

# CHAPTER 1

## INTRODUCTION

The question of interest in this dissertation is the determinants of the loyalty in service sector especially in medical services in Sudan. As such, this introductory chapter presents the background information on healthcare service with special emphasis on the Sudanese health sector. This is followed by the problem statement, research questions and objectives. It also highlights the significance and scope of the study. The chapter concludes with the definitions of the terms and organization of the chapters.

### 1.1 Background of the Study

This section provides the background information regarding health care in global as well as Sudanese context. In addition, discusses the expected role in mitigating these problems and providing quality services and customer loyalty to hospitals.

#### 1.1.1 health care in Sudan

Total population (2013)	37,964,000
Gross national income per capita (PPP international \$, 2013)	2,370
Life expectancy at birth m/f (years, 2012)	61/65
Probability of dying under five (per 1 000 live births, 0)	not available
Probability of dying between 15 and 60 years m/f (per 1 000 population, 2012)	276/214
Total expenditure on health per capita (Intl \$, 2012)	159
Total expenditure on health as % of GDP (2012)	7.3

Source: [www.who.com](http://www.who.com)

## **1.1.2 Visual Impairment and Blindness**

In 2010, the number of people visually impaired was estimated to be 285 million, of whom 39 million were blind. This is a reduction in the number of people previously estimated as being visually impaired in 2004. This can be due to better data, but also due to interventions which have reduced the number of people with avoidable visual impairment.

An estimated 120 million are visually impaired because of uncorrected refractive errors, Refractive errors (far and near sightedness) are among the simplest to correct cases of visual impairment; almost all of them can be corrected and normal vision can be restored with eyeglasses, contact lenses or refractive surgery.

90% of visually impaired people live in low- and middle-income countries,

For these people the access to preventive care education, curative services and quality rehabilitation is not yet universally available.

An estimated 82 % of all people with blindness are over 50 years old, this number is expected to increase with the world's population aging. The leading cause of blindness for these people is cataract which is a curable condition.

28% of people living with moderate and severe visual impairment are in their working years, Visual limitations impact the ability of working people to conduct a productive life. This impacts their ability to find employment and support themselves and provide for their families.

Retinal diseases are the main causes of visual impairment in upper-middle- and high-income countries, there is a need to target the exposure to risk factors

(smoke, genetic pre-disposition, systemic diseases) and perform regular eye examinations to allow an early diagnosis of the disease, and early treatment to avoid or delay the onset of diminished visual function.

Up to 80% of visual impairment and blindness in adults is preventable or treatable,

In lower- and lower-middle-income countries the majority of causes of visual impairment are preventable or curable. To achieve a substantial reduction, the general public needs to be educated in preventive measures. The health care system needs to include eye care services to achieve universal health coverage.

The 66th world health assembly approved an action plan which aims to achieve a global reduction of avoidable visual impairments of 25% by 2019. This is an achievable target which requires the collaboration of governments, development agencies, private sector and NGOs.

The major causes of blindness in children include cataract, retinopathy of prematurity (ROP), and vitamin A deficiency. Approximately half of all childhood blindness can be avoided or treated. A global programmer in 30 countries, through a partnership between WHO and Lions Clubs International, is providing eye care services to preserve and restore sight in children.

Not: who, Fact Sheet N°282, Updated August 2014

### **1.1.13 Al-basar International Foundation (BIF):**

Established in 1989, Al-basar International Foundation (BIF) is a leading non-government, non-profit organization, working in the field of prevention of blindness. BIF was launched with the vision of a world free from

avoidable causes of blindness. We provided therapeutic, preventative and educational programs to manage blindness and visual impairment in developing countries on a regional and international scale.

Achievements during the last 23 years include: 24 self-sustained specialized eye hospital, conduct more than 900 Free out-reach eye care delivery (eye camps), covered 42 countries in Asia and Africa, 2 H.R. development centers, one in Asia (Pakistan) and the other in Africa (Sudan).

Our Mission: to save the sight of the most vulnerable and disadvantaged. We combat the causes and consequences of blindness by establishing programs based on evidence and research in vision and visual rehabilitation.

Our Vision; Al-Basar International foundation envisions a world where all individuals specially those living in the developing world and suffering from visual disabilities have access to eye healthcare and are given equal and fair opportunities of treatment that will improve their quality of life.

Principals: Al-Basar International Foundation strategic goals conform on following guiding principles in order to fulfill our vision and mission. These principles are always at the heart of all the policies and guidelines and will reflect in the operations of the foundation, its programs and commitments: equal access to eye healthcare, ensuring sustainability, collaboration and developing partnership with stake-holders in the field, ensuring quality and cost-effectiveness, ensuring equal and fair opportunities of treatment that will have positive impact on their quality of life.

Campaigns, medical treatment (camp)

The foundation operates medical campaigns (camp) the duration of each camp week or so where: View the 5000 - 7000 people The eyes of a 300-400 distribution of 1000 eyeglasses It was during the last 23 years working in 42 countries, was held in which 924 medical camp, preview and treatment was more than 2 million people, and conducted more than 800 thousand transactions eyes, and distributed more than 800 thousand eyeglasses and medication.

Established foundation hospitals specialized in the field of ophthalmology, equipped with the latest medical equipment and qualified cadres specialized for the treatment of all diseases that cause blindness. The hospital is also a center for the training of medical staff of doctors, technicians, and a permanent center for the start of medical campaigns (camps) in the country of origin or where Migeorha, Has been the establishment of 25 hospitals in the continents of Asia and Africa.

Given the acute shortage of qualified technical personnel in the field of ophthalmology in most countries of Asia and Africa, came the idea of the construction of technical institutes to train the workforce of doctors, technicians, nurses and rehabilitation in this area. Two institutes were established in: Sudan, Pakistan Support Al-Basar International Foundation!! "62% of the "prevention of blindness" activities in Sudan is carried out by BIF through the eye hospitals and the eye-camps that covers all Sudan" Dr Ahmed Belal Othman, Sudanese health minister, our work simply couldn't happen without our amazing supporters who raise the money that funds it. Please join them in: fundraising to transform millions of blinds' lives across the world. Advocate for Al-Basar.

Al-Basar International Foundations is one of the pioneer medical and educational foundation in the field of Ophthalmology in Sudan. It started its activity in Saudi Arabia in 1989 in highly complicated circumstances and challenges, but it was

able - in a short time - to jump to the peak, leadership, and progress in the field of Ophthalmology. This refers to Allah and then to the virtue of its rational management which accommodates the factors of success. The achievements of the foundation have found a wide acceptance by Sudanese government and people, as this refers to the services that performed by the Foundation, which are represented in the medical services in the field of prevention of blindness and eye diseases, through free eye camps, and specialized eye hospitals that established by the Foundation. The Foundation has also succeeded to a large extent in the field of treatment domestication in the country utilizing its qualified medical cadres.

The eye camps serve several purposes, first, camps serve the humanitarian, charity and service aspects in areas which these camps are conducted in. Therefore, the free eye camps are considered as a strong support for the program of Vision 2020, the strategy for combating blindness in the world, adopted by the World Health Organization. We may mention the purposes of camps as follows:

- 1 / Deliver ophthalmic services.
- 2 / Achieve the right for sight for all.
- 3 / Prevention of Blindness and lower its prevalence.
- 4 / Delivery of medical services to the needy in their areas.
- 5/ Health education in Ophthalmology
- 6 / Training of medical staff in Ophthalmology
- 7 / Attract benefactors for the treatment of the needy
- 8 / providing skilled cadres for the treatment of patients
- 9 / Alleviate suffering from eye patients
- 10/ Fill the gap in the poor Islamic countries.

Since its launch in Sudan in 1993, Al-Basar International Foundation carried out more than 374 camps in different states of Sudan, in addition to the conduction of more than 50 camps in the African countries. These camps have been set out from Sudan, with qualified staff that included Sudanese medical specialists and technicians. There are also the clinical day's activity, which has been implemented by the Foundation in cooperation and coordination with the institutions of public and private sector, as well as the civil society organizations; that represented in organizations, corporations and companies. Also Al-Basar provides medical examination services for students in various basic school educational institutions. More than 1875 schools were covered by medical examination. The total number of the students who received ophthalmic care in Khartoum state was 700,740.

In addition to that, the Foundation hospitals visitors reach more than 1,000 patients a day. The number of surgeries performed in our hospitals is about 100 micro- surgeries. Retina, cornea and eye orbit are the prominent surgeries, in addition to cataract and DCR. Surgeries are done in nominal cost, compared to the cost of these operations in Sudan, and particularly in the private clinics. This means that Makkah hospitals have contributed much to domesticate the treatment of eye diseases in Sudan. That is why our symbiosis hospitals are attended by various societal sectors of low-income people, as well as the statesmen, businessmen and celebrities from the Sudanese community, besides people from neighboring countries such as Chad, the Republic of Central Africa, Saudi Arabia and United Arab Emirates.

The Foundation is officially recorded within the voluntary organizations working in the country, and registered with the Humanitarian Aid Commission, through

which it receives facilities, as well as help to achieve our message of patient's treatment. His Excellency, the President of the Republic of Sudan, for his awareness of the blindness control importance, he launched four hospitals as affiliated branches of Al-Basar International Foundation in Sudan; in each of: Damazin, Kassala, Khartoum and Nyala. The government has commended

The contributions and the role of Al-Basar International Foundation in controlling and reducing the rate of blindness in the Sudan. The Foundation was awarded by four medals of the duty of the first layer, as a fulfilment and recognition for its role and successes of conducting more than 2,000 surgeries per month. Many of these surgeries were performed abroad, by the virtue of its complexity, the Foundation helped to domesticate the treatment inside the country

Also the Foundation concern to develop and improve its performance, this qualified the foundation to be awarded by the ISO certification and quality control.

In addition; the Foundation has achieved great successes in the implementation vision 2020 plan and programs which is concerns with prevention blindness in the world.

The Foundation now has more than 13 medical micro specialties, using the latest medical instruments. Our hospitals includes laboratories, clinics, modern pharmacies, Medical Research centre, and an integrated sustainable medical training unit. (The latter two in Makkah Eye complex - Khartoum)



## 1.2 Statement of Problem

There is increased recognition that the ultimate aim of measuring customer satisfaction should be customer loyalty of high customer satisfaction will lead to an increase loyalty to the firm and that the customers will be less vulnerable to initiatives from the competition. (Eugene & Jamie, 2000). Service sponsors are increasingly on the development of loyalty, as they found it helps increase the income, and leads to an increase gain market share and profitability, research that many of the benefits of customer loyalty carried, such as to make direction for retailers to follow-up has proved, as well as developing and maintaining a loyal customer base, customer loyalty and significant corporate assets. They make relatively more of their long positions in the store, "first option" of customers who switch, and they are more prepared to spend the highest amount compared to customers less loyalty. In addition, the companies that build loyal customer base are able to reduce operational and marketing costs. Therefore, to ensure the long-term survival or to stand out from the crowd and argued that firms pay more attention to customer loyalty and financial performance of the organization in the habit to be driven by increased customer loyalty. (Yuen and Chan, 2010).

Achieve satisfaction can be a complex and risky process, roles in meeting service by service personnel and consumers contribute to it, In the same way that customer satisfaction is quite hard to find, and dissatisfied customers is also a quite elusive creature, While one should understand the extent of customer satisfaction (i.e. how much customers are satisfied), may be more important to understand the underlying reason for satisfaction / dissatisfaction. In general, the response to a satisfying experience contains elements of both emotion and

behavior, so customer satisfaction will result in a positive emotional state, these in turn mediate the response between customer satisfaction and behavioral responses to positive word of mouth, ie, the behavior of the complaint and repeat purchase. (Peter and Angela 1993).

It is clearly important to know with which type of expectations the customer compares the performance of the particular product or service, some types of expectations or standards seem to be better than others at explaining satisfaction. In addition relationships between performance and satisfaction may change depending on the standard used and the consumer may also use several standards simultaneously, so this is a very complex area where there are many diverse factors and perspectives within the literature, In the services domain there is general agreement that consumers may have both desired and adequate service level expectations and that there is a zone of tolerance between these levels (Gilmore, 2003) perceived service quality has been defined as the discrepancy between what the customer feels that a service provider should offer and his or her perception of what the service firm actually offers (Parasuraman, zithmal &berry 1988).

Exactly, this study attempts to study the effect of the interaction between the dimensions of the perceived quality of service (reliability, responsiveness, assurance, empathy tangible), and brand image and customer satisfaction mediating variable on customer loyalty. Many studies examined impact of perceived service quality on customer satisfaction. (Ravichandran, et. el 2010; Hossain and Islam 2012; Lianxi Zhou 2004).

Many studies examined the mediation effect of customer satisfaction on the relationship between perceived service quality and customer loyalty. (Pollack

2009; Ehigie & Taylor 2009; caruana 2002; Sivadas and Prewitt 2000; Demirci Orel AliKara 2014; Kheng, Mahamad & Mosahab 2010; ti bei& chiao2001).

Limited studies have addressed the influence of the mediation of customer satisfaction on the relationship between brand image and customer loyalty. (Liao 2012; Abdul Salam, Shawki Weill copper 2013). To the best of our knowledge no study examined the interaction effect of perceived service quality and brand image on customer satisfaction and customer loyalty.

Limited studies examined impact of perceived service quality on brand image (Malik, Ghafoor and Iqbal 2012). To date, there are very limited studies attempting to investigate the impact of the relationship variables on customer loyalty especially from developing countries perspective. Given this background, this study attempts to answer the issues of perceived service quality, customer satisfaction and customer loyalty in the Sudanese healthcare.

