeds		.692		
E14ASConfidence	.489	.605		
E2TAFacilities			.861	
E1TAEquipment			.810	
E3TAEmployees	.341	.420	.651	
E4TAMaterials	.475		.647	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

4.6.3. Correlation between Healthcare Service Quality Factors and Customer Satisfaction:

As presented in Table 4.34 At Black Lion hospital healthcare service quality Dimensions – Reliability, Responsiveness and Assurance – had a statistically insignificant positive correlation with customer satisfaction both at 0.01 and 0.05 level. Dimensions Tangibles and Empathy had negative correlation with customer satisfaction but it is statistically insignificant both at 0.01 and 0.05 levels.

At Black Lion hospital tangibility is significantly negatively correlated with reliability, responsiveness, assurance and empathy at 0.01 level (2 tailed). That is when the customers perception for service quality tangibility increases, the perception for the other factors decreases and vice versa. Similarly reliability is also negatively correlated with responsiveness, assurance and empathy. Whereas, responsiveness is weakly positively correlated with assurance and weakly negatively correlated with empathy. Assurance is weakly negatively correlated with empathy. For the other hospitals also there is no much difference than this pattern. Most pairwise correlations of the five dimensions are weakly and moderately negatively correlated to each other statistically significant at 0.01 level.

Table 4.34 Correlation between Healthcare Service Quality Dimensions and Customer Satisfaction-Black Lion Hospital

		Tangibles	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibles	Pearson Correlation	1	-.291**	-.361**	-.523**	-.426**	-.081
	Sig. (2-tailed)		.003	.000	.000	.000	.424
	N	100	100	100	100	100	100
Reliability	Pearson Correlation	-.291**	1	-.274**	-.106	-.225*	.068
	Sig. (2-tailed)	.003		.006	.294	.024	.499
	N	100	100	100	100	100	100
Responsiveness	Pearson Correlation	-.361**	-.274**	1	.017	-.104	.069
	Sig. (2-tailed)	.000	.006		.868	.302	.498
	N	100	100	100	100	100	100
Assurance	Pearson Correlation	-.523**	-.106	.017	1	-.021	.016
	Sig. (2-tailed)	.000	.294	.868		.838	.871
	N	100	100	100	100	100	100
Empathy	Pearson Correlation	-.426**	-.225*	-.104	-.021	1	-.024
	Sig. (2-tailed)	.000	.024	.302	.838		.812
	N	100	100	100	100	100	100
Customer Satisfaction	Pearson Correlation	-.081	.068	.069	.016	-.024	1
	Sig. (2-tailed)	.424	.499	.498	.871	.812	
	N	100	100	100	100	100	100

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

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

As presented in Table 4.35 below at Saint Paul hospital healthcare service quality Dimension – Empathy had a statistically significant positive correlation with customer satisfaction at 0.05 level whereas Dimension-Tangibles had a statistically significant negative correlation with customer satisfaction at 0.05 level. Dimension-Reliability had a statistically insignificant negative correlation with customer satisfaction whereas Responsiveness and Assurance have a statistically insignificant positive correlation with customer satisfaction.

Table 4.35 Correlation between Healthcare Service Quality Dimensions and Customer Satisfaction- Saint Paul Hospital

		Tangibles	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibles	Pearson Correlation	1	-.168	-.416**	-.414**	-.391**	-.230*
	Sig. (2-tailed)		.099	.000	.000	.000	.023
	N	98	98	98	98	98	98
Reliability	Pearson Correlation	-.168	1	-.243*	-.313**	-.027	-.045
	Sig. (2-tailed)	.099		.016	.002	.795	.663
	N	98	98	98	98	98	98
Responsiveness	Pearson Correlation	-.416**	-.243*	1	-.090	-.064	.142
	Sig. (2-tailed)	.000	.016		.380	.534	.163
	N	98	98	98	98	98	98
Assurance	Pearson Correlation	-.414**	-.313**	-.090	1	-.236*	.052
	Sig. (2-tailed)	.000	.002	.380		.019	.612
	N	98	98	98	98	98	98
Empathy	Pearson Correlation	-.391**	-.027	-.064	-.236*	1	.220*
	Sig. (2-tailed)	.000	.795	.534	.019		.030
	N	98	98	98	98	98	98
Customer Satisfaction	Pearson Correlation	-.230*	-.045	.142	.052	.220*	1
	Sig. (2-tailed)	.023	.663	.163	.612	.030	
	N	98	98	98	98	98	98

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

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

As presented in Table 4.36 below at Korean hospital healthcare service quality Dimensions – Responsiveness and Empathy had a statistically significant positive correlation with customer satisfaction at 0.01 level whereas Reliability had a statistically significant positive correlation

with customer satisfaction at 0.05 level and Assurance had insignificant positive correlation. Dimension-Tangibles had a statistically significant negative correlation with customer satisfaction at 0.01 level and p value of 0.000.

Table 4.36 Correlation between Healthcare Service Quality Dimension and Customer Satisfaction- Korean Hospital

		Tangibles	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibles	Pearson Correlation	1	-.361**	-.596**	-.542**	-.523**	-.378**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	101	101	101	101	101	101
Reliability	Pearson Correlation	-.361**	1	.224*	-.110	-.155	.216*
	Sig. (2-tailed)	.000		.025	.275	.122	.030
	N	101	101	101	101	101	101
Responsiveness	Pearson Correlation	-.596**	.224*	1	.066	.079	.271**
	Sig. (2-tailed)	.000	.025		.513	.435	.006
	N	101	101	101	101	101	101
Assurance	Pearson Correlation	-.542**	-.110	.066	1	-.001	.056
	Sig. (2-tailed)	.000	.275	.513		.996	.578
	N	101	101	101	101	101	101
Empathy	Pearson Correlation	-.523**	-.155	.079	-.001	1	.265**
	Sig. (2-tailed)	.000	.122	.435	.996		.007
	N	101	101	101	101	101	101
Customer Satisfaction	Pearson Correlation	-.378**	.216*	.271**	.056	.265**	1
	Sig. (2-tailed)	.000	.030	.006	.578	.007	
	N	101	101	101	101	101	101

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

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

As presented in Table 4.37 below at Hayat hospital healthcare service quality Dimensions – Tangibles, Reliability and Responsiveness had a statistically insignificant positive correlation with customer satisfaction whereas Assurance had a statistically insignificant negative correlation with customer satisfaction. Empathy had a statistically significant negative correlation with customer satisfaction at 0.01 level.

Table 4.37 Correlation between Healthcare Service Quality Dimension and Customer Satisfaction- Hayat Hospital

		Tangibles	Reliability	Responsiveness	Assurance	Empathy	Customer Satisfaction
Tangibles	Pearson Correlation	1	-.069	-.131	-.309**	-.465**	.119
	Sig. (2-tailed)		.496	.192	.002	.000	.237
	N	101	101	101	101	101	101
Reliability	Pearson Correlation	-.069	1	-.243*	-.337**	-.398**	.098
	Sig. (2-tailed)	.496		.014	.001	.000	.330
	N	101	101	101	101	101	101
Responsiveness	Pearson Correlation	-.131	-.243*	1	-.072	-.243*	.188
	Sig. (2-tailed)	.192	.014		.472	.014	.060
	N	101	101	101	101	101	101
Assurance	Pearson Correlation	-.309**	-.337**	-.072	1	-.138	-.069
	Sig. (2-tailed)	.002	.001	.472		.168	.493
	N	101	101	101	101	101	101
Empathy	Pearson Correlation	-.465**	-.398**	-.243*	-.138	1	-.263**
	Sig. (2-tailed)	.000	.000	.014	.168		.008
	N	101	101	101	101	101	101
Customer Satisfaction	Pearson Correlation	.119	.098	.188	-.069	-.263**	1
	Sig. (2-tailed)	.237	.330	.060	.493	.008	
	N	101	101	101	101	101	101

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

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

4.6.4. The Impact of Healthcare Service Quality on Customer Satisfaction:

Assumptions of the Multiple Regressions:

Normality: This is an assumption that errors of prediction (differences between the obtained and predicted dependent variable scores) are normally distributed. Violation of this assumption can be identified by constructing a histogram of residuals, with a visual check to see whether the distribution approximates the normal distribution.

Linearity: As regression analysis is based on the concept of correlation, the linearity of the relationship between dependent and independent variables is very important. Linearity can easily

be checked by residual plots. For relationships having nonlinear pattern, corrective action to accommodate the curvilinear effects of one or more independent variables can be taken to increase both the predictive accuracy of the model and the validity of the estimated coefficients.

Homoscedasticity: This is an assumption of equal variances between pairs of variables. If this assumption is violated it can be detected by either residual plots or simple statistical tests. On SPSS the Levene test is used for measuring Homogeneity of Variance by measuring the equality of variances for a single pair of variables.

Independence of error terms: In multiple regression, the predicted value is assumed not to be related to any other prediction. This means that each predicted value is assumed to be independent. If this assumption is violated it can be detected by plotting the residuals against sequence of cases. The pattern appears random if the residuals are independent. If Durbin-Watson test on SPSS analysis for serial correlation of adjacent error terms is significant, it indicates that there is non-independence of errors. Autocorrelation is a serious problem that must not be ignored.

Regression Results:

As shown in tables 4.38 to 4.41 below a multiple regression analysis of the five dimensions of healthcare service quality as independent variables and customer satisfaction as the dependent variable for each hospital in the study found that R Square to be 0.014, 0.109, 0.183 and 0.098 for Black Lion, Saint Paul, Korean and Hayat hospitals respectively.

Table 4.38 The Impact of Service Quality on Customer Satisfaction-Black Lion Hospital

Model Summary- Black Lion Hospital

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.117 ^a	.014	-.028	1.49545	.014	.328	4	95	.858

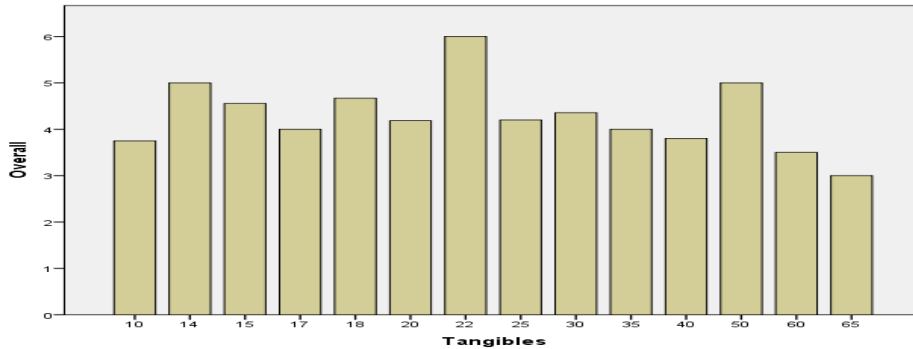
a. Predictors: (Constant), Empathy, Assurance, Responsiveness, Reliability

Regression Assumptions Tests:

Normality:

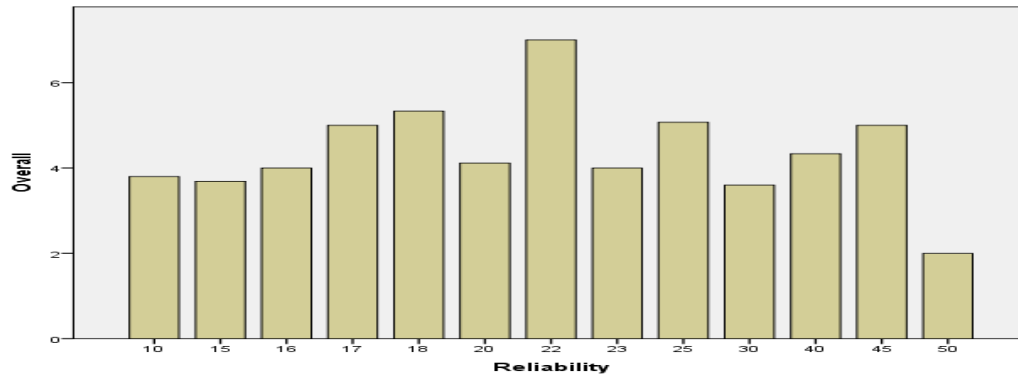
As visual check of Figure 4.5 below shows the distribution approximates the normal distribution of bell shape. Therefore, the distribution is fairly normal.

Figure 4.5 Normality Test for Tangibility-Black Lion



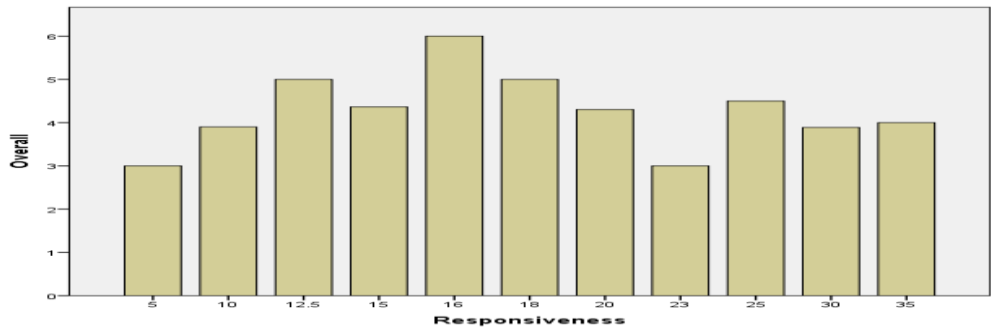
As visual check of Figure 4.6 below shows the distribution approximates the normal distribution of bell shape. Therefore, the distribution is fairly normal.

Figure 4.6 Normality Test for Reliability-Black Lion



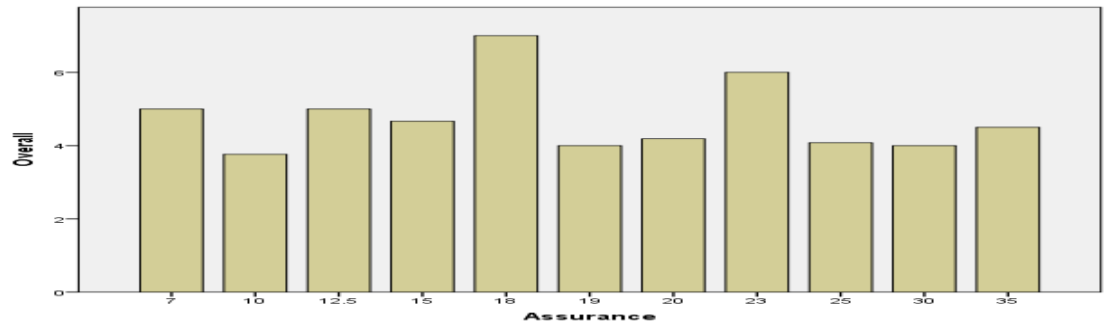
As visual check of Figure 4.7 shows the distribution approximates the normal distribution of bell shape with a slight migration to the right . Therefore, the distribution is fairly normal.