### **1.3 Research Questions**

This research attempts to answer the following questions:

1. To What extent does the interaction effect of perceived service quality and brand image impact customer satisfaction?
2. What is the relationship between customer satisfaction and customer loyalty?
3. What is the gap between customer expectation and customer perception?
4. What is the relationship between perceived service quality and customer loyalty?
5. What is the relationship between perceived service quality and customer satisfaction?
6. What is the relationship between brand image and customer satisfaction?

7. What is the relationship between brand image and customer loyalty?

#### **1.4 Objectives of the Study**

This study to determine how the different relational and psychic distance variables influence the health performance of the Sudanese medical Institutions.

The specific objectives to:

1. To Examine the gap between customer expectation and customer perception.
2. To Study the relationship between perceived service quality and customer loyalty.
3. To study the relationship between perceived service quality and customer satisfaction.
4. To Examine the relationship between brand image and customer satisfaction.
5. To Study the relationship between brand image and customer loyalty
6. To determine the interaction effect of service quality and brand image on customer satisfaction.
7. To Study the relationship between customer satisfaction and customer loyalty.
8. To test the mediating effect of customer satisfaction between the interaction effect of service quality and brand image on customer loyalty.

## **1.5 Significance of the Study**

This study will contribute knowledge to the theory practice of service quality and marketing particularly for medical institutions.

Its theoretical significance will add more insights compared to previous empirical studies done in this area, especially on the issue of service quality, brand image, customer satisfaction and customer loyalty.

Scientific relevance of this research is that it contributes to the theory development of customer loyalty. There is a lot of research done to find the possible (inter)relationships between service quality, customer satisfaction and customer loyalty. However, most research results are conducted in specifically business-to-consumer industries (for instance the hotel and banking sector of Asia, the Middle East and America).

For policy makers as medical institutions, this study provides a framework on the determinants of customer satisfaction and loyalty in developing countries

Previous studies indicated that the quality of service leads to customer satisfaction and customer satisfaction leads to loyalty (parasuraman; et all 1988) but very few studies pointed to the link between brand image with customer satisfaction. These contributions are taken in the form of:

1. Attempt to validate and develop a measurement for service quality dealing with healthcare.
2. This study tests the impact of the variables (service quality, brand image, customer satisfaction and customer loyalty) on health care services within developing countries.
3. This study examines the influence of interaction (service quality, brand image) on the customer satisfaction and loyalty. Empirical studies on healthcare

services, developing country are confined the experience of institutions from advanced nations, this study fill in the gap of looking into experience of healthcare to this region from developing nation's perspective.

## **1.6 Scope of the Study**

This study limits itself to healthcare institutions and their healthy performance in Arabic nations (Sudan) it focused on the variables perceived service quality, brand image, customer satisfaction and customer loyalty. It has been selected Makkah of Ophthalmology hospitals to study for her work in Asia and Africa for more than 20 years with the increase in the number of patients as in Figures 1.1 and 1.2.

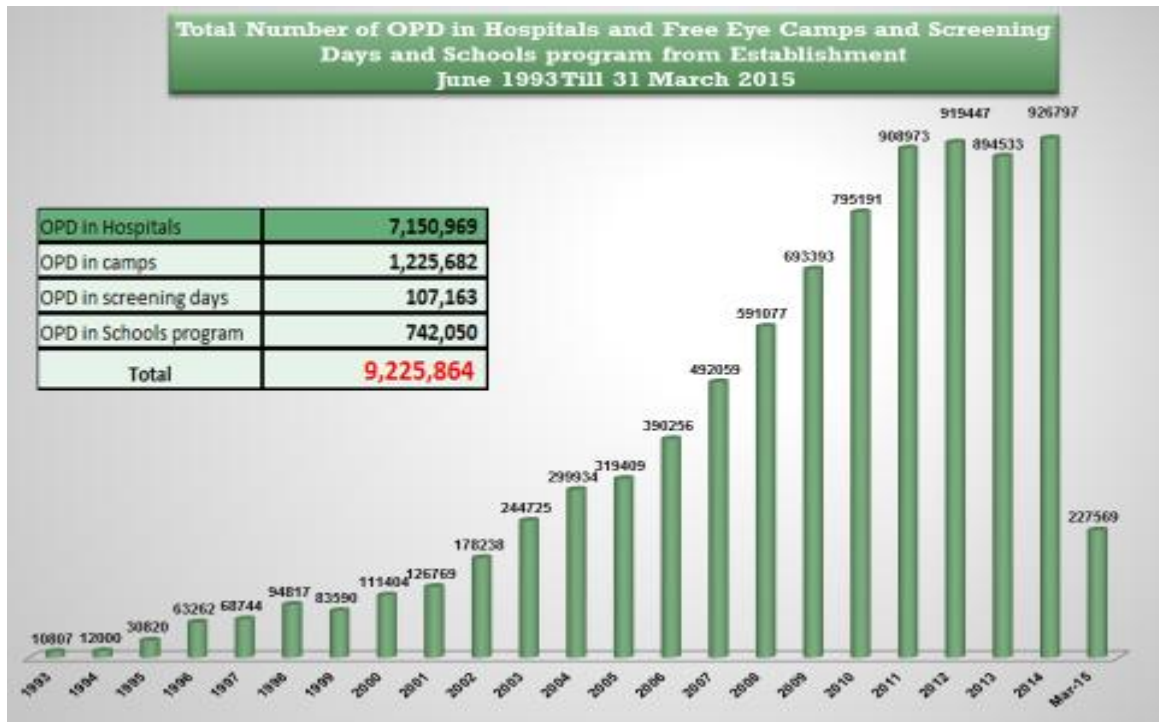


Figure 1.1 by Makkah hospital

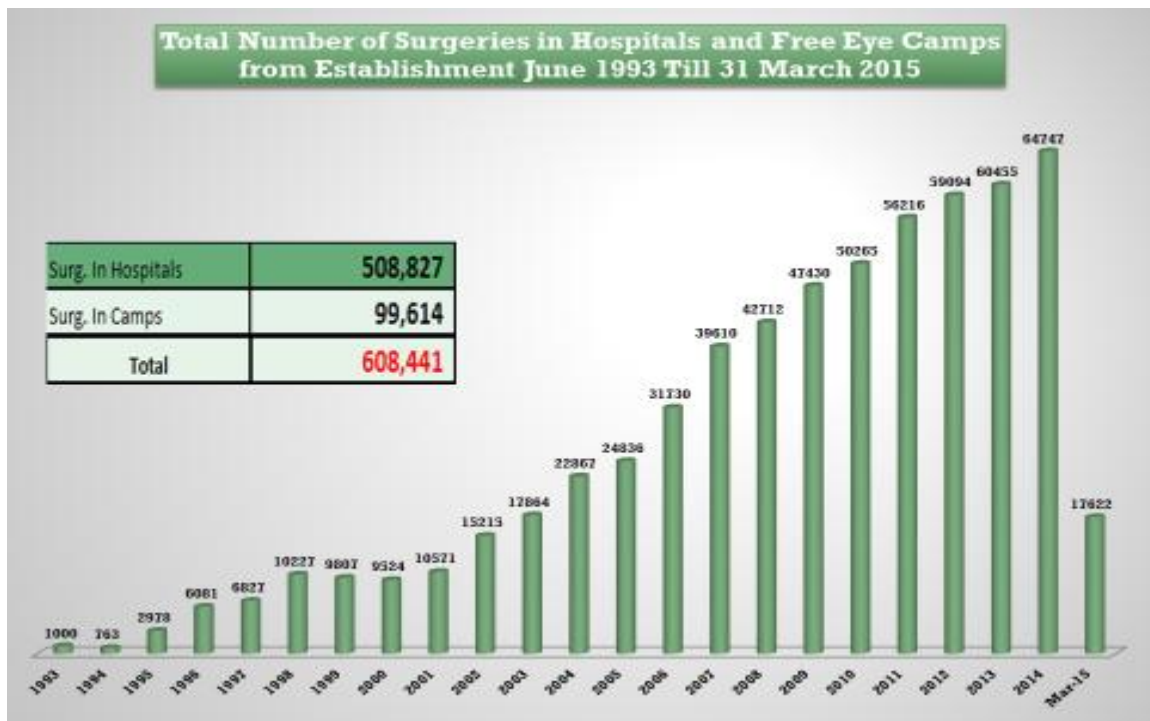


Figure 1.2 by Makkah hospital

## 1.7 Definition of Terms

These several key terms are repeatedly mentioned throughout this study and are operationally defined as:

1. **Perceived service quality** defined it as the consumer's evaluation of the service performance received and how it is compared with their expectation .SaifUllah Malik (2012) ,
2. **Service quality** is the consumer's evaluative judgment regarding the superiority of service performance (Zeithaml, 2000).
3. **service quality perception** is a judgment whether the service performed for a patient was the most appropriate to produce the best result that could be reasonably expected by the patient and whether those services were delivered with due attention to the doctor/patient relationship . Elleuch Amira (2008).
4. **Customer expectation:** “are beliefs about service delivery that function as standards or reference point against which performance is judged” (Zeithaml, and Bitner, 1996).
5. **Service quality dimensions;** The SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality. It has five generic dimensions (Moghadam & Amiresmaili 2009):

5.1 **Tangibles.** Physical facilities, equipment and appearance of personnel.

5.2 **Reliability.** Ability to perform the promised service dependably and accurately.

5.3 **Responsiveness.** Willingness to help customers and provide prompt service

5.4 **Assurance.** Competence, courtesy, credibility, security, knowledge and courtesy of employees and their ability to inspire trust and confidence



5.5 **Empathy.** Access, communication, understanding the customer, caring and individualized attention that the firm provides to its customers

6. **Customer satisfaction defined:** as the “customers’ evaluation of a product or service in terms of whether that product or service has met their needs and expectations”. Anand Kumar Jaiswal (2008) Zeithaml and Bitner (2010).
7. **Brand image is defined:** Keller 1993: "perceptions about a brand as referred to any brand aspect within the consumer memory“Hsang & ching & cou (2011).
8. **Customer loyalty defined** as: “Loyalty is an attitude; it refers to positive feelings towards a brand in addition to repurchasing time after time” (Yuen and Chan, 2010).

## **1.8 Organization of the study Chapters**

The study consists of five chapters. The first chapter presents a brief introduction on the background of the study, it reviews the Sudanese services healthcare, introduces the study problem, objectives, significant and the scope of the study. Chapter two reviews the literature on different angles such as service quality, customer expectation, customer satisfaction and brand image and customer loyalty. Chapter three illustrates the theoretical framework and research methodology. Chapter four presents the survey findings and the analysis. Chapter five concentrates on the discussion of the findings and conclusion.

# CHAPTER 2

## LITERATURE REVIEW

### Introduction

This chapter comprises of six main parts. The first part covers the different factors associated with customer loyalty. Part two covers service quality and service quality models. Part three covers customer satisfaction, whereas part four covers brand image, and part five covers the relationship between service quality and customer satisfaction and customer loyalty and part six the relationship between brand image and customer satisfaction and customer loyalty and the summary of the chapter then follows.

### 2.1 Customer Loyalty:

Many studies have been conducted to examine customer loyalty phases or types that are associated with institutions health success. The studies date back to the innovative work of Eugene and Jamie & Baker-Prewitt (2000) who attempted to identify the different types of customer's loyalty such as the cognitive loyalty, affective loyalty conative loyalty and action loyalty.

The first phase as consumers and cognitive loyalty may continue to patronize one store (more than others) on the basis of some good reason, for example store one has a lower price or better service than other stores. However, loyalty may not be very strong during this stage that once another store offers more attractive or better service prices may be very likely to split the consumer. Loyalty at this point is the motive behind the purely by functional characteristics and commitment to consumers about the store may not be very strong. Consumers may switch during this phase when faced with a non-competitive performance.

We look at the consumer assessment of the quality of service in the form of a good indicator of cognitive loyalty. (CLARA. A. & JAGDIP S, 2005)

The next phase of e loyalty is emotional loyalty, it is assumed that a series of cognitive processes precede emotional decisions. This is stronger than loyalty in that in addition to cognition, motivation and loyalty in this stage of the prior attitudes toward the shop, and at a later stage in the form of satisfaction. This phase of loyalty is the strongest in the " counter-arguments " alone will not offset the loyalty of the consumer because it is also based on the effect. At this stage, the loyalty of the consumer is the function of each position and satisfaction. Consequently, the use of the consumer in the relative position and satisfaction evaluation to measure the emotional loyalty, the third phase of loyalty in the form of loyalty Oliver is my intention. At this stage, the consumer holds the " obligation to buy " The intentions of this stage repurchase and through measures such as the recommendation store for others. The final phase of loyalty is loyalty to conduct this work " is necessary as a result of the confluence of the previous three phases (Eugene & Jamie. Baker-Prewitt, 2000).

A number of integrative reviews were conducted within the area of customer loyalty (Eugene & Jamie& Baker-Prewitt 2000; Wei-Ming & Chia-Mei & Chin-Yuan & Kuo-Chang 2011; Euphemia& YuenSian& Chan 2010; Jacob & Kai Kristensen 2008; Peter and Nicole 2006; Daniel & Deirdre Mylod 2009 . Hardeep Chahal (2008). The general objective of these review studies was to examine the different trends in studying customer loyalty phenomena and identify the various weaknesses and strengths of the previous works. Furthermore, these reviews provided directions for future studies. Table 2.1 presents the findings and number of studies included in each review study.