Figure 4.7 Normality Test for Responsiveness-Black Lion



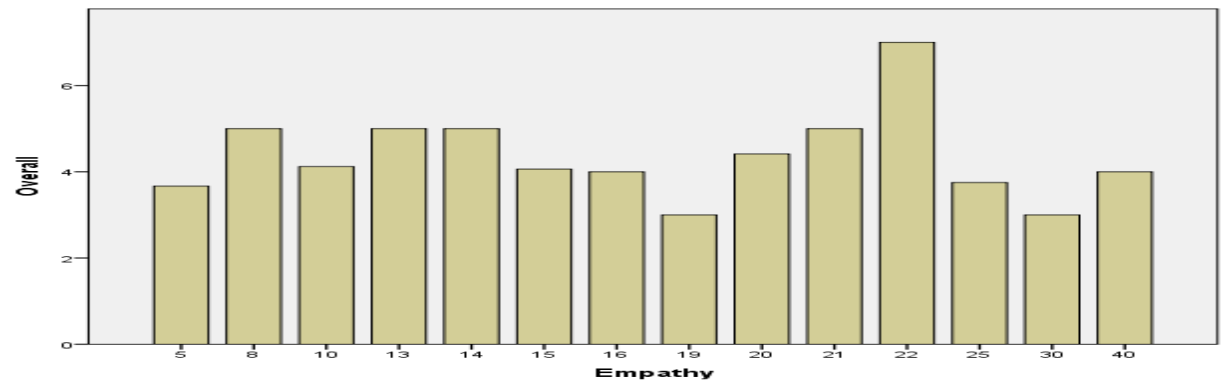
As visual check of Figure 4.8 shows the distribution has pick around the center but it does not approximate the normal distribution of bell shape. Therefore, the distribution is difficult to say that it is normal.

Figure 4.8 Normality Test for Assurance-Black Lion



As visual check of Figure 4.9 shows the distribution does not approximate the normal distribution of bell shape. Therefore, the distribution is difficult to say that it is normal.

Figure 4.9 Normality Test for Empathy-Black Lion



Multicollinearity:

This is a condition in which the independent variables are highly correlated, hence they share essentially same information i.e “overlap” on their predictive power. This may result in paradoxical effect, where the regression model fits the data well, but none of the independent variables has a significant impact in predicting the dependent variable. Thus, together, they may explain a great deal of the dependent variable, but individually may not contribute significantly to the model. In SPSS, it is possible to test multicollinearity by displaying “Tolerance” and “VIF” (variance inflation factor) values for each independent variables. The tolerance value indicates the percentage of variance in the independent variables that cannot be accounted for by the other independent variables. Hence, very small values indicate “overlap” or sharing of predictive power. Values that are less than 0.10 may require further investigation. The VIF is computed as “1/tolerance,” and it is suggested that independent variables whose VIF values are greater than 10 may require further investigation. Thus, except tangibles all the other independent variables have tolerance value of greater than 0.1 and VIF values less than 10 hence they are quite acceptable for not having multicollinearity. However, due to tangibles dimension is excluded out it is difficult to fully interpret the regression results. Multicollinearity is a problem hence multiple regression cannot be used to assess the relative contributions of each independent variables.

Model	Tolerance	VIF
(Constant)		
Reliability	0.848	1.179
Responsiveness	0.896	1.117
Assurance	0.986	1.014
Empathy	0.917	1.090

Excluded Variables –Black Lion

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Tangibles	. ^b000	.	.000

a. Dependent Variable: Overall

b. Predictors in the Model: (Constant), Empathy, Assurance, Responsiveness, Reliability

Table 4.39 The Impact of Service Quality on Customer Satisfaction-Saint Paul Hospital

Model Summary-Saint Paul Hospital									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.330 ^a	.109	.060	1.15689	.109	2.248	5	92	.056

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

Table 4.40 The Impact of Service Quality on Customer Satisfaction-Korean Hospital

Model Summary-Korean Hospital									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.428 ^a	.183	.140	.97888	.183	4.257	5	95	.002

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

Table 4.41 The Impact of Service Quality on Customer Satisfaction-Hayat Hospital

Model Summary- Hayat Hospital									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.312 ^a	.098	.050	1.10042	.098	2.056	5	95	.078

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

4.6.5. The Impact of Individual Dimensions of Healthcare Service Quality on Customer Satisfaction:

Tables 4.42 to 4.45 show that theoretically how each of the five Dimensions of healthcare service quality affect customer satisfaction at Black Lion, Saint Paul, Korean and Hayat hospital. The unstandardized Coefficients (B) of the variables for Black Lion hospital were: Reliability, 0.021; Responsiveness, 0.022; Assurance, 0.006; and Empathy, 0.002. The unstandardized Coefficients (B) of the five variables for Saint Paul hospital were: Tangibles, 0.107; Reliability, 0.120; Responsiveness, 0.141; Assurance, 0.133; Empathy, 0.168. The

unstandardized Coefficients (B) of the five variables for Korean hospital were: Tangibles, 0.055; Reliability, 0.104; Responsiveness, 0.097; Assurance, 0.067; and Empathy, 0.098. The unstandardized Coefficients (B) of the five variables for Hayat hospital were: Tangibles, -0.041; Reliability, -0.039; Responsiveness, -0.016; Assurance, -0.053; and Empathy, -0.069.

However, assumption tests show that there is violation of assumptions of multiple linear regression hence it is difficult to interpret the regression results to what extent each dimension has explained customer satisfaction. Further researches need to be made using both SERVQUAL and other scales of service quality measurement. Factors other than healthcare service should also be studied for their explanatory strength on customers satisfaction.

Using the regression model equation;

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

The linear regression model equation for each hospital for customer satisfaction was theoretically written as shown below but it has no meaning as they fail assumption tests.

For Black Lion Hospital;

Customer Satisfaction = 3.213+ 0.021Reliability +0.022Responsiveness + 0.006Assurance + 0.002Empathy.

For Saint Paul Hospital;

Customer Satisfaction = -8.279+ 0.107Tangibles+0.120Reliability +0.141Responsiveness + 0.133Assurance + 0.168Empathy.

For Korean Hospital;

Customer Satisfaction = -2.362+ 0.055Tangibles+0.104Reliability +0.097Responsiveness + 0.067Assurance + 0.098Empathy.

For Hayat Hospital;

Customer Satisfaction = 9.703-0.041Tangibles-0.039Reliability-0.016Responsiveness - 0.053Assurance-0.069Empathy.

Table 4.42 The Impact of Individual Dimensions of Healthcare Service Quality on Customer Satisfaction at Black Lion Hospital.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.213	1.090		2.947	.004
	Reliability	.021	.023	.100	.900	.370
	Responsiveness	.022	.025	.096	.895	.373
	Assurance	.006	.024	.026	.249	.804
	Empathy	.002	.023	.009	.084	.934

a. Dependent Variable: Customer Satisfaction

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Tangibles	. ^b000

a. Dependent Variable: Customer Satisfaction

b. Predictors in the Model: (Constant), Empathy, Assurance, Responsiveness, Reliability

Table 4.43 The Impact of Individual Dimensions of Healthcare Service Quality on Customer Satisfaction at Saint Paul Hospital.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.279	7.940		-1.043	.300
	Tangibles	.107	.078	.808	1.371	.174
	Reliability	.120	.082	.543	1.456	.149
	Responsiveness	.141	.079	.732	1.776	.079
	Assurance	.133	.081	.808	1.638	.105
	Empathy	.168	.084	.788	2.006	.048

a. Dependent Variable: Customer Satisfaction

Table 4.44 The Impact of Individual Dimensions of Healthcare Service Quality on Customer Satisfaction at Korean Hospital

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.362	10.047		-.235	.815
	Tangibles	.055	.100	.628	.552	.582
	Reliability	.104	.103	.483	1.007	.316
	Responsiveness	.097	.103	.460	.938	.351
	Assurance	.067	.103	.419	.652	.516
	Empathy	.098	.099	.632	.993	.323

a. Dependent Variable: Customer Satisfaction

Table 4.45 The Impact of Individual Dimensions of Healthcare Service Quality on Customer Satisfaction at Hayat Hospital

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.703	6.576		1.475	.143
	Tangibles	-.041	.068	-.283	-.604	.547
	Reliability	-.039	.067	-.284	-.591	.556
	Responsiveness	-.016	.068	-.082	-.234	.816
	Assurance	-.053	.065	-.337	-.813	.418
	Empathy	-.069	.066	-.574	-1.040	.301

a. Dependent Variable: Customer Satisfaction

4.7. Factors External to Healthcare Service Quality that Correlate with Customer Satisfaction:

In this section we will evaluate the findings on what factors external to healthcare service quality correlate with customer satisfaction in each hospital.