Table 2.1

*Findings of the Major Review Studies in customer loyalty.*

Study	Major Findings
Eugene S & Jamie L. Baker-Prewitt (2000)	Satisfaction affects the relative position. Position of the relative position and influence on the likelihood of satisfaction recommendation but only plays a role in influencing the re-purchase. There was no significant impact on the relative position to re-purchase. Position of both satisfaction and relative position and does not have a direct impact on loyalty. So it seems that both the position and the relative influence of satisfaction and likelihood to recommend, which in turn enhance both loyalty and repurchase
Wei Ming O & Chia Mei S & Chin Yuan C & Kuo Chang ang (2011)	Customer loyalty programs have a partially supported positive impact on relationship quality; service quality has a positive impact on relationship quality; customers with a positive relationship quality impact their relationship commitment; the higher the relationship commitment, the higher the loyalty; and a customer loyalty program partially support a positive impact on loyalty.
Euphemia F.T. YuenSian S.L. Chan (2010)	The study shows that only three dimensions (Physical aspects, reliability and problem solving) are positively related to customer loyalty to store, and one dimension (personal interaction) of retail service quality is positively associated with customer loyalty to staff. By contributing to the body of knowledge in this area
Jacob E & Kai Kristensen (2008)	. Full-service customers are more satisfied. . Satisfaction is a better predictor for future business potential than

	<p>loyalty.</p> <p>. Image and expectations are the main drivers for full-service status.</p> <p>Coefficients and significance levels for image and expectations.</p> <p>Image expectations. Small company</p> <p>Large company, Total quality management.</p> <p>The importance of image and expectations depend on company size.</p> <p>. Older customers have a higher tendency of full-service status.</p> <p>. Women tend to have a higher tendency of full-service status.</p>
Daniel P. Kessler & Deirdre Mylod (2009)	<p>There is a statistically significant link between satisfaction and loyalty. Although satisfaction's effect overall is relatively small, contentment with certain hospitalization experience May be important. The link between satisfaction and loyalty is weaker for high-satisfaction hospitals, Consistent with other studies in the marketing literature.</p>
Hardeep Chahal(2008)	<p>Among the three patient loyalty components, using provider again for the same services is found to be more significant followed by using provider again for different services and recommending providers to others in relation to overall service quality as dependent variable, and beta values are figured out as 0.15, 0.12 and 0.09 respectively.</p>
Li-Wei Wu(2011)	<p>The results show that a wider level of the ZOT strengthens the positive effect of inertia on customer loyalty, while also reducing the positive effect of satisfaction. The results also indicate that the negative moderating effect of the ZOT on the relationship between</p>

	satisfaction and customer loyalty will reduce as alternative attractiveness increases. In contrast, the positive moderating effect of the ZOT on the relationship between inertia and customer loyalty will reduce as alternative attractiveness increases.
Shirshendu G and Sanjit Kumar R (2010)	The paper identifies four generic service quality dimensions in the technology-based banking services – customer service, technology security and information quality, technology convenience, and technology usage easiness and reliability. It was found that customer service and technology usage easiness and reliability have positive and significant impact on customer satisfaction and customer loyalty. It was also found that technology convenience and customer satisfaction have significant and positive impact on customer loyalty.

*Source: prepared By Researcher.*

Focused Lisa O'Malley [1998] to assess the extent of loyalty schemes can really build loyalty. In order to do so, are four distinct categories of loyalty as defined in the literature. Due to the criticism of existing loyalty schemes and concluded that these schemes have an important role in cases that do not loyalty or allegiance is clearly false. However, in terms of sustained loyalty is paramount and plans and customer loyalty with importance only as part of a proposal for a coherent value.

Euphemia& Yuen and Sian & Chan (2010), the study of the impact of the quality of retail service and product quality to customer loyalty, to study the effects of the dimension of service quality retail (ie, personal interaction, politics, physical aspects, reliability and problem solving) and the quality of the product dimension (including features, aesthetics and perceived customer quality) on customer loyalty. It focuses on the storage and retail relations staff levels,

particularly on a particular sector of the retail industry and the retail sector curtains. The study shows that only three dimensions (physical aspects, reliability and problem solving) are linked positively to customer loyalty to the store, and after one (personal interaction) of retail service quality has a positive relationship with the customer loyalty of the staff.

Eugene taught Sivadas and Jamie Baker (2000) using a random national telephone survey of 542 shoppers, and the relationship between service quality, customer satisfaction, loyalty and store within the context of the retail store, complementary models that taught this correlation tests. Studied experimentally for the construction of the relative position put forward by Dick and Basu, the results indicate that the effects of the relative position of service quality and satisfaction with department stores. Satisfaction influences the relative position, repurchase and the recommendation but has no direct impact on the loyalty store. Promote favorable relative position and get a customer to your product or service recommends, holds the key to strengthen the loyalty store. The results also indicate support for the four stages of affective cognitive Oliver - business model and loyalty - my intention.

Wei Ming & Chia Mei & Chin Yuan & Kuo Chang (2011) examined the impact of customer loyalty programs on relationship quality, relationship commitment, and loyalty. They found Customer loyalty programs have a partially supported positive impact on relationship quality; service quality has a positive impact on relationship quality; customers with a positive relationship quality impacts their relationship commitment; the higher the relationship commitment, the higher the loyalty; and a customer loyalty program partially supports a positive impact on loyalty, shows that customer loyalty programs have positive influences on loyalty.

However, short-term customer loyalty programs, namely, minimum purchase gift cards, displayed no significant influence on loyalty. The incentive of short-term customer loyalty programs is not sufficient for loyalty.

Jacob & Kai Kristensen (2008) examines the relationship between customer satisfaction, customer loyalty and the future business potential of existing customers. The data for the analysis come from the danish customer satisfaction Index 2006. Here a total of approximately 2000 private customers evaluated their preferred property insurance provider. Based on theoretical considerations, six assumptions are developed and tested. They found Full-service customers are more satisfied and satisfaction is a better predictor for future business potential than loyalty and image and expectations are the main drivers for full-service status, coefficients and significance levels for image and expectations, image expectations, small company large company, total quality management. The importance of image and expectations depend on company size. Older customers have a higher tendency of full-service status. Women tend to have a higher tendency of full-service status.

Daniel & Kessler & Deirdre Mylod (2009) studied the effect of satisfaction's effects on patient loyalty, while holding process-based quality measures of hospital and market characteristics constant the results indicate that there is a statistically significant link between satisfaction and loyalty. Although satisfaction's effect overall is relatively small, contentment with certain hospitalization experience may be important. The link between satisfaction and loyalty is weaker for high-satisfaction hospitals, consistent with other studies in the marketing literature.



Hardeep Chahal (2008) examines the effort to identify the factors in sustaining customer longevity. Till today few studies in the developing settings were conducted to understand the types of relationship that exists between patient-loyalty and service quality. This study analyses the suitability of customer loyalty concept in the government hospitals through using a case study of one of the biggest hospitals operating in India. The research work is the case study of civil hospital Ahmedabad. The data is collected from 205 indoor patients of four department's namely general medicine, orthopedic, pediatrics, obstetrics and gynecology. Inter and intra relationship among the measures of service quality and patient loyalty were analysed by using relevant statistical tools to draw out inferences. It was found to be more significant followed by using provider again for different services and recommending providers to others in relation to overall service quality as dependent variable, and beta values are figured out as 0.15, 0.12 and 0.09 respectively. The 35% R square value for the model service quality – patient loyalty model indicate weak predictive power of this model. However at the same juncture the study found that no significant difference in the patients' perceptions with respect to patient loyalty and quality and per se, may be concluded that both are identical measures. Alternatively the more satisfied the patients are with the quality of their interactions with staff, the more likely they are going to take treatments for similar and different medical problems and would recommend the provider to their relatives and friends.

Li-Wei Wu (2011): the study develops and tests a more comprehensive model of the antecedents of customer loyalty, including satisfaction and inertia. In addition, this study also considers how the effects of satisfaction and inertia on customer loyalty vary with differing levels of the zone of tolerance (ZOT), and

how these are likely to change due to customers' alternative attractiveness. The results show that a wider level of the ZOT strengthens the positive effect of inertia on customer loyalty, while also reducing the positive effect of satisfaction. The results also indicate that the negative moderating effect of the ZOT on the relationship between satisfaction and customer loyalty will reduce as alternative attractiveness increases. In contrast, the positive moderating effect of the ZOT on the relationship between inertia and customer loyalty will reduce as alternative attractiveness increases.

Shirshendu and Sanjit Kumar (2010) examine the generic service quality dimensions of technology-based banking and to examine the effect of these dimensions on customer satisfaction and customer loyalty. The generic service quality dimensions are identified using an exploratory factor analysis (EFA). Next the reliability and validity of the factors, customer satisfaction and customer loyalty are established through confirmatory factor analysis (CFA) using AMOS 16.0 s/w. The related hypotheses were tested using structural equation modeling using AMOS 16.0, the results four generic service quality dimensions in the technology-based banking services – customer service, technology security information quality, technology convenience, and technology usage easiness and reliability. It was found that customer service and technology usage easiness and reliability have positive and significant impact on customer satisfaction and customer loyalty. It was also found that technology convenience and customer satisfaction have significant and positive impact on customer loyalty.

Dennis& Frank and Danielle (2006) focused on presenting a strategic framework to managing online loyalty. The paper integrated concepts including a range of recently published (1993-2006) theoretical works in consumer loyalty

and ongoing case developments in internet practice. The result provides information and action approaches to consumer marketers that may increase the success providing satisfying market offerings. Outlines the costs and benefits of some online customer loyalty building practices, By integrating the literature supporting lifetime customer value with the literature concerned with generating online customer relationships, it provides a pathway to profitable relationships. It also exposes the unintended problems that some online customer loyalty initiatives may create.

Katerina Berezina, Cihan Cobanoglu, Brian & Miller, Francis & Kwanzaa, (2012) studied the impact of information security breaches on hotel guests' perceived service quality, satisfaction, likelihood of recommending a hotel and revisit intentions. Five-hundred seventy-four US travelers participated in this experimental study. The respondents were exposed to one of three different scenarios: "negative", where an information security breach happened in the hotel where a person stayed last and guest information was compromised; "neutral", where an information security breach happened and guest information remained safe; and "positive", where participants were told that the hotel where they last stayed successfully passed a comprehensive security audit, meaning that their guest information is properly handled and secured. The results of the study revealed a significant impact of the treatments on three of the four outcome variables: satisfaction, likelihood of recommending a hotel, and revisit intentions. Information security breach scenarios resulted in a negative impact on the outcome variables regardless of whether or not the guest's credit card information was compromised. A positive scenario revealed a significant increase in guest satisfaction and revisit intentions scores.

Ahmad & Azizan & Maryam Yousefi & Ala`a Nimer AbuKhalifeh (2012) Revisit intention has been highlighted as an important research topic in competitive market of tourism destinations. Despite the considerable number of research on repeat visitors, it remains unclear why people undertake repeat visits and what kind of characteristics hold repeat visitors. This research aims to identify factors influencing repeat visitors to Sabah, Malaysia. The results of this study indicated that “destination image” and “relaxation and recreation” were the most important destination attributes and travel motives for repeat visitors to Sabah. Concerning their perception on destination loyalty, the study revealed that respondents were loyal to Sabah, intent to revisit and recommended Sabah as a holiday destination.

## **2.2 Service quality:**

Many studies had examined the service quality (Jaya Sangeetha & S. Mahalingam 2011; Stephen Brown & Edward U Bond 1995; Panchapakesan & Chandrasekharan & Prakash Sai 2009; Evert Gummesson 1998; Amy & Amrik 2003; Parasuraman, Zeithaml & Berry 1988; V. Emre Ozdemir and Kelly Hewett 2010; Valarie A. Zeithaml, Leonard L. Berry & A. Parasuraman 1996). Considerable work has been conducted on refining the set of customer expectations with respect to service quality since the introduction of SERVQUAL in 1988 (Parasuraman et al., 1988).

Jaya Sangeetha & S. Mahalingam (2011). Review of various service quality models in banking revealed that the meaning of service quality may have some universal aspects, as demonstrated by the similarities in the underlying dimensions as proposed in the different studies. That the dimensionality of SERVQUAL and importance of the dimensions vary with the cultural and country context even within the banking industry.

The present study is an attempt to review service models in the light of the changed business scenario as applied to conventional and Islamic banking and analyze the models service quality models for the suitability/need for modification in the current context. In this section, we would provide a brief explanation of all the major service quality models which are applicable to service health and those that have been developed for health. The models are presented using a standard structure, i.e. covering brief discussion and the major observations on the models. The brief discussions on the models are as under.

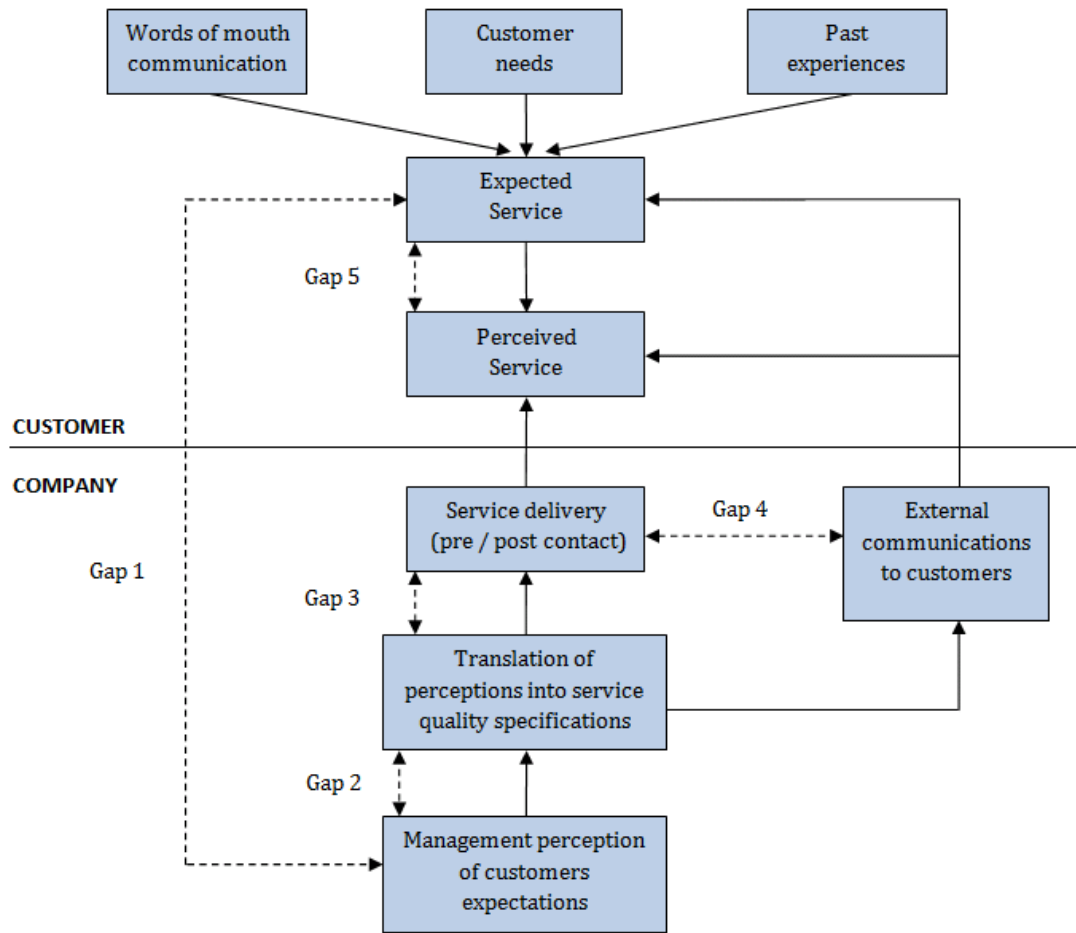
Parasuraman et al. (1985) proposed that service quality is a function of the differences between expectation and performance along the quality dimensions. They developed a service quality model (Figure 1) based on GAP analysis. The various GAPs visualized in the model are:

GAP 1: Difference between consumers' expectation and management's perceptions of those expectations, i.e. not knowing what consumers expect.

GAP 2: Difference between management's perceptions of consumers' expectations and service quality specifications, i.e. improper service quality standards.

GAP 3. Difference between service quality specifications and service actually delivered, i.e. the service performance GAP.

GAP 4. Difference between service delivery and the communications to consumers about service delivery, i.e. whether promises match delivery?



Parasuraman et al. (1985)

GAP 5. Difference between consumers' expectation and perceived service, This GAP depends on size and direction of the four GAPs associated with the delivery of service quality on the marketer's side. (Parasuraman et al. 1985)

Parasuraman et al (1985) defined service quality as 'the degree of discrepancy between customers' normative expectations for the service and their perceptions of the service performance'. In order to measure this discrepancy, they devised the SERVQUAL. This is regarded as the most comprehensive and frequently used tool for measuring service quality. The service items they proposed are divided into five dimensions: tangibles, reliability, responsiveness, empathy and assurance. The perception-only measure of service quality

(SERVPERF), which consists solely of the performance (perceptions) items of SERVQUAL, was later introduced by Cronin and Taylor in 1992. SERVPERF is adopted in this study, as previous findings have indicated that it outperformed SERVQUAL and is more applicable for measuring service quality. (Yuen and Chan 2010; Ahmadreza Sh, Amran R & Huam 2011; Elizabeth & Helen 2010;

Table 2.2

*Example of Empirical Studies on service quality*

Author	Methodology	Measures of service quality	Result
Jaya Sangeetha & S.Mahalingam (2011)	The paper examines 14 different service quality models Reported in the literature applicable to the banking sector. The critical review of the different service quality models is intended to compile the various dimensions which emerged out of the studies, compare the commonality between them, study their relevance and importance in banking in the Various cultural and cultural contexts and highlight the limitations of the studies.	Service quality models in banking	The review of various service quality models in banking revealed that the meaning of service quality may have some universal aspects, as demonstrated by the similarities in the underlying Dimensions as proposed in the different studies. This paper lends support to the contention that the dimensionality of SERVQUAL and importance of the dimensions vary with the cultural and country context even within the banking industry



Panchapakesan P, Chandrasekharan R &L. Prakash Sai(2009)	Based on the existing models and the literature on healthcare Services, a framework is proposed to conceptualize and measure hospital service quality.	Measure hospital service quality.	Two instruments for measuring the dimensions of hospital service quality, one each from the perspective of patients and attendants, are proposed.
Yuen and Chan (2010)	Of the 447 surveys distributed to the existing customers through direct callings and sending e-mails	the curtain retail sector	The study shows that only three dimensions (Physical Aspects, Reliability and Problem Solving) are positively related to customer loyalty to store, and one dimension (Personal Interaction) of retail service quality is positively associated with customer loyalty to staff. By contributing to the body of knowledge in this area,
Ahmadreza Sh, Amran R& Huam H- T (2011)	A gap analysis based on a modified SERVQUAL instrument was used on 522 international postgraduate students who were selected based on stratified sampling of the top five public universities. The analysis started	To assess the service quality perceptions and expectations of international	Five factors in the form of professionalism, reliability, hospitality, tangibles, and commitment were uncovered. The single mean t-tests for the three methods of gap analysis indicated that all the items of perception were perceived as significantly negative as compared to expectations.

	with descriptive analysis followed by factor and reliability analyses. Single mean t-tests were conducted to assess the significance of the gap analysis based on three methods: item-by-item analysis; construct-by-construct analysis; and computation of a single measure of service quality	postgraduate students studying in selected Malaysian universities.	
Elizabeth V& Helen W-B (2010)	The application of SERVQUAL in the voluntary sector had raised serious issues on its portability into this sector in general and its ability to measure the experience of the disabled service user in particular. In consequence, a disabled service user-specific service quality model – ARCHSECRET – was developed	Explain the variation in the service quality experience of disabled students in higher education.	ARCHSECRET was superior to the modified SERVQUAL in terms of its overall predictive power; ARCHSECRET key drivers were different and better in predictive power than those of the modified SERVQUAL; and ARCHSECRET was found to be reliable and valid for the measurement of the disabled student experience in higher education, while acting as a diagnostic tool for the identification of service quality shortfalls.

	<p>which led to this research being designed to compare ARCHSECRET and a modified SERVQUAL model in terms of their ability to predict</p>		
<p>Christina Sichtmann, Maren von S , and Adamantios D (2011)</p>	<p>Using Hoppenstedt , the largest business data provider in Germany, we randomly generated a sample of 5000 firms, capturing six different industry sectors (machine tools; electrical engineering; medical, measurement, and control engineering; vehicle construction; data processing and databases; and business-to-business</p>	<p>Export Performance</p>	<p>he results show that export customer-oriented training, customer coproduction instructions, and work Process standardization has a positive influence on relative service quality, which in turn positively affects export performance. However, adaptation to export customers' coproduction competence and motivation has a positive influence on relative service quality only when the customer integration in the service delivery is high. The authors conclude by considering implications for the management of the service delivery process in an export setting and identifying future</p>

	[B2B] services)		
Martyna & James O’Kane (2010)	The authors use a case study, integrating qualitative and quantitative methods, including interviews with stakeholders as well as data regarding appointment systems’ temporal aspects.	General practice appointment systems.	This study offers insights into service quality’s subjective and context-dependent nature, as reflected in primary healthcare stakeholder perceptions and service quality’s objective and quantifiable aspects, revealing its dynamic, process-based nature.

*Source: prepared By Researcher.*

Jaya & S .Mahalingam (2011) examined 14 different service quality models reported in the literature applicable to the banking sector. The critical review of the different service quality models is intended to compile the various dimensions which emerged out of the studies, compare the commonality between them, study their relevance and importance in banking in the various cultural and cultural contexts and highlight the limitations of the studies. The review of various service quality models in banking revealed that the meaning of service quality may have some universal aspects, as demonstrated by the similarities in the underlying dimensions as proposed in the different studies. This paper lends support to the contention that the dimensionality of SERVQUAL and importance of the dimensions vary with the cultural and country context even within the banking industry.

Maxwell Agabu Phiri & Thobeleni Mcwabe (2013 ) seeked to measure the customers' expectation levels of service quality in the food retail sector against their perceptions levels of the service quality at Pick n Pay and to determine the gap between customers' expectations and their perceptions of the service quality. Using a SERVQUAL survey instrument a study was conducted with customers from Pick n Pay supermarket stores in Pietermaritzburg, one at Hayfields shopping Centre and the other one at Capital Centre. A sample of 130 participants was selected from the store locations, the Findings - Key findings include confirmation that customers have higher expectations for service quality in food retail supermarkets than is anticipated. Gap 5, which is a gap between customers' Expected Service and customers' Perceived Service, was identified. Pick n Pay's management were very skeptical about conducting a survey to their customer and

this had a negative impact on data collection. Research was conducted in winter and the cold weather had a negative impact on the response rate.

Panchapakesan , Chandrasekharan & Prakash Sai (2009) focused on the Measure hospital service quality .The study examined the Based on the existing models and the literature on healthcare Services, a framework is proposed to conceptualize and measure hospital service quality. The study found two instruments for measuring the dimensions of hospital service quality, one each from the perspective of patients and attendants are proposed.

Euphemia & Yuen & Sian & Chan (2010) examined the impacts of the retail service quality dimension (that is, personal interaction, policy, physical aspects, reliability and problem solving) and the product quality dimension (including Features, Aesthetics and customer perceived quality) on customer loyalty. It focuses on the store and staff levels of retail relationships, in particular on a specific sector of the retail industry, the curtain retail sector. Data were collected through a survey of existing customers of a window fashion gallery and further coded using the statistical package for the social sciences. The study shows that only three dimensions (physical aspects, reliability and problem solving) are positively related to customer loyalty to store, and one dimension (personal interaction) of retail service quality is positively associated with customer loyalty to staff, by contributing to the body of knowledge in this area.

Ahmadreza &Amran and Huam (2011) focused on the service quality perceptions and expectations of international postgraduate students studying in selected Malaysian universities .The study examined a gap analysis based on a modified SERVQUAL instrument was used on 522 international postgraduate students who were selected based on stratified sampling of the top five public

universities. The analysis started with descriptive analysis followed by factor and reliability analyses. Single mean t-tests were conducted to assess the significance of the gap analysis based on three methods: item-by-item analysis; construct-by-construct analysis; and computation of a single measure of service quality. The study found five factors in the form of professionalism, reliability; hospitality, tangibles, and commitment were uncovered. The single mean t-tests for the three methods of gap analysis indicated that all the items of perception were perceived as significantly negative as compared to expectations. Also, the findings from the study will assist in designing a quality system that involves not just the employees, but also the students.

Elizabeth & Helen (2010) examined the empirically test a new disabled service user-specific service quality model ARCHSECRET against a modified SERVQUAL model in the context of disabled students within higher education, the application of SERVQUAL in the voluntary sector had raised serious issues on its portability into this sector in general and its ability to measure the experience of the disabled service user in particular. In consequence, a disabled service user-specific service quality model – ARCHSECRET – was developed which led to this research being designed to compare ARCHSECRET and a modified SERVQUAL model in terms of their ability to predict and explain the variation in the service quality experience of disabled students in higher education, the study found ARCHSECRET was superior to the modified SERVQUAL in terms of its overall predictive power; ARCHSECRET key drivers were different and better in predictive power than those of the modified SERVQUAL; and ARCHSECRET was found to be reliable and valid for the

measurement of the disabled student experience in higher education, while acting as a diagnostic tool for the identification of service quality shortfalls.

Christina & Maren & Adamantios (2011) focused on the usage framework of service provision and drawing from control theory, the authors develop a theoretical model that examines the influence of different quality control initiatives on relative service quality in a business-to-business setting and, consequently, on export performance. They explicitly consider quality control initiatives that address service employees' performance and the customers' coproduction as well as selected firm characteristics as antecedents of such initiatives. They test the proposed model on data drawn from an export survey of service providers. The results show that export customer-oriented training, customer coproduction instructions, and work process standardization have a positive influence on relative service quality, which in turn positively affects export performance. However, adaptation to export customers' coproduction competence and motivation has a positive influence on relative service quality only when the customer integration in the service delivery is high. The authors conclude by considering implications for the management of the service delivery process in an export setting and identifying future research directions.

Martyna & James O'Kane (2010) focused on the service quality literature is measurement – knowing which quality aspects and in what ways they should be measured. The study examined the approaches service quality measurement by focusing on general practice appointment systems, the study found insights into service quality's subjective and context-dependent nature, as reflected in primary healthcare stakeholder perceptions and service quality's objective and quantifiable aspects, revealing its dynamic the service quality measurement methods offers



innovative insights into different theoretical abstractions, constructively challenges both measurement and service quality, whilst moving beyond managerial and user-based approaches, is highly relevant to contemporary organization practice.