Table 4.46 shows that correlation of customer satisfaction with factors that are external to healthcare service quality. Level of education of respondents has a weakly significant negative correlation with customer satisfaction at Saint Paul hospital at 0.05 level (2 tailed). Gender is significantly correlated with customer satisfaction at Hayat hospital at 0.05 level of significance.

Table 4.46 Correlation between Factors External to Health Care and Customer Satisfaction at Each Hospital of the Study

Factor External to Healthcare Service	Black Lion		Saint Paul		Korean		Hayat	
	Pearson	Sig.	Pearson	Sig.	Pearson	Sig.	Pearson	Sig.
	Correlation	(2 Tailed)	Correlation	(2 Tailed)	Correlation	(2 Tailed)	Correlation	(2 Tailed)
Gender	0.031	0.756	-0.176	0.083	-0.071	0.479	0.204*	0.040
Age	0.148	0.142	-0.024	0.813	0.123	0.222	-0.102	0.312
Distance Traveled to Hospital	0.100	0.323	0.178	0.080	-0.011	0.914	0.054	0.595
Level of Education of Respondents	-0.034	0.737	-0.203*	0.045	-0.126	0.209	-0.086	0.395
Occupation of the Respondent	0.064	0.527	0.172	0.091	-0.007	0.945	-0.096	0.339
Feeling of the Respondent on Visit Day	0.022	0.830	0.177	0.082	-0.008	0.938	0.042	0.676
Mode of Payment for Service	-0.049	0.630	0.093	0.363	0.115	0.250	0.081	0.418
Regular Source of Healthcare Information	0.053	0.603	0.002	0.985	-0.049	0.627	0.096	0.340
Believed Best Service Provider	0.151	0.134	-0.168	0.100	0.114	0.255	0.042	0.676
	N 100		N 98		N 101		N 101	

Pearson Correlation Sig. (2 Tailed)

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

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

Table 4.47 Correlation between Factors External to Healthcare Service and Customer Satisfaction at Public and Private Hospitals

Factor External to Healthcare Service	Public Hospitals		Private Hospitals		All Hospitals	
	Pearson	Sig.	Pearson	Sig.	Pearson	Sig.
	Correlation	(2 Tailed)	Correlation	(2 Tailed)	Correlation	(2 Tailed)
Gender	-0.078	0.272	0.099	0.161	0.024	0.632
Age	0.047	0.510	0.019	0.793	0.027	0.586
Distance Traveled to Hospital	0.073	0.309	0.018	0.804	-0.005	0.927
Level of Education of Respondents	-0.161*	0.024	-0.026	0.711	-0.023	0.645
Occupation of the Respondent	0.141*	0.048	-0.077	0.277	0.024	0.636
Feeling of the Respondent on Visit Day	0.092	0.196	0.044	0.536	0.102*	0.042
Mode of Payment for Service	0.002	0.975	0.100	0.157	-0.068	0.176
Regular Source of Healthcare Information	0.030	0.679	0.036	0.607	0.092	0.066
Believed Best Service Provider	0.035	0.630	0.064	0.369	-0.023	0.650
	N 198		N 202		N 400	

Pearson Correlation Sig. (2 Tailed)

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

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

CHAPTER FIVE

Summary, Conclusions and Recommendations

5.1. Summary

The purpose of this study was to determine and comparatively assess the association between healthcare service quality and customer satisfaction at selected public and private hospitals in Addis Ababa. The study was intended to answer four research questions: What is the level of satisfaction of customers in public and private hospitals in Addis Ababa? What characteristics of healthcare service quality correlate with customers' satisfaction in public and private hospitals in Addis Ababa? What factors external to healthcare service quality correlate with customers' satisfaction in public and private hospitals in Addis Ababa? What is the pattern of healthcare service quality gap in public and private hospitals in Addis Ababa? The study was done at Black Lion and Saint Paul hospitals among the public hospitals and at Korean and Hayat hospitals among the private hospitals.

The study was made using a descriptive research design and a standardized questionnaire based on the SERVQUAL scale was used. The questionnaire was pilot tested and minor adjustments were made before it was applied on the whole sample size of 400, that is 100 to each hospital. As the questionnaires were filled and returned with a close support of the researcher and on the same date, the response rate was 100%. Descriptive statistics, correlation analysis, factor analysis, and regression analysis was conducted in line with the research questions.

The study pleasantly addressed the first question, that is, what characteristics of healthcare service quality correlate with customers' satisfaction and it has found that all the five dimensions of healthcare service quality namely Tangibles, Reliability, Responsiveness, Assurance and Empathy are significantly positively correlated with customer satisfaction. Thus we can infer that healthcare service quality significantly influences customers' satisfaction in both public and private hospitals in Addis Ababa.

Regarding the second question, what factors external to healthcare service quality are correlated with customers' satisfaction in private and public hospitals in Addis Ababa, correlation of

customer satisfaction with factors that are external to healthcare service quality shows that level of education of respondents has a weak negative correlation with customer satisfaction at Saint Paul hospital and the correlation is significant at 0.05 level (2 tailed). Gender is significantly correlated with customer satisfaction at Hayat hospital at 0.05 level of significance (2 tailed).

Concerning the third question, What is the pattern of healthcare service quality gap in private and public hospitals in Addis Ababa, Black Lion hospital has the highest (-1.84) service quality gap compared to all the other hospitals under the study. The least gap was observed in Korean hospital (-0.49). Among the five dimensions the highest gap was observed with service reliability in three of the hospitals (Black Lion, Korean and Hayat hospital), and the highest gap score in Saint Paul is service responsiveness.

5.2. Conclusion:

5.2.1. Characteristics of Healthcare Service Quality that Correlate with Customers' Satisfaction in Public and Private Hospitals in Addis Ababa:

- The study identified that healthcare service quality had a statistically significant positive correlation with customers' satisfaction.

5.2.2. Factors External to Healthcare Service Quality that are Correlated with Customers' Satisfaction in Private and Public Hospitals in Addis Ababa:

- Level of education of respondents has a weak negative correlation with customers' satisfaction at Saint Paul hospital and the correlation is significant at 0.05 levels (2 tailed).
- Gender is significantly correlated with customer satisfaction at Hayat hospital at 0.05 level of significance (2 tailed). The other external factors included in the study had insignificant correlation with customer satisfaction. On further studies other external factors to healthcare service should be assessed for association with customers' satisfaction.

5.2.3. Pattern of Healthcare Service Quality Gap in Private and Public Hospitals in Addis Ababa:

- Public hospitals had wider healthcare service quality gaps compared to private hospitals in Addis Ababa.
- Korea hospital was the best among the hospitals included in the study for having the least healthcare service quality gap compared to the others.
- Black Lion hospital had the highest healthcare service quality gap compared to the other hospitals which were in the study.