Saif Ullah Malik (2012) focused on find out perceived service quality using SERVQUAL and then the role of perceived value as a mediating variable in the service sector of Pakistan. Both descriptive and inferential statistical techniques are used to analyze the effects of independent variables (i.e. perceived service quality) on customer satisfaction (dependent variable) and the role of mediating variable (i.e. perceived value). Stepwise regression analysis is used to examine the effect of the mediating variable (i.e. perceived value) on customer satisfaction. Perceived value was found strongly correlated with satisfaction. Results suggested that perceived value is an important factor in customer's evaluation of satisfaction. Unlike other studies, I use an aggregate score for perceived service quality instead of service quality characteristics.

Shahriar & John D'Ambra & Pradeep (2013) addressed development and validation of an instrument to measure user perceived service quality of mHealth by theoretically conceptualizing and empirically validating a multidimensional service quality scale in the mHealth context. The findings show that mHealth service quality is a hierarchical, multidimensional, and reflective construct, which consists of three primary dimensions and eight sub dimensions. The results also confirm that the mHealth service quality scale is more effective at predicting satisfaction and continuance in a nomological network.

Norazah & Jennifer & Norbayah (2011) examined patients' perceptions exceed expectations when seeking treatment in private healthcare settings in the

Klang Valley Region of Malaysia. A survey was conducted among 191 patients in the Klang Valley Region of Malaysia to measure service quality of the private healthcare setting in Malaysia using SERVQUAL 5 dimensions model by Parasuraman et al. and three additional dimensions of the human element, when it comes to rendering good healthcare services, i.e. courtesy, communication and understanding of customers. The results revealed that the customers' perceptions did not exceed their expectations, as they were dissatisfied with the level of healthcare services rendered by private healthcare settings in that they felt that the waiting time of more than an hour to receive the service was excessive and, when there was a problem, the healthcare provider did not provide a response fast enough.

Mahmood and Mohammadreza (2011) focused on the service quality gap model this paper seeks to evaluate this issue. The present descriptive study was carried out through a cross-sectional method in 2008. The participants of this study were patients who had been referred to Kerman University of Medical Sciences hospitals. The sample comprised 385 patients, the data were collected by SERVQUAL as a standard questionnaire, and data analysis was carried out on 385 completed questionnaires. The results revealed that in all five dimensions of quality, a gap was observed between patients' perceptions and expectations as follows: assurance: 21.28, empathy: 21.36, responsiveness: 21.80, tangibles: 21.86 and reliability: 21.69. A paired T-test showed that the differences between quality perceptions and expectations are significant (p value, 0.05). Based on the findings of this research, the hospitals in the study did not meet the expectations of patients and were unable to provide health care services according to patients' expectations. Hence rearranging the service delivery and deploying better

facilities and equipment in order to decrease the gap between patients' perceptions and expectations may be helpful.

Given the previous studies there are few studies dealt with the customer expectations in services such as (Arjan & Ko de & Cherie and Sandra 2000; Sara & Bo Edvardsson 2003; Ruben & Peter 2010; Amy & Hubbert & Annette & Stephen & Brown 1995).

Arjan & Ko de & Cherie and Sandra (2000) focused on the customer expectation dimensions of voice-to-voice service encounters a scale-development study listening to the voice of the customer has been embraced in marketing theory and practice for a long time. However, the wide scale implementation of call centers has only recently enabled managers to take this adage to the next level. At the same time, it is acknowledged that the evaluation of service delivery often depends on the so-called "service encounter" or the time of interaction between the service firm and customer. Extensive research has been conducted in the field of traditional face-to-face encounters, but no attempt has yet been made to categorize customer expectations with regard to employee behavior during voice-to-voice encounters. Therefore, the aim of this study is to develop a measurement instrument that identifies key customer expectation dimensions with regard to call centre representative (CCR) behaviour. Based on the services marketing literature, 13 potential attributes were empirically tested on an effective sample of 206 respondents. This resulted in a model consisting of four different sub-scales that were labelled "adaptiveness", "assurance", "empathy", and "authority". The results of the validity- and reliability-testing confirm the solidity of the measurement instrument.

S.M. Irfan & Aamir Ijaz and Farooq (2012) study is intended to investigate the level of quality of healthcare services delivered to patients by the public hospitals in Pakistan. Currently, healthcare system in Pakistan is comprised of public hospitals, healthcare units and dispensaries, which are not sufficient to meet the healthcare requirements of 169.9 million people. This study aims to investigate, quality of services delivered to patients by public hospitals in Pakistan. For this purpose, a questionnaire was developed based on modified 'SERVQUAL' using five service quality dimensions, namely; empathy, tangibles, timeliness, responsiveness and assurance. A total of 369 responses were collected from the patients availing services from the public hospitals located in Lahore, Pakistan. Data was analyzed using structural equation modeling technique (SEM) and results of this study indicate that public hospitals are not making visible efforts to deliver quality of services to their patients and are not making any visible efforts to meet patient's needs and wants.

Ruben & Peter (2010) examined the expectations and needs of service customers to control chart specification limits the findings the model has demonstrated its robustness and credibility to set the specification limits. Additionally, it is a very powerful tool for service quality measurement and to set strategic directions.

Amy & Hubbert & Annette & Stephen & Brown (1995) focused on the Service expectations: the consumer versus the provider the sample of consumers consisted of 48 undergraduates enrolled in marketing classes at a large university in the USA. Findings of this study support the notion that a comparison between consumer and service provider expectations via scripts is worthwhile.

### 2.3 Customer satisfaction:

Many studies had examined the customer satisfaction (Lesley & Venkata 2007; Shyh-Jane & Yu-Ying & Miles 2010; Alessandro & Carmela & Maria 2010; Mara & Peter & Angela 2010; Anne & York & Kim & McCarthy 2011; Li-Wei Wu 2011).

Table 2.3

*Example of Empirical Studies on customer satisfaction*

Study	Methodology	Finding
Shyh-Jane Li & Yu-Ying H & Miles M. Y (2010)	A structured questionnaire was distributed to the out-patients of 12 regional hospitals (the middle level) in Taiwan.	The findings show that the forms of moderators played by satisfaction are not always the same under different dimensions of service quality (i.e. reliability, responsiveness, assurance, and empathy). Satisfaction positively moderates the influence of reliability/empathy on behavioral intentions, but negatively moderates the relationships between responsiveness/assurance and behavioral intentions.
Mara C & Peter M & Angela P (2010)	Data were collected on audit firms, sending a questionnaire to financial executives of leading Italian companies.	The results show that the most important variable explaining customer satisfaction was the apparent effectiveness of the audit firm. In relation to service quality, managers' satisfaction was primarily driven by their perception of audit firm's work as a useful value-adding service. The length of audit firm-audited relation, the location of the auditor's office, and the financial executive's personal characteristics were also significant drivers of customer satisfaction.

Li-Wei Wu (2011)	Hierarchical moderated regression analysis was used to test the hypotheses.	The results show that a wider level of the ZOT strengthens the positive effect of inertia on customer loyalty, while also reducing the positive effect of satisfaction. The results also indicate that the negative moderating effect of the ZOT on the relationship between satisfaction and customer loyalty will reduce as alternative attractiveness increases. In contrast, the positive moderating effect of the ZOT on the relationship between inertia and customer loyalty will reduce as alternative attractiveness increases.
Alessandro A& Carmela Di .M& Maria D. G (2010)	patient satisfaction questionnaires were administered to ward managers, medical staff, and inpatients in 57 wards belonging to ten public hospitals in Italy	Different climates impact on patient satisfaction in a different way. Evidence was found that a human relation climate augments patient satisfaction. Ward managers' orientation on specific organizational models is matched by the actual climate perceived by medical and nursing staff. Comparison between alternative nested models shows that there is evidence in favor of the mediating effect of climate between the managers' climate orientation and patient satisfaction.

*Source: prepared By Researcher.*

Shyh-Jane & Yu-Ying & Miles (2010) focused on the existence and form of interaction effects between service quality and satisfaction are still uncertain. if examined whether satisfaction moderates the relationship between service quality and behavioral intentions, a structured questionnaire was distributed to the out-

patients of 12 regional hospitals (the middle level) in Taiwan, The study found showed that the forms of moderators played by satisfaction are not always the same under different dimensions of service quality (i.e. reliability, responsiveness, assurance, and empathy). Satisfaction positively moderates the influence of reliability/empathy on behavioral intentions, but negatively moderates the relationships between responsiveness/assurance and behavioral intentions.

Yu-Hui & Chao-Min & Eric & Wang (2008) focused on the theoretical model for studying customers' repurchase intentions in the context of online shopping. The study showed that trust, net benefits, and satisfaction are significant positive predictors of customers' repurchase intentions toward online shopping. Information quality, system quality, trust, and net benefits are significant determinants of customer satisfaction. Besides, online trust is built through distributive, procedural, and interactional justice. Overall, the research model accounted for 79% of the variance of repurchase intention.

Mara & Peter & Angela (2010) examined exploring the impact of corporate image and service quality on customer satisfaction in the professional service industries. Data were collected on audit firms, sending a questionnaire to financial executives of leading Italian companies. The results showed that the most important variable explaining customer satisfaction was the apparent effectiveness of the audit firm. In relation to service quality, managers' satisfaction was primarily driven by their perception of audit firm's work as a useful value-adding service. The length of audit firm – audited relation, the location of the auditor's office, and the financial executive's personal characteristics were also significant drivers of customer satisfaction.

Li-Wei Wu (2011) study aimed to develop and test a more comprehensive model of the antecedents of customer loyalty, including satisfaction and inertia. In addition, this study also considers how the effects of satisfaction and inertia on customer loyalty vary with differing levels of the zone of tolerance (ZOT), and how these are likely to change due to customers' alternative attractiveness. The study found the results showed that a wider level of the ZOT strengthens the positive effect of inertia on customer loyalty, while also reducing the positive effect of satisfaction. The results also indicated that the negative moderating effect of the ZOT on the relationship between satisfaction and customer loyalty will reduce as alternative attractiveness increases. In contrast, the positive moderating effect of the ZOT on the relationship between inertia and customer loyalty will reduce as alternative attractiveness increases.

## 2.4 Brand image:

Given the previous studies there are few studies dealt with the brand image in services such as (Cemal& Azize & Hakan & Mehtap 2011; Robert& Owusu-F & Julius 2010; Paul & Wua& Gary& Chieh-Ru H 2011)

Table 2.4

*Example of Empirical Studies on brand image*

Study	Methodology	result
Cemal Z, Azize a, Hakan K, Mehtap Ö, 2011	The present study explores the relationship among brand communication and service quality in a relational context with an emphasis on understanding of the linking role	The findings indicate that perceptions of brand communications and service/product quality can be viewed an antecedents to brand



	<p>of brand trust and loyalty. Overall consideration, automotive industry was selected As the relational exchange context for this research. Data were collected through random questionnaires from the randomly selected 258 consumers</p>	<p>trust, in turn affects brand loyalty.</p>
<p>Robert Hinson, N. Owusu-F, Julius D (2010)</p>	<p>Data were obtained from undergraduate first time bank customers in the University of Ghana Business School via a questionnaire using a convenience sampling method. A structured questionnaire containing 12 service-quality statements was designed and administered to 519 first time undergraduate bank customers to measure their perception of service quality with regard to bank brands in Ghana. The repeated measures of ANOVA were employed.</p>	<p>The respondents perceive the service knowledge dimension of brand service quality as the weakest performance service attribute for banks operating in Ghana.</p>

<p>Paul C.S. Wua, Gary Y-Y. Y, Chieh-R. H (2011)</p>	<p>The sample in this study consisted of three hundred and sixty (360) customers of the Watsons and Cosmed chain of drugstores. The pre-test results identified “Watsons” and “My Beauty Diary” as the research brands of the PLB for the two stores, respectively. This study uses LISREL to examine the hypothesized relationships.</p>	<p>This study reveals that (1) store image has a direct and positive effect on the purchase intention of the PLB; (2) service quality has a direct and positive effect on the PLB image; (3) the perceived risk of PLB products has a mediating effect on the relationship between the brand image and the consumers purchase intention of the PLB.</p>
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*Source: prepared By Researcher.*

Cemal & Azize & Hakan & Mehtap (2011) focused to investigate the effects of brand communication and service quality in building brand loyalty through brand trust. The present study explores the relationship among brand communication and service quality in a relational context with an emphasis on understanding of the linking role of brand trust and loyalty. Overall consideration, automotive industry was selected as the relational exchange context for this research. Data were collected through random questionnaires from the randomly selected 258 consumers. The study was based on the development and administration of a self-administered survey and conducted in Turkey. The

findings indicated that perceptions of brand communications and service/product quality can be viewed by antecedents to brand trust, in turn affects brand loyalty.

Robert & N. Owusu & Julius (2010) focused to determine from the standpoint of undergraduate students, service-quality dispositions of bank brands operating in Ghana; in respect of customer service (human interaction), service knowledge and bank infrastructure and technology. Data were obtained from undergraduate first time bank customers in the University of Ghana Business School via a questionnaire using a convenience sampling method. A structured questionnaire containing 12 service-quality statements was designed and administered to 519 first time undergraduate bank customers to measure their perception of service quality with regard to bank brands in Ghana. The repeated measures of ANOVA were employed. Findings of this study the respondents perceive the service knowledge dimension of brand service quality as the weakest performance service attribute for banks operating in Ghana.