5.3. Recommendations:

5.3.1. Recommendations for Improvement of Healthcare Service Quality and Customer Satisfaction:

- The hospitals involved in the study and other hospitals should work to improve the level of satisfaction of customers as the percentage of customers who are extremely satisfied is very low.
- Hospitals should work hard to improve service reliability and responsiveness to improve customers' satisfaction.
- Other factors which may determine satisfaction of customers should be studied and the outcome recommendations should be considered to improve the service quality and customer satisfaction.

5.3.2. Recommendations for Further Study:

- Further researches should be made to assess and measure healthcare service quality using different models of service quality measurement and other factors.
- More of factors external to healthcare service quality like socio-demographic factors and economic factors should be included and studied to evaluate factors determining customers' satisfaction.

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Annexes

Annex I: Questionnaire (English)

PART A: RESPONDENT DETAILS

Tick the option that most appropriately applies to you. Select only one option.

1. Gender: Male Female

2. Which of these describes your age bracket?
 - a) Below 20 years b) 21-30 years c) 31-40 years d) 41-50 years
 - e) Above 50 years

3. Approximately how far did you travel to come to this facility?
 - a) Less than 10km b) 11 to 20km c) 21 to 30km d) More than 30km

4. What best describes your level of education?
 - a) Cannot write or read b) Completed some School level
 - c) Diploma graduate d) First Degree Graduate e) Master's Degree Graduate
 - f) Ph.D Degree Graduate g) Other

5. Which of these best describes your feelings during today's visit?
 - a) Anxious b) Moderately anxious c) Not anxious

6. Which of the following best describes your occupation?
 - a) Executive / Manager b) Professional c) Business person
 - d) Self-employed e) Other (specify) _____

7. How did you pay for the services you came for today?
 - a) Insurance b) Employer medical scheme c) Out of pocket (cash)

d) Free

8. How do you regularly get information regarding healthcare services?

a) Television b) Radio c) Print media e.g. newspaper, journals, magazines

d) Internet (online platforms) e) Family and Friends f) Other

9. Which of the following in your view gives the best services in Ethiopia?

a) Hotels b) Hospitals c) Airlines d) Banks

e) Other, Specify _____

PART B EXPECTATIONS

Directions: Based on your experience as a customer seeking healthcare services, think about the hospital that would deliver excellent healthcare quality. Indicate the extent to which the following features describe what you would like to get from such a hospital. If you feel the feature is absolutely essential please circle 7, and if you feel a feature is not at all essential please circle 1. If you feel the feature is somewhat essential you may circle any number between 1 and 7 to indicate your true feelings about the measure. Please circle only one number. There are no right or wrong answers – all we are interested in is a number that best reflects your feelings regarding outpatient hospital services.

Scale 7 = Strongly Agree; 1 = Strongly Disagree

Expectations							
E1. Excellent hospitals will have modern-looking equipment	7	6	5	4	3	2	1
E2. The physical facilities at excellent hospitals will be visually appealing	7	6	5	4	3	2	1
E3. Employees of excellent hospitals will be neat – appearing	7	6	5	4	3	2	1
E4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in an excellent hospital	7	6	5	4	3	2	1
E5. When excellent hospitals promise to do something by a certain time, they will do so.	7	6	5	4	3	2	1
E6. When customers have a problem, excellent hospitals will show a sincere interest in solving it.	7	6	5	4	3	2	1
E7. Excellent hospitals will perform the service right the first time	7	6	5	4	3	2	1
E8. Excellent hospitals will provide their services at the time they promised to	7	6	5	4	3	2	1

do so							
E9. Excellent hospitals will insist on error free records	7	6	5	4	3	2	1
E10. Employees of excellent hospitals will tell customers exactly when service will be performed	7	6	5	4	3	2	1
E11. Employees of excellent hospitals will give prompt service to customers	7	6	5	4	3	2	1
E12. Employees of excellent hospitals will always be willing to help customers	7	6	5	4	3	2	1
E13. Employees of excellent hospitals will never be too busy to respond to customer requests	7	6	5	4	3	2	1
E14. The behavior of employees of excellent hospitals will instil confidence in customers	7	6	5	4	3	2	1
E15. Customers of excellent hospitals will feel safe in their transactions	7	6	5	4	3	2	1
E16. Employees of excellent hospitals will be consistently courteous with customers	7	6	5	4	3	2	1
E17. Employees of excellent hospitals will have the knowledge to answer customer questions	7	6	5	4	3	2	1
E18. Excellent hospitals will give customers individual attention	7	6	5	4	3	2	1
E19. Excellent hospitals will have operating hours convenient to all their customers	7	6	5	4	3	2	1
E20. Excellent hospitals will have employees who give customers personal attention.	7	6	5	4	3	2	1
E21. Excellent hospitals will have customers' best interests at heart	7	6	5	4	3	2	1
E22. The employees of excellent hospitals will understand the specific needs of their customers.	7	6	5	4	3	2	1

PART C

PERCEPTIONS

Directions: The following statements relate to your feelings about the hospital's services. For each statement, please show the extent to which you believe **Black Lion Hospital** has the feature described by the statement. Circling 7 means you strongly agree that the hospital has the feature described while circling 1 means that you strongly disagree. You may circle any number between 1 and 7 to indicate how strong your feelings are. Please circle only one number that best reflects your feelings.

Scale 7 = Strongly Agree; 1 = Strongly Disagree

Perception							
P1. Black Lion Hospital has modern-looking equipment	7	6	5	4	3	2	1
P2. Black Lion Hospital's physical facilities are visually appealing	7	6	5	4	3	2	1
P3. Black Lion Hospital's employees are neat appearing	7	6	5	4	3	2	1
P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at Black Lion Hospital	7	6	5	4	3	2	1
P5. When Black Lion Hospital promises to do something by a certain time, it does it.	7	6	5	4	3	2	1
P6. When you have a problem, Black Lion Hospital shows a sincere interest in solving it.	7	6	5	4	3	2	1
P7. Black Lion Hospital performs the service right the first time	7	6	5	4	3	2	1
P8. Black Lion Hospital provides its services at the time it promises to do so	7	6	5	4	3	2	1
P9. Black Lion Hospital insists on error free records	7	6	5	4	3	2	1
P10. Employees of Black Lion Hospital tell you exactly when service will be performed	7	6	5	4	3	2	1
P11. Employees of Black Lion Hospital give you prompt service.	7	6	5	4	3	2	1
P12. Employees of Black Lion Hospital are always willing to help you	7	6	5	4	3	2	1
P13. Employees of Black Lion Hospital will never be too busy to respond to your requests	7	6	5	4	3	2	1
P14. The behavior of employees of Black Lion Hospital instil confidence in customers	7	6	5	4	3	2	1
P15. You feel safe in your transactions with Black Lion Hospital	7	6	5	4	3	2	1
P16. Employees of Black Lion Hospital are consistently courteous to you	7	6	5	4	3	2	1

P17. Employees of Black Lion Hospital have the knowledge to answer your questions	7	6	5	4	3	2	1
P18. Black Lion Hospital gives you individual attention	7	6	5	4	3	2	1
P19. Black Lion Hospital has operating hours convenient to all its customers	7	6	5	4	3	2	1
P20. Black Lion Hospital has employees who give you personal attention	7	6	5	4	3	2	1
P21. Black Lion Hospital has your best interests at heart	7	6	5	4	3	2	1
P22. Employees of Black Lion Hospital understand your specific needs	7	6	5	4	3	2	1

PART D OVERALL SATISFACTION

Directions: Circle a number between 7 and 1 to indicate your level of satisfaction with services at Black Lion Hospital. Circling 7 means you are extremely satisfied while circling 1 means that you are extremely dissatisfied. You may circle any number between 1 and 7 to indicate your level of satisfaction. Circle only one number.

Level of Satisfaction	7	6	5	4	3	2	1
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Part E Point Allocation Question

Directions: Listed below are five features pertaining to hospitals and the healthcare service that they offer. How important each of these features is to you when you evaluate a hospital’s quality of healthcare service. Please allocate a total of 100 points to the five features according to the importance each feature is to you – the more important a feature is to you, the more points you should allocate to it. Please ensure that the points you allocate to the five features add up to 100.

1. The appearance of hospital’s physical facilities, equipment, personnel, and communication material	_____Points
2. The ability of the hospital to perform the promised service dependably and accurately	_____Points
3. The willingness of the hospital to help customers and provide prompt service	_____Points
4. The knowledge and courtesy of the hospital’s employees and their ability to convey trust and confidence	_____Points
5. The caring, individualized attention the hospital provides customers	_____Points
TOTAL POINTS ALLOCATED	100 Points

Annex II: Questionnaire (Amharic)

መጠይቅ

ይህ በአዲስ አበባ ዩንቨርሲቲ በንግድ አስተዳደር(MBA) ለማስተርስ ድግሪ ከፊል ማሙረያነት የመመረቂያ ጥናት ነው። አላማውም ታካሚዎች በሆስፒታል ቆይታቸው ስላገኙት የጤና አገልግሎት ጥራት የተሰማቸውን ስሜት (ሃሳብ) እና በአገልግሎቱ የተሰማቸውን እርካታ ለማጥናት ነው። መጠይቁን ለመሙላት ከ15 ደቂቃ ያልበለጠ ጊዜ ይወስዳል። ስምዎን እና ማንነትዎን መጻፍ አይጠበቅብዎትም። በጥናቱ ለመሳተፍ ፈቃደኛ ከሆኑ እባክዎ ለሁሉም ጥያቄዎች እውነተኛ ምላሽዎን ይስጡ። ፈቃደኛ ካልሆኑ ለጊዜዎ እናመሰግናለን።

በጥናቱ በመሳተፍዎ እና ለሰጡን ጊዜ በቅድሚያ እናመሰግናለን።

ክፍል1: ስለእርስዎ

መመሪያ: ከመረጡት ምላሽ ፊት ለፊት ባለው ሳጥን ውስጥ የ√ ምልክት በማድረግ ምላሽዎን ይግለጹ

- 1. ጾታ ወንድ ሴት
- 2. እድሜ -----
- 3. ከቤትዎ ወደዚህ ጤና ተቋም ለመምጣት ምን ያህል ርቀት ተገዝዋል?
 - ሀ) ከ10 ኪ.ሜ ያነሰ ለ) 11 -20ኪ.ሜ ሐ) 21-30ኪ.ሜ
 - መ) ከ30ኪ.ሜ በላይ ከክፍለ ሀገር ከሆነ እባክዎን ይግለጹ -----
 - ሠ) ሌላ (በ ታክሲ ፊርማታ ብዛት፣ጉዞው በሚፈጀው ጊዜ ወዘተ ...) ከሆነ ይግለጹ -----
- 4. የትምህርት ደረጃ
 - ሀ) ማንበብ እና መጻፍ አልችልም
 - ለ) መደበኛ ባልሆነ ትምህርት (በእምነት ተቋማት ወዘተ ...) በመማር ማንበብ እና መጻፍ አችላለሁ
 - ሐ) ከ 1-8 ክፍል መ) 9-12 ክፍል ሠ) ድፕሎማ
 - ረ) የመጀመሪያ ድግሪ ሰ) ማስተርስ ድግሪ እና ከዚያ በላይ ሸ) ሌላ
- 5. የመተዳደሪያ ሥራ

ሀ) የመንግስት ተቀጣሪ ለ) በግል ድርጅት ተቀጣሪ ሐ) ኤን.ጂ.ኤ (መንግስታዊ ያልሆነ ድርጅት) ተቀጣሪ መ) ነጋዴ ሠ) የቤት እመቤት

ረ) ሌላ(እባክዎን ይግለጹ?) _____

6. በዛሬው እለት በጤና ተቋሙ ውስጥ ባሉዎት ቆይታ ጊዜ ያሉዎትን ስሜት እንዴት ይገልጻሉ?

ሀ) ተጨንቂያለሁ ለ) በመጠኑ ተጨንቂያለሁ ሐ) አልተጨነኩም

7. በዛሬው እለት ላገኙት የጤና አገልግሎት ክፍያዎትን በምን መልክ ፈጸሙ ? (ከአንድ በላይ መልስ ካልዎት ያክብቡ)

ሀ) ከኪስዎ ለ) በሚሰሩበት መስሪያ ቤት የጤና ሽፋን ሐ) እንሹራንስ

መ) በነጻ ህክምና ሽፋን ሠ) ሌላ

8. ስለ ጤና አገልግሎት የሚፈልጉትን መረጃ በመደበኛነት የሚያገኙበት የመረጃ ምንጭ?

ሀ) ቴሌቪዥን ለ) ራድዮ ሐ) የህትመት ሚዲያ (ለምሳሌ፡ጋዜጣ፣ ማጋዘያዎች)

መ) ከእንተርኔት ሠ) ከ ቤተሰብ እና ከጓደኞች ረ) ሌላ

9. ከሚከተሉት አገልግሎት ሰጪ ተቋማት(ዘርፎች) በእርስዎ አስተያየት የላቀ ጥራት ያለው አገልግሎት የሚሰጠው የቱ ነው?

ሀ) ሆቴሎች ለ) ሆስፒታሎች ሐ) አየር መንገዶች መ) ባንኮች

ሠ) ሌላ(እባክዎን ይግለጹ?) _____

ክፍል 2

በእርስዎ ግምት እጅግ በጣም ጥሩ ከሆኑ ሆስፒታሎች ምን ይጠብቃሉ

መመሪያ:- የጤና አገልግሎት ፈላጊ ደንበኛ የመሆኑዎትን ልምድ ተጠቅመው ስለ አንድ እጅግ በጣም ጥሩ የሆነ ጥራት ያለው የጤና አገልግሎት ሊሰጥ ስለሚችል ሆስፒታል ያስቡ። ከላይ ከተጠቀሰው አይነት ሆስፒታል ሊያገኙ የሚፈልጉትን ከዚህ በታች የተዘረዘሩት ዐረፍተ ነገሮች ምን ያክል እንደሚገልጹሎት ይጥቀሱ። በተጠቀሰው ዐረፍተ ነገር የቀረበው ጉዳይ እጅግ በጣም አስፈላጊ ነው ካሉ 7 ቁጥርን ያክብቡ። በተጠቀሰው ዐረፍተ ነገር የቀረበው ጉዳይ በፍጹም አስፈላጊ አይደለም ካሉ 1 ቁጥርን ያክብቡ። በተጠቀሰው ዐረፍተ ነገር የቀረበው ጉዳይ በመጠኑ አስፈላጊ ነው ካሉ ከ1 እስከ 7 መሃል ካሉ ቁጥሮች ስሜትዎን (ሃሳብዎን) በተሻለ የሚገልጸውን ቁጥር ያክብቡ። ማክበብ ያለብዎት ከተሰጡት ቁጥሮች አንዱን ቁጥር ብቻ ነው። ትክክል ወይም ስህተት የሚባል መልስ