Paul & Wua, Gary & Chieh-R (2011). This study aimed to investigate the direct effects of store image and service quality on brand image and purchase intention for a private label brand (PLB). This study also investigates the indirect effects mediated by perceived risk and price consciousness on these relationships. The sample in this study consisted of three hundred and sixty (360) customers of the Watsons and Cosmed chain of drugstores. The pre-test results identified “Watsons” and “My Beauty Diary” as the research brands of the PLB for the two stores, respectively. This study uses LISREL to examine the hypothesized relationships. This study reveals that (1) store image has a direct and positive effect on the purchase intention of the PLB; (2) service quality has a direct and positive effect on the PLB image; (3) the perceived risk of PLB products has a

mediating effect on the relationship between the brand image and the consumers purchase intention of the PLB.

Malik & Ghafoor and Iqbal (2012) focused on the telecom companies are working to achieve high customer satisfaction through improved service quality, better price and superior brand image. This study particularly looks at all of these aspects and their association with customer satisfaction. Data was collected from educational and business sector of Gujranwala region of Pakistan using stratified random sampling technique. Sample size was 200 and 165 complete questionnaires were received back with response rate of 82.5%. Results of this research are favorable and will help the telecom service providers to shape their products and pricing policies in such a way that they could maximize customer satisfaction and maintain their customers in order to achieve higher market share.

## **2.5 The relationship between service quality and customer satisfaction and customer loyalty:**

Many studies had examined the relationship between service quality and customer satisfaction and customer loyalty (Birgit 2009; Benjamin & Megan 2009; Albert caruana 2002; Eugene and Jamie & Baker-P 2000; Fatma & AliKara 2014; Lo Liang & Osman & Ramayah, Rahim 2010; Lien & yu –ching 2001).

Birgit L (2009) focused on the apply HSQM to two new service contexts and to further investigate the relationship between service quality, as measured by this instrument, and satisfaction and customer loyalty. To this end, five hypotheses are to be submitted to empirical tests. The data for empirically re-assessing the scale's properties and for testing the proposed hypotheses were collected from convenience samples of 250 customers of hairdresser/barber services and 300 customers of local phone service subscribers. The measurement

model of the HSQM was re-assessed using confirmatory factor analysis. The hypotheses were tested using structural equation modeling. The results confirm the HSQM as predictor of satisfaction and loyalty. However, the results suggest that the significance of various service quality dimensions differs depending on the type of service.

Benjamin & Megan (2009) examined the customer expectation, perceived service performance and customer satisfaction as issues of total quality management (TQM) in relationship marketing, and examines how these relate to students' anticipated loyalty to college after graduation. It is a survey research. Participants are 467 college students of 18 years and above, in the USA. Standardized instruments are used for data collection. Standard multiple regression analyses results show that customer satisfaction, expectation and perceived service performance jointly predict anticipated loyalty. The predictor variables correlate among themselves. Among seven services studied, academic and recreational/social services are the most important predictors of students' anticipated loyalty.

Albert caruana (2002) focused on study by first delineating the concept of service loyalty and proceeds to distinguish between service quality and customer satisfaction, a meditational model that links service quality to service loyalty via customer satisfaction is proposed, appropriate measures are identified and a postal survey is undertaken among 1000 retail banking customers. A response rate of 20.5 per cent is obtained. Result indicates that customer satisfaction does play a mediating role in the effect of service quality on service loyalty. The effects of a number of demographic indicators on service loyalty are

also reported. Implications are discussed, limitations of the study are noted and possible areas for further research are indicated.

Eugene and Jamie & Baker-P (2000) examined the relationship between service quality, customer satisfaction, and store loyalty within the retail department store context. Tests two complementary models that examine this interrelationship, empirically examined the relative attitude construct put forth by Dick and Basu. The results indicated that service quality influences relative attitude and satisfaction with department stores. Satisfaction influences relative attitude, repurchase, and recommendation but has no direct effect on store loyalty. Fostering favourable relative attitude and getting customers to recommend the product or service holds key to fostering store loyalty. Results also indicated support for Oliver's four-stage cognitive affective - conative - action model of loyalty.

Fatma& AliKara (2014) examined the service quality of supermarket / grocery store SCSs and its impact on customer satisfaction and loyalty in an emerging market, namely Turkey .Using the SSTQUAL scale (Lin and Hsieh, 2011), data (n<sup>1</sup>4275) for the study is collected from shoppers who had just completed going through the self-checkout counter in a large supermarket chain .The results of this study showed that SCS service quality positively influences loyalty through the customer satisfaction path . Managerial and research implications of the findings are discussed.

Lo & Osman & Ramayah& Rahim (2010) focused on the underlying model of SERVQUAL (Parasuraman et al., 1988) with five dimensions was used by this research to evaluate the impact of service quality on customer loyalty among bank customers in Penang, Malaysia with customer satisfaction mediating

these variables. The findings show that improvement in service quality can enhance customer loyalty. The service quality dimensions that play a significant role in this equation are reliability, empathy, and assurance. The findings indicate that the overall respondents evaluate the bank positively, but still there are rooms for improvements.

S. Vijay Anand & Selvaraj (2012) examined the impact of service quality on customer satisfaction and Loyalty in Indian Banking sector by applying SERVPERF scale. A total of 50 customers of State bank of India, Mohan Nagar Township branch of Salem District in Tamilnadu were interviewed on convenient basis for the above purpose. Tools like Exploratory factor analysis, Inter-Correlation, Analysis of variance, Multiple Regression analysis are carried out and the result revealed that out of five service quality factors considered, Assurance is having a highest Mean score of SERVPERF (P) score and the bank should concentrate on Reliability as it has the least mean score of SERVPERF. Regarding the association between the Demographic variables and the service quality factors, it is seen that there is no significant association found between them except income in case of Empathy and Marital status in respect of all service quality factors. It is also observed that there is a significant association found between all the Service quality factors and the customer satisfaction as well as with customer Loyalty. While analyzing the antecedents of Customer satisfaction and Loyalty, factors like Responsiveness, Reliability and Empathy are significantly influenced and also explained respective percentage of relevant changes in the Independent variables considered.

Mohsin Zafar & Sana Zafar & Aasia, Ahmed & H. Mushtaq (2012) explored most common constructs for quality of banking services, which

influence customer satisfaction and examine the impact of customer satisfaction on customer loyalty in the context of banking relationships. The questionnaire was used to collect the data from 192 valid respondents by convenience sampling method. SPSS was used to analyze the data and AMOS was used to test the model. The results of the study show that there is a positive and significant link between customer satisfaction and constructs of service quality like tangibility, reliability, competence conflict handling and further study inferred that customer satisfaction is positively significant related to customer loyalty.

Katerina & Cihan & Brian & Francis (2012) study is to investigated the impact of information security breaches on hotel guests' perceived service quality, satisfaction, likelihood of recommending a hotel and revisit intentions. Five-hundred seventy-four US travelers participated in this experimental study. The respondents were exposed to one of three different scenarios: "negative", where an information security breach happened in the hotel where a person stayed last and guest information was compromised; "neutral", where an information security breach happened and guest information remained safe; and "positive", where participants were told that the hotel where they last stayed successfully passed a comprehensive security audit, meaning that their guest information is properly handled and secured. The results of the study revealed a significant impact of the treatments on three of the four outcome variables: satisfaction, likelihood of recommending a hotel, and revisit intentions. Information security breach scenarios resulted in a negative impact on the outcome variables regardless of whether or not the guest's credit card information was compromised. A positive scenario revealed a significant increase in guest satisfaction and revisit intentions scores.



## **2.6 The relationship between brand image and customer satisfaction and customer loyalty:**

Limited studies had examined the relationship between brand image and customer satisfaction and customer loyalty (Liao 2012; Abd-El-Salam; Shawky and El-Nahas 2013).

Liao (2012) focusing on the leisure activities. How to improve customer's loyalty has become a key strategy for service management. The purpose of this study was, taking leisure resort enterprise as an example, to explore the casual relationships between service quality, brand image, customer satisfaction, and customer loyalty. A total of 300 subjects from Taiwan population were voluntarily participated in this study. The LISREL (linear structural relationship) model verification results showed that the overall goodness-of-fit indices (GFI) was 0.952 and  $\chi^2$  was 128.639 (df = 95), which indicated an empirically good fit with the model. It was concluded that the service quality, brand image and customer satisfaction of leisure business have a direct relation with loyalty, and the service quality has an indirect effect on loyalty through customer satisfaction. These findings would be a reference for marketing management in the leisure enterprises.

Abd-El-Salam and El-Nahas (2013) studied the relationship among corporate image and reputation, service quality, customer satisfaction and customer loyalty through a case analysis on one of the biggest Egyptian company. A structured questionnaire was developed. The hypotheses were simultaneously tested on a sample of 650 customers out of 800 distributed, giving a response rate of 81.25 per cent. Several analytical techniques were used to assess the relationships among the variables under investigation such as Pearson correlation,

chi-square, and multiple linear regressions. Hierarchical regression was used to assess the mediating role. The findings of this study have shown significant relationships among the variables under investigation. It is imperative to explore how an international company can effectively and efficiently work in the Egyptian culture gaining their customers satisfaction and loyalty. The research was limited to one of the biggest international company that is working in Egypt. Also the use of cross-sectional design restricts inferences being drawn regarding casualty.

Tawan Vigripat& Peng Chan (2007) the investigated the relationship between service quality, brand image, trust, customer satisfaction, repurchase intention and recommendation to others. The study focuses on the automobile industry in Thailand. The researchers use a survey questionnaire that combines the SERVQUAL instrument with additional measures on brand name and brand trust. The findings indicate that service quality has a positive effect on both brand value and customer satisfaction. Customer satisfaction is found to have a positive effect on recommendation but not on repurchase intention. Furthermore, it was found that the main factor influencing repurchase intention and recommendation is brand trust and not brand image. Finally, the results reveal that, on average, European cars ranked higher than Japanese cars in all aspects including service quality, value, image, and trust and customer satisfaction.

Despite the significant academic interest in service quality, customer satisfaction and customer loyalty, this study contributes in adding to the body of the Sudanese culture knowledge. Also, to the best of the authors' knowledge there is no study published that explores the influence of corporate reputation and image and its relationship to how customers perceive the offered

service, whether they are satisfied or not and most importantly whether they will retain dealing with the organization or not.

# CHAPTER 3

## RESEARCH FRAMEWORK AND METHODOLOGY

### Introduction

This chapter presents the research framework and hypotheses to be tested. The section on methodology highlights the sampling procedure, the measurement of the variables, the development of the research instrument and the administration of data collection. The statistical techniques used to test the hypotheses are also discussed.

### 3.1 Theories study

**Interaction theory:** The interaction between the independent variables explain, in the simplest form, an independent variable New variable X is due to hit the independent to each other variables, if we had the first independent variable, the interaction between them is holds first hit in the second, which results in a variable Z's second independent interaction where the estimated value This variable parameter, describes the impact of the new independent XZ. Y interaction between any two variables mentioned first and second in the dependent variable. Thomas & William & Matt (2005)

There are several benefits can be obtained if you include interaction in the regression equation. The first is: If the interaction is the fact not be included in the estimation of the equation, it will put us in the face of the output error bias in the deletion of variable, and this will make the estimated model failed to clarify estimate the precise relationship between the real variable-based independent variables, which includes interaction The model provides us with a better description of the relationship between these variables. The second benefits: The

inclusion of interaction will provide us with an accurate estimate of the relationship between variables with the interpretation more of the variance in the variable adopted. Abbas Naji al-Obeidi (2008).

The concept indicate process of interaction mechanism that causes through which the interaction between two or more independent variables change in the dependent variable by a third variable is the interaction variable, The process describes the interaction relationship covariance of three types of variables are independent variables and the dependent variable condition that the interaction variable able to clarify the discrepancy caused by the independent variables in the variable is significantly, Here we will face three likelihood, is either a full interaction and that if he can demonstrate interact variable to increase the proportion of interpretation of distractions caused by the independent variables in the dependent variable, or that which is partly interaction and that if he can demonstrate interact variable that illustrates part of the distractions caused by the independent variables on the dependent variable which , there will be no interaction process if he cannot interact variable that illustrates deviations of the dependent variable. Abbas Naji al-Obeidi (2008).

**THE CUSTOMER GAP and (SERVQUAL) model:** (Parasuraman, Zeithaml, and Berry, 1985). The customer gap is the heart of the gaps model. It represents the difference between customer expectations and perceptions of service performance. The model suggests that closing this gap by matching or exceeding customer expectations will result in the achievement of service quality from the customer's perspective. In the years since the introduction of the model, there has been significant focus on both customer expectations and perceptions in terms of conceptualizing these constructs, developing measures for them, and

studying their effects. The central focus of the model is the customer gap – the difference between customer expectations of what will be delivered and perceptions of the service as it is actually delivered.

Parasuraman et al, (1988): “Customer Satisfaction = Perception of Performance – Expectations”

Parasuraman et al, (1988): Service Perception – Service Expectation = Perceived Service Quality → Customer satisfaction

The five dimensions of service quality have been captured in a questionnaire called SERVQUAL, consisting of a total of 21 items measuring these dimensions. The SERVQUAL measure has been applied in and adapted to many industry settings. Related streams of research have developed in parallel to study service encounters, customer satisfaction, customer loyalty, and their relationships with service quality. None of these now-prominent streams of research existed prior to the 1980s, and all continue to spawn research today. Zeithaml & Bitner and Gremler (2010).

### **3.2 Conceptual Framework**

The growing number of studies citing the relational paradigm by several authors Liao (2012) provides legitimacy to this research. Most of the studies in this field were concerned with identifying the key roles played by the dimensions of the variables (service quality, brand image, customer satisfaction, customer loyalty) and explores how these dimensions interact (Liao 2012; Abd-El-Salam, Shawky And El-Nahas 2013).

Many studies had examined the relationship between service quality, customer satisfaction and customer loyalty (Birgit 2009; Benjamin &

Megan 2009; Albert caruana 2002; Eugene and Jamie & Baker-P 2000; Fatma 2014; Lo Liang & Osman & Rahim 2010; Lien & yu –ching 2001). Limited studies had examined the relationship between brand image, customer satisfaction and customer loyalty (Liao 2012; Abd-El-Salam and El-Nahas 2013). These studies revealed the importance of the loyalty as determinants of service quality. As such, this study puts itself on the principle that loyalty can be influenced by different relational variables (service quality, brand image and customer satisfaction).

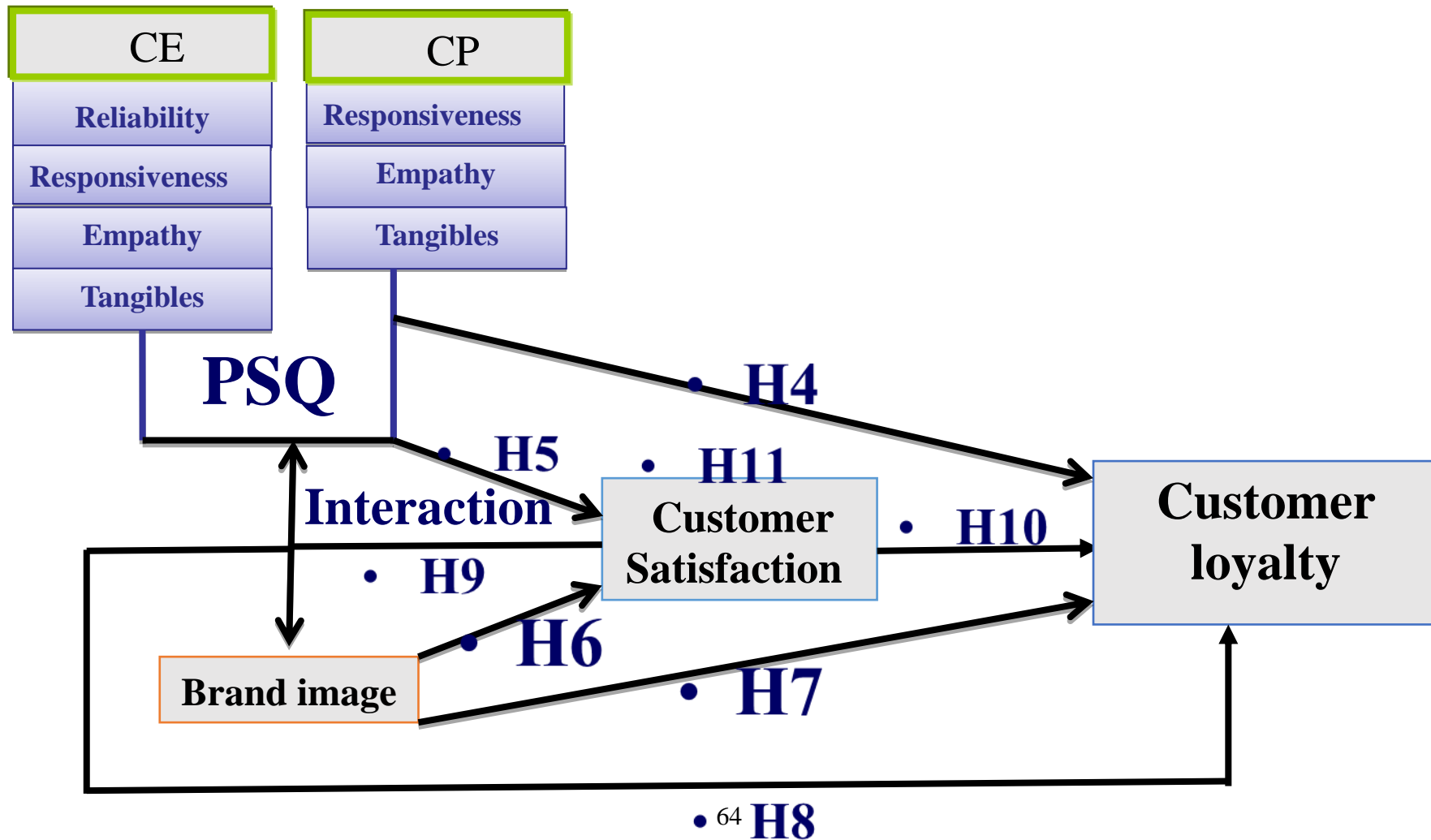
The framework demonstrates the influence of the service quality variables and brand image of customer satisfaction and customer loyalty in health care. The integrative model presented in Figure 3.1 consists of the following:

Independent variable which is the service quality and brand image

- Mediating variable is the customer satisfaction.
- Dependent variable is the customer loyalty.

The succeeding section discusses the hypotheses development that is backed by the theoretical justifications.

# The Research Conceptual Framework and Hypothesis





### 3.3 Research Hypothesis

According to literature view, this study sets up a structured framework, as shown in Figure 2. This framework expressed the interaction relationships among service quality, brand image, customer satisfaction, and customer loyalty. The structural framework explored the relationships of four latent variables. The four latent variables were service quality, brand image, customer satisfaction, and customer loyalty.

In this study, main hypotheses were developed to test the relationship between perceived service quality variables with customer satisfaction, customer satisfaction with customer loyalty. It also includes the relationship between brand image with customer satisfaction with customer loyalty.

According to (Parasuraman et al., 1985; Sivadas et al., 2000).The relationship between customer satisfaction and service quality has received a good deal of attention in the literature. However, the vast majority of articles attempting to examine this interrelationship have been of a non-empirical nature. Using experimental design and qualitative techniques, in one of the few empirical studies of this relationship, conclude that the key difference between service quality and customer satisfaction is that quality relates to managerial delivery of the service while satisfaction reflects customers' experiences with that service. They argue that quality improvements that are not based on customer needs will not lead to improved customer satisfaction, also point to this link by suggesting that improved service quality will result in a satisfied customer and suggest that to a large extent this relationship is intuitive.

Parasuraman et al. (1988) compared regression data across four companies to determine the relative importance of the five SERVQUAL dimensions. In all four cases, reliability was the most important dimension, followed by assurance as the second most critical element. In three out of four cases responsiveness was the third most critical dimension followed by tangibles, finally, empathy explained the least of variance in all four regression models.

"Reliability ... has repeatedly emerged as the most critical dimension in every study in which we have measured the relative importance of the five dimensions (to date we have completed ten such studies involving independent customer samples) ... Reliability is the essence of service quality".

The SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality. It has five generic dimensions (Moghadam & Amiresmaili 2009):

- (1) Tangibles. Physical facilities, equipment and appearance of personnel.
- (2) Reliability. Ability to perform the promised service dependably and accurately.
- (3) Responsiveness. Willingness to help customers and provide prompt service
- (4) Assurance. Competence, courtesy, credibility, security, knowledge and courtesy of employees and their ability to inspire trust and confidence
- (5) Empathy. Access, communication, understanding the customer, caring and individualized attention that the firm provides to its customers

Most authors consider service quality to be the result of comparing customer perceptions and expectations. By expectations we could understand "predictions made by consumers on what probably will occur during an imminent transaction" (Parasuraman, Zeithaml and Berry, 1988). This means that

when the customer goes to an establishment, he has already formed an idea of what the service is going to be like. On the other hand, one of the paradigms most used to study customer satisfaction has been the expectation-confirmation theory (Oliver, 1980). Within this framework, satisfaction depends on how well the customer's prior expectations are covered. The first thing that would be appropriate to describe is the difference between expectations as anticipation of the facts and expectations as a reference for comparison. Expectations as a reference for comparison can be used as a measure for evaluating satisfaction, especially of customers. However, from the point of view of the customer, the choice of a product is not only affected by his expectations, but is also influenced by his needs. Then we can say that expectations, not needs, are what offer customers a reason for acquiring a product or receiving a certain service. Often, customer expectation and needs may be exactly the same, and even interchangeable. To summarize, expectations may be both what people expect and what they want, and does not necessarily have to coincide with what they need. We could say that if we manage to take customer expectations into consideration, we will have satisfied customers. This argument makes sense when we think of satisfaction as a psychological variable that depends on how the individual perceives his own reality. In general terms, the customer is moved by reasons and emotions and, at the same time, considers the attention the service offers. In this sense, it seems that expectations are a relevant term. Although the elements it is comprised of must be analyzed for its complete understanding. (Salvador Ferrer, 2009) Previous research has pointed out that older customers are generally more satisfied than younger customers, which might imply that older customers also have a higher tendency towards increasing repurchases at

the expense of the offerings of competing companies(Jacob Eskildsen,et, al; 2008)

There is increasing recognition that the ultimate objective of customer satisfaction measurement should be customer loyalty, argues that high customer satisfaction will result in increased loyalty for the firm and that customers will be less prone to overtures from competition. However, the ability of customer satisfaction scores to predict such loyalty has not been adequately demonstrated. Anderson et al. (1994) express the fear that if firms are not able to demonstrate a link between customer satisfaction and economic performance, then firms may abandon the focus on customer satisfaction measurement. Witness, for example, managers' frustration with the inability of quality improvements to improve organizational performance, there is some evidence to support the contention that customer satisfaction translates into higher than normal market share growth, reports that the American customer satisfaction Index studies find a positive correlation between customer satisfaction and stock market returns, also offer some evidence of the linkage between customer satisfaction and loyalty, point out that customer loyalty is determined to a large extent by customer satisfaction ( Sivadas et.al 2000).

Numerous studies in the service marketing literature have hypothesized and validated empirically the relationship between satisfaction and customer loyalty such as customer referrals, purchase intentions, usage of a service, share of wallet, and retention (Anderson and Sullivan, 1993; Bolton, 1998; Bolton and Lemon, 1999; Oliver, 1999; Zeithaml et al., 1996). In line with previous research, it is hypothesized that:

H1: There is a significant relationship between demographic variables and perceived service quality.

H1.1 There is a significant relationship between gender and expectation service quality variables.

H1.2 There is a significant relationship between gender and perception service quality variables.

H1.3 There is a significant relationship between age and expectation service quality variables.

H1.4 There is a significant relationship between age and perception service quality variables.

H1.5 There is a significant relationship between education and expectation service quality variables

H1.6 There is a significant relationship between education and perception service quality variables

H1.7. There is a significant relationship between numbers of times deals with hospital and expectation service quality variables

H1.8. There is a significant relationship between numbers of times deals with hospital and perception service quality variables.

H1.9 There is a significant relationship between number of years with hospital and expectation service quality variables

H1.10 There is a significant relationship between number of years with hospital and perception service quality variables

H1.11 There is a significant relationship between job and expectation service quality variables

H1.12 There is a significant relationship between job and perception service quality variables

H1.13 There is a significant relationship between hospital location and expectation service quality variables

H1.14 There is a significant relationship between hospital location and perception service quality variables.

H2: There is a significant relationship between demographic variables and customer loyalty.

H2.1 There is a significant relationship between gender and customer loyalty.

H2.2 There is a significant relationship between age and customer loyalty.

H2.3 There is a significant relationship between education and customer loyalty.

H2.4 There is a significant relationship between number of times deals and customer loyalty.

H2.5 There is a significant relationship between number of years deals with hospital and customer loyalty.

H2.6 There is a significant relationship between job and customer loyalty.

H2.7 There is a significant relationship between hospital location and customer loyalty.

H3: There is a significant relationship between demographic variables and customer satisfaction

H3.1 There is a significant relationship between gender and customer satisfaction

H3.2 There is a significant relationship between age and customer satisfaction

H3.3 There is a significant relationship between education and customer satisfaction

H3.4 there is a significant relationship between number of times deals and customer satisfaction

H3.5 There is a significant relationship between number of years deals with hospital and customer satisfaction

H3.6 There is a significant relationship between job and customer satisfaction

H3.7 There is a significant relationship between hospital location and customer satisfaction

H4: There is a significant relationship between perceived service quality variables and customer loyalty.

H4.1 There is a significant relationship between expectation service quality variables and customer loyalty.

H4.1.1 There is a significant relationship between tangibles and customer loyalty.

H4.1.2 There is a significant relationship between responsiveness and customer loyalty.

H4.1.3 There is a significant relationship between empathy and customer loyalty.

H4.1.4 There is a significant relationship between reliability and customer loyalty.

H4.2 There is a significant relationship between perception service quality variables and customer loyalty.

H4.2.1 There is a significant relationship between tangibles and customer loyalty.

H4.2.2 There is a significant relationship between responsiveness and customer loyalty.

H4.2.3 There is a significant relationship between empathy and customer loyalty.