የለም። ከእርስዎ የምንፈልገው ስለ ሆስፒታል የጤና አገልግሎት ስሜትዎን (ሃሳብዎን) በተሻለ የሚገልጸውን ቁጥር ነው።

መለኪያ 7 = እጅግ በጣም እስማማለሁ

መለኪያ1 = እጅግ በጣም አልስማማም

አንድ እጅግ በጣም ጥሩ ከሆነ ሆስፒታል የሚጠብቁት							
ጥያቄ ከ1-4 ቁሳዊ እና አካል ያላቸውን ጉዳዮች ይመለከታል (Tangibles)							
1. እጅግ በጣም ጥሩ ሆስፒታሎች ዘመናዊ መልክ ያላቸው መገልገያ መሳሪያዎች ይኖሩዎታል	7	6	5	4	3	2	1
2. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ገጽታ እና ቁሳቁሶች ለእይታ ያማሩ ይሆናሉ	7	6	5	4	3	2	1
3. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ንጹህና ጽዱ ስራተኞች ይኖራቸዋል	7	6	5	4	3	2	1
4. እጅግ በጣም ጥሩ በሆኑ ሆስፒታሎች ያሉ ከአገልግሎቱ ጋር የተያያዙ ተነባቢ ጽሁፎች እና ወረቀቶች ለእይታ ሳቢና ያማሩ ይሆናሉ	7	6	5	4	3	2	1
ጥያቄ ከ5-9 ታማኝነትን ይመለከታል (Reliability)							
5. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች አንድን ጉዳይ በተወሰነለት ጊዜ ወስጥ ለመፈጸም ቃል ሲገቡ ቃል በገቡት የጊዜ ገደብ መሠረት ይከውኑታል	7	6	5	4	3	2	1
6. ደንበኞች ችግር ሲገጥማቸው እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ችግሩን ለመፍታት ልባዊ ፍላጎት ያሳያሉ	7	6	5	4	3	2	1
7. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች አገልግሎታቸውን ወዲያውኑ በሰዓቱ ይፈጽማሉ	7	6	5	4	3	2	1
8. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች አገልግሎታቸውን ለመስጠት ቃል በገቡበት ሰዓት በትክክል በሰዓቱ ይከውናሉ	7	6	5	4	3	2	1
9. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ከስህተት የጸዳ የመረጃ አያያዝ ይኖራቸዋል	7	6	5	4	3	2	1
ጥያቄ ከ10-13 ፈቃደኝነትና ፈጣን ምላሽ ሰጪነትን ይመለከታል (Responsiveness)							
10. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ስራተኞች ለደንበኞቻቸው በትክክል ምን ሰዓት አገልግሎታቸውን እንደሚያገኙ ያሳውቃሉ	7	6	5	4	3	2	1
11. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ስራተኞች ለደንበኞቻቸው ፈጣን የሆነ አገልግሎት	7	6	5	4	3	2	

ይሰጣሉ							
12. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች ደንበኞችን ለመርዳት ሁልጊዜም ፈቃደኞች ናቸው	7	6	5	4	3	2	1
13. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች ለደንበኞች ጥያቄዎች ምላሽ ለመስጠት በፍጹም ጊዜ የለኝም አይሉም	7	6	5	4	3	2	1
ጥያቄ ከ14-17 ማረጋገጫ መስጠትን ይመለከታል (Assurance)							
14. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች ባህሪያዎች በደንበኞች ላይ የራስ መተማመናቸውን ያሳድጋል	7	6	5	4	3	2	1
15. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ደንበኞች በሚያደርጉት የአገልግሎት ግብይት/ክፍያ ሲፈጽሙ ደህንነት ይሰማቸዋል	7	6	5	4	3	2	1
16. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች ደንበኞችን ዘወትር በትህትና ያስተናግዳሉ	7	6	5	4	3	2	1
17. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች የደንበኞችን ጥያቄ ለመመለስ የሚያስችል በቂ እውቀት አላቸው	7	6	5	4	3	2	1
ጥያቄ ከ18-22 የሰውን ችግር እንደራስ ማየትን ይመለከታል (Empathy)							
18. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ለእያንዳንዱ ደንበኛ ተገቢውን ትኩረት ይሰጣሉ	7	6	5	4	3	2	1
19. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ለሁሉም ደንበኞቻቸው ምቹ የሆነ የስራ ሰዓት ይኖራቸዋል	7	6	5	4	3	2	1
20. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ለእያንዳንዱ ደንበኛ ተገቢውን ትኩረት የሚሰጡ ሰራተኞች ይኖርዋቸዋል	7	6	5	4	3	2	1
21. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ለደንበኞች ፍላጎት ከፍተኛ ልባዊ ቦታ ይሰጣሉ	7	6	5	4	3	2	1
22. እጅግ በጣም ጥሩ የሆኑ ሆስፒታሎች ሰራተኞች የእያንዳንዱን ደንበኛ ልዩ ፍላጎት ይረዳሉ	7	6	5	4	3	2	1

ክፍል 3

በሆስፒታሉ በነበርዎት ቆይታ ያዩትና የተረዱት

መመሪያ፡- ከዚህ በታች የተዘረዘሩት ዐረፍተ ነገሮች የሆስፒታሉን አገልግሎት አሰጣጥ አስመልክቶ በሆስፒታሉ በነበርዎት ቆይታ ያዩትና የተረዱትን የእርስዎን ስሜት(ሃሳብ) የተመለከቱ ናቸው። ለእያንዳንዱ ዐረፍተ ነገር ጥቁር አንበሳ ሆስፒታል በዐረፍተ ነገሩ የተገለጸውን ጉዳይ በምን ያክል መጠን አለው ብለው እንደሚያምኑ ሃሳብዎን ይግለጹ። 7 ቁጥርን ማክበብ ማለት ሆስፒታሉ የተገለጸውን ጉዳይ እንዳለው እጅግ በጣም እስማማለሁ ማለት ሲሆን 1 ቁጥርን ማክበብ ማለት እጅግ በጣም አልስማማም ማለት ነው። ከ 1 እስከ 7 ካሉት ቁጥሮች የስሜትዎን(የሃሳብዎን) መጠን የሚገልጸውን ማንኛውንም ቁጥር ማክበብ ይችላሉ። ለአንድ ዐረፍተ ነገር ማክበብ ያለብዎት ስሜትዎን(ሃሳብዎን) በተሻለ ይገልጻል የሚሉትን ከ 1 እስከ 7 ካሉት ቁጥሮች አንዱን ብቻ ነው።

መለኪያ 7 = እጅግ በጣም እስማማለሁ

መለኪያ1 = እጅግ በጣም አልስማማም

በጥቁር አንበሳ ሆስፒታል ያዩትና የተረዱት							
ጥያቄ ከ1-4 ቁሳዊ እና አካል ያላቸውን ጉዳዮች ይመለከታል (Tangibles)							
1. ጥቁር አንበሳ ሆስፒታል ዘመናዊ መልክ ያላቸው መገልገያ መሳሪያዎች አሉት	7	6	5	4	3	2	1
2. የጥቁር አንበሳ ሆስፒታል የተቋሙ አካባቢያዊ ገጽታው እና ቁሳቁሶች ለእይታ ያማሩ ናቸው	7	6	5	4	3	2	1
3. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ንጹህና ጽዱ ናቸው	7	6	5	4	3	2	1
4. የጥቁር አንበሳ ሆስፒታል ከአገልግሎቱ ጋር የተያያዙ ተነባቢ ጽሁፎች እና ወረቀቶች ለእይታ ሳቢና ያማሩ ናቸው	7	6	5	4	3	2	1
ጥያቄ ከ5-9 ታማኝነትን ይመለከታል (Reliability)							
5. ጥቁር አንበሳ ሆስፒታል አንድን ጉዳይ በተወሰነለት ጊዜ ውስጥ ለመፈጸም ቃል ሲገባ ቃል በገባው የጊዜ ገደብ መሠረት ይከውናል	7	6	5	4	3	2	
6. እርስዎ ችግር ሲያጋጥምዎት ጥቁር አንበሳ ሆስፒታል ችግሩን ለመፍታት ልባዊ ፍላጎት ያሳያል	7	6	5	4	3	2	1
7. ጥቁር አንበሳ ሆስፒታል አገልግሎቱን ወዲያውኑ በሰዓቱ ይፈጽማል	7	6	5	4	3	2	1
8. ጥቁር አንበሳ ሆስፒታል አገልግሎቱን ለመስጠት ቃል በገባበት ሰዓት በትክክል በሰዓቱ ይከውናል	7	6	5	4	3	2	1
9. ጥቁር አንበሳ ሆስፒታል ከስህተት የጸዳ የመረጃ አያያዝ እንዲኖረው አጥብቆ ይሰራል	7	6	5	4	3	2	1

ጥያቄ ከ10-13 ፈቃደኝነትና ፈጣን ምላሽ ሰጪነትን ይመለከታል (Responsiveness)							
10. የጥቁር አንበሳ ሆስፒታል ሰራተኞች በትክክል ምን ሰዓት አገልግሎትዎን እንደሚያገኙ ያሳውቁዎታል	7	6	5	4	3	2	1
11. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ፈጣን የሆነ አገልግሎት ይሰጡዎታል	7	6	5	4	3	2	1
12. የጥቁር አንበሳ ሆስፒታል ሰራተኞች እርስዎን ለመርዳት ሁልጊዜም ፈቃደኞች ናቸው	7	6	5	4	3	2	1
13. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ለእርስዎ ጥያቄዎች ምላሽ ለመስጠት በፍጹም ጊዜ የለኝም አይሉም	7	6	5	4	3	2	1
ጥያቄ ከ14-17 ማረጋገጫ መስጠትን ይመለከታል (Assurance)							
14. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ባህሪይ በደንበኞች ላይ የራስ መተማመናቸውን ያሳድጋል	7	6	5	4	3	2	1
15. በጥቁር አንበሳ ሆስፒታል በሚያደርጉት የአገልግሎት ግብይት ደህንነት ይሰማዎታል	7	6	5	4	3	2	1
16. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ዘወትር በትኩረት ያስተናግዳዎታል	7	6	5	4	3	2	1
17. የጥቁር አንበሳ ሆስፒታል ሰራተኞች ለእርስዎ ጥያቄዎች መልስ ለመስጠት የሚያስችል በቂ እውቀት አላቸው	7	6	5	4	3	2	1
ጥያቄ ከ18-22 የሰውን ችግር እንደራስ ማየትን ይመለከታል (Empathy)							
18. ጥቁር አንበሳ ሆስፒታል ለእርስዎ ተገቢውን ትኩረት ይሰጣል	7	6	5	4	3	2	1
19. ጥቁር አንበሳ ሆስፒታል ለሁሉም ደንበኞቹ ምቹ የሆነ የስራ ሰዓት አለው	7	6	5	4	3	2	1
20. ጥቁር አንበሳ ሆስፒታል ለእርስዎ ተገቢውን ትኩረት የሚሰጡ ሰራተኞች አሉት	7	6	5	4	3	2	1
21. ጥቁር አንበሳ ሆስፒታል ለእርስዎ ፍላጎት ከፍተኛ ልባዊ ቦታ ይሰጣል	7	6	5	4	3	2	1
22. የጥቁር አንበሳ ሆስፒታል ሰራተኞች የእርስዎን ልዩ ፍላጎቶች ይረዳሉ	7	6	5	4	3	2	1

ክፍል 4: አጠቃላይ የእርካታ መጠን

<p>መመሪያ: በጥቁር አንበሳ ሆስፒታል በአጠቃላይ በአገልግሎት ጥራት የተሰማዎትን ስሜት ከዚህ በታች ከ 7 እስከ 1 አንድ ቁጥር ብቻ በማክበብ ይግለጹ። 7 ማለት እጅግ በጣም ረክቻለሁ። 1 ማለት እጅግ በጣም አልረካሁም።</p>							
አጠቃላይ የእርካታ መጠን	7	6	5	4	3	2	1

ክፍል 5:

ነጥብ መስጫ ጥያቄዎች

መመሪያ:- ከዚህ በታች የተዘረዘሩት አምስት ነጥቦች ስለሆስፒታሎች እና ስለሚሰጡት የጤና አገልግሎት የሚያመለክቱ ናቸው። የአንድን ሆስፒታል የጤና አገልግሎት ጥራት ሲገመገሙ እነዚህ ነጥቦች ለእርስዎ ምን ያክል አስፈላጊ እንደሆኑ ካላቸው አስፈላጊነት አንጻር ለአምስቱም 100 ፐርሰንትን በመከፋፈል ይገባዎል ያሉትን ድርሻ ድርሻ ነጥብ ይስጧቸው። ይበልጥ አስፈላጊ ነው ብለው ላመኑት ከፍ ያለውን ነጥብ ይስጡት።

ማሳሰቢያ:- ለአምስቱም የሰጡት ነጥብ ድምር ውጤት 100 መሆን አለበት።

1. የሆስፒታሉ ቁሳቁሶች፣ መገልገያ መሳሪያዎች፣ ሠራተኞች (Tangibles) ገጽታ (ከጥያቄ 1-4 የተገለጹት ጉዳዮች)	___ ነጥብ
2. የሆስፒታሉ ቃል የገባውን አገልግሎት በታማኝነትና በትክክል የመፈጸም ብቃት (Reliability) (ከጥያቄ 5-9 የተገለጹት ጉዳዮች)	___ ነጥብ
3. የሆስፒታሉ ደንበኞችን ለመርዳትና ፈጣን አገልግሎት ለመስጠት ያለው ፈቃደኝነት (Responsiveness) (ከጥያቄ 10-13 የተገለጹት ጉዳዮች)	___ ነጥብ
4. የሆስፒታሉ ሰራተኞች እውቀት፣ ትህትና እና ለደንበኛው እምነትና በራስ መተማመንን የመፍጠር ችሎታቸው (Assurance) (ከጥያቄ 14-17 የተገለጹት ጉዳዮች)	___ ነጥብ
5. የሆስፒታሉ ለእያንዳንዱ ደንበኛ በየግሉ የሚሰጠው ትኩረት፣ እንክብካቤ እና የየሰውን ችግር እንደራስ የማየት ሁኔታ (Empathy) (ከጥያቄ 18-22 የተገለጹት ጉዳዮች)	___ ነጥብ
የአምስቱ ድምር መምጣት ያለበት	100

Annex III: Health Authority Permission Request Letter

January, 2019

Dear Sir/Madam,

Subject: Request for Permission of Research

I am a post graduate student at Addis Ababa University, college of business and economics, department of management. As a partial fulfillment of the requirements for my MBA degree I plan to conduct research at Black Lion Hospital/Saint Paul Hospital/MCM (Korean) Hospital/Hayat Hospital on the topic “Comparative Assessment of Healthcare Service Quality and Customer Satisfaction in Some Selected Public and Private Hospitals in Addis Ababa.” using a descriptive research design. I believe its findings will be useful to the hospital, health sector, government in general and for the patients. The research will be conducted in the premises of the hospitals with patients who are registered and received healthcare services. The main data collection method will be by use of a research questionnaire under supervision of my advisor Dr. Mohammed Seid.

I kindly request the approval of the hospital to carry out this research. I have herewith attached a copy of the research proposal.

Yours sincerely,

Wondwosen Kassa