H5: There is a significant relationship between perceived service quality variables and customer satisfaction

H5.1 There is a significant relationship between expectation service quality variables and customer satisfaction

H5.1.1 There is a significant relationship between tangibles and customer satisfaction

H5.1.2 There is a significant relationship between responsiveness and customer satisfaction

H5.1.3 There is a significant relationship between empathy and customer satisfaction

H5.1.4 There is a significant relationship between reliability and customer satisfaction

H5.2 There is a significant relationship between perception service quality variables and customer satisfaction

H5.2.1 There is a significant relationship between tangibles and customer satisfaction

H5.2.2 There is a significant relationship between responsiveness and customer satisfaction

H5.2.3 There is a significant relationship between empathy and customer satisfaction

H6: There is a significant relationship between brand image variables and customer satisfaction

H7: There is a significant relationship between brand image variables and customer loyalty



H8: There is a significant relationship between interact (perceived service quality \* brand image) and customer loyalty

H8.1 There is a significant relationship between interact (expectation service quality \* brand image) and customer loyalty

H8.1.1 There is a significant relationship between interact (tangible \* brand image) and customer loyalty

H8.1.2 There is a significant relationship between interact (responsiveness\* brand image) and customer loyalty

H8.1.3 There is a significant relationship between interact (empathy \* brand image) and customer loyalty

H8.1.4 There is a significant relationship between interact (reliability \* brand image) and customer loyalty

H8.2 There is a significant relationship between interact (perception service quality \* brand image) and customer loyalty

H8.1.1 There is a significant relationship between interact (tangible \* brand image) and customer loyalty

H8.1.2 There is a significant relationship between interact (responsiveness\* brand image) and customer loyalty

H8.1.3 There is a significant relationship between interact (empathy \* brand image) and customer loyalty

H9: There is a significant relationship between interact (perceived service quality \* brand image) and customer satisfaction.

H9.1 There is a significant relationship between interact (expectation service quality \* brand image) and customer satisfaction.

H9.1.1 There is a significant relationship between interact (tangible \* brand image) and customer satisfaction.

H9.1.2 There is a significant relationship between interact (responsiveness\* brand image) and customer satisfaction.

H9.1.3 There is a significant relationship between interact (empathy \* brand image) and customer satisfaction.

H9.1.4 There is a significant relationship between interact (reliability \* brand image) and customer satisfaction.

H9.2 There is a significant relationship between interact (perception service quality \* brand image) and customer satisfaction.

H9.2.1 There is a significant relationship between interact (tangible \* brand image) and customer satisfaction.

H9.2.2 There is a significant relationship between interact (responsiveness\* brand image) and customer satisfaction.

H9.2.3 There is a significant relationship between interact (empathy \* brand image) and customer satisfaction.

H10 There is a significant relationship between customer satisfaction and customer loyalty.

H11 Customer satisfaction mediates the relationship between interact (service quality \* brand image) and customer loyalty.

H11.1 Customer satisfaction mediates the relationship between interact expectation (tangibles\* brand image) and customer loyalty.

H11.2 Customer satisfaction mediates the relationship between interact expectation (responsiveness\* brand image) and customer loyalty.

H11.3 Customer satisfaction mediates the relationship between interact expectation (empathy\* brand image) and customer loyalty.

H11.4 Customer satisfaction mediates the relationship between interact expectation (reliability\* brand image) and customer loyalty

H11.5 Customer satisfaction mediates the relationship between interact Perceptions (responsiveness\* brand image) and customer loyalty.

H11.6 Customer satisfaction mediates the relationship between interact Perceptions (empathy\* brand image) and customer loyalty.

H11.7 Customer satisfaction mediates the relationship between interact Perceptions (tangibles\* brand image) and customer loyalty

### **3.4 Research Design data collection**

This section is designed to discuss in detail the data collection procedure, sampling technique, questionnaire design and development administration of questionnaire as well as the data analysis techniques. Hair, Anderson, Tatham & Black (1998) defined data as those facts that are related to any issue or subject of the study. In marketing research, the two basic methods for data collection are primary and secondary. The primary method includes data that are collected for the purpose of the investigation, while the secondary method includes the data that are collected for other purposes of the study. The main difference between primary and secondary data is not based on how these data are collected but on its purpose.

Presents a summary of the response rate, a total of 450 questionnaires were distributed to the respondents. Therefore, the customers of Makah Hospital were asked in sample of population to fill the questionnaires,

total of 400 questionnaires were returned to researcher. The overall response rate was 90.0%, and this high response rate due to the questionnaires was given one by one and face to face to the respondents, and as well as, the questionnaire was distributed by volunteers (Sekaran, 2003).

The questionnaire was distributed in 8 hospitals albasar international foundation in Sudan through the quota sampling ( Khartoum 36.5 % , Omdurman 22% , port Sudan 6.5% , nyala 3% , madani 11% , al kalakla 14% , Dmazin 3% , kassala 4% by external volunteers, and used the descriptive method.

This step is based on the research objectives, problem statement, and the research issues. The survey questions were designed precisely to give clear ideas about the problems for the target respondents to answer. The questions on the research instrument were divided into the following: Questionnaire consists of 6 parts Part one covers the demographic questions, Part 2 cover questions on customer expectation, Part 3 cover questions customer perception, Part 4 cover questions brand image, Part 5 cover questions customer satisfaction, Part 6 cover questions customer loyalty.

All the responses except on the company's profile were elicited on a 5 points scale, 1=strongly disagree 5= strongly agree. Likert scale had been chosen for its clarity and ease of use

Formatting of the questionnaire involves the conversion of the research objectives into information required to obtain the necessary output of the questionnaire. All the research constructs in this study had been converted into the relevant questions and clearly stated. . Therefore, the instrument requires translation to Arabic languages.

Question wording examines whether the questions are clearly understandable to all respondents. Thus it is necessary to use simple terminologies to avoid unclear or elusiveness in the meaning. It is important to avoid double-barrelled or misleading and confusing questions. Beside the phrasing and length of questions, it is also designed to solicit ideas and answers from target respondents. Simple statements were framed so that the questionnaire could be easily understood. In the process, the instrument was revised by professors from the School of management, university Khartoum and Sudan. Moreover, to be sure that the questionnaire will be clear for the respondents, three doctors were requested to review the wording of the questionnaire. The final version of the instrument was simplified by erasing or replacing some questions to reduce the time required in answering the questionnaire.

Sequence and flow of the statements for achieving the respondent's cooperation, the instrument should start with easy questions flow containing from general to specific questions. The sensitive or difficult questions must be avoided or not placed at the beginning. Moreover, an attractive layout of the questionnaire is considered for clarity of the items presented.

Table 3.1 Measurement of the Variables

variable	Items	Source
Tangibles	4+4	(Norazah M.S, Lian,Norbayah,2009;Charlene P.Bebko,2000) , a.parasuraman ,a. zeithamel, l.berry (1988)
Reliability	5+5	(Norazah.M.S, Lian,

		Norbayah,2009;Charlene P. Bebko,2000) a.parasuraman ,a. zeithamel, l.berry (1988)
Responsiveness	4+4	(Norazah.M.S , Lian, Norbayah,2009;Charlene P.B ,2000) a.parasuraman ,a. zeithamel, l.berry (1988)
Assurance	4+4	(Norazah.M.S , Lian, Norbayah,2009;Charlene P. Bebko,2000)
Empathy	5+5	(Norazah.M.S , Lian, Norbayah,2009;Charlene P.B ,2000)
Brand image	10	Dev Jania, Heesup Hanb (2014)
Customer satisfaction	5	(Simon J. Bell and Andreas B. Eisingerich, 2007; Mara Cameran_, Peter Moizer and Angela P , 2010)
customer loyalty ( recommending)	5	Amy Wong, Amrik S. Sohal,2004):Ahmad P. M. S, Azizan M, Maryam Y & Ala`a N AbuKhalifeh.2012)
customer loyalty (Revisit)	5	(Yam B. L , Marco W, Dale L, 2012)

### 3.5 Data Analysis Techniques

To analyze the data and test the hypotheses, several statistical tools were employed. Statistical package for social science (SPSS) Version 11.0 was used with the following techniques:

1. Factor analysis (principal component) used to validate and ensure the goodness of measures using the following guidelines:

Eigenvalue of 1 or greater

VARIMAX rotation method

The cut-off point for significant factor loading is  $> 0.35$  (Hair et. al., 1998)

2. Cronbach alpha for Reliability to measure the internal consistency.
3. Descriptive statistics was used to describe the respondent's characteristics.
4. Pearson correlation was used to see the degree of correlation between the variables
5. Multiple Liner Regression was used to test the hypothesis.
6. The correlation analysis was conducted to see the initial picture of the interrelationships among the variables of the study
7. Beta coefficient

### **3.6 Summary**

The chapter presented the research framework which was derived from the literature review. It also presented the research methodology which covered the research design, sampling procedure, development and design of the research instrument and administration of the field work. Furthermore, the chapter highlighted the measurement of the variables and presented the statistical techniques used in testing the hypothesis. The succeeding chapter presents the result of the findings and hypotheses testing.



## Chapter 4

### Data Analysis & Findings

#### 4.1 Questionnaires Rate of Return

Table 4.1 presents a summary of the response rate. A total of 450 questionnaires were distributed to the respondents. Therefore, the customers of MAKAH Hospitals were asked in sample of population to fill the questionnaires, a total of 400 questionnaires returned to researcher. The overall response rate was 90.0%, and this high response rate due to the questionnaires was given one by one and face to face to the respondents, and as well as, the questionnaire was distributed by volunteers (Sekaran, 2003).

Table (4.1)

Total Questionnaires sent to the companies	450
Returned questionnaires (not filled- up)	35
Completed questionnaire received from respondents	405
Returned questionnaires (partially answered)	0
Questionnaires not returned	10
Overall response Rate	90.0
Usable response Rate	90.0%

*Source: prepared By Researcher.*

## 4.2 Respondent characteristics

The table (4.2) also shows that: the respondents' sex majority of them were male (58.3%), followed by female (37.5%). Concerning the respondents' ages more than 61 years represents (18.5%) as lower ratio and those between (21-40) year was account for (53.8%). whereas the respondents' ages less than (20years) years were (18.5%), and lastly, the respondents ages between (41- 60) year were represents (17.8).

Concerning for the respondents educational level that fill up the questionnaires, majority of them were graduate and post graduate education level and account for (45.0%), followed by the level of secondary School education (24.5%); and level of primary education were (15.0%) and (13.5%) were diploma level .

Regarding the respondents job & occupation, majority of them were employees (33.3%) as a high ratio, followed by (23.3%) of the respondents were students, (10.3%) were handicrafts While 96.3%) business man, (4.8%) retired and other respondents were (17.8%).

Regarding the respondents numbers of times dealing with Hospital, majority of them were deal (2-6)times (46.0%) as a high ratio, followed by New dealers (33.5%) in addition the respondent deal for more than 10 times were represent (10.8%) and lastly (6.8%) as (7-10)times dealers.

As for the years of respondents' with Makah hospital, the table shows that respondents' whom they have duration with Hospital from (1 - 5) were account (65.5%) followed by the whom have duration from (6 -10 years)

were account (9.5%), and respondents' whom they have duration more than (10years) (2.8%)

Concerning of the Hospital location which respondents received the service from that the majority of the respondents were received the service from Omdurman (23.8%) followed by Alkalakla (17.0%) followed by Riad (16.0%) followed by Portsudan (6.8%) followed by Medani (6.5%) followed by Nyala (5.8%) followed by Kassala (5.3%) and lastly Damazeen (3.5%)

Table (4.2) Respondent characteristics

		Frequency	Percent
Gender	Male	233	58.3%
	Female	150	37.5%
	Missing	17	4.3%
Total		270	100%
Age	less than 20year	74	18.5
	21-40	215	53.8
	41- 60	71	17.8
	more than 61	30	7.5
	Missing	10	2.5
		400	100%
Education level	Primary	60	15%
	Secondary	98	24.5%
	Diploma	54	13.5%
	University and above	180	45.0%
	Missing	8	2.0%
		400	100%

Job	Handicraft	41	10.3
	Employee	133	33.3
	business man	25	6.3
	Retired	19	4.8
	Student	93	23.3
	Other	71	17.8
	Missing	18	4.5
<b>Total</b>		<b>400</b>	<b>100%</b>
Numbers of times deals	New	134	33.5
	2-6	184	46.0
	7-10	27	6.8
	more than 10	43	10.8
	Missing	12	3.0
<b>Total</b>		<b>400</b>	<b>100%</b>
Numbers of Years	1-5	262	65.5%
	6-10	38	9.5%
	above 10years	11	2.8%
	Missing	89	22.2
<b>Total</b>		<b>400</b>	<b>100%</b>
	Alkalakla	68	17.0%
	Omdurman	95	23.8%
	Nyala	23	5.8%
	port Sudan	27	6.8%
	Medani	3	.8%
	Riad	64	16.0%
	Kassala	21	5.3%

	Medani	26	6.5%
	Damazeen	14	3.5%
	Missing	59	14.8
Total		400	100

Source: researcher from analysis 2014

### 4.3 Factor analysis of Relationship contextual variables

Factor analysis was done on the twenty two - items, which was used to measure expected quality variables constructs. Table 4.3 showed the summary of results of factor analysis on measure expected quality variables and the SPSS output is shown in appendix.

Table 4.3 shows that the items for relationship contextual variables loaded on four components/factors with eigenvalues exceeding 1.0. These three factors explain 60.73% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factor of expected quality variables is tangibles captures (6) items. Thus the second factor will be responsiveness, and the third factor reliability captures two items however, the name original name of this factor was retained as it is and the fourth factor was empathy captures three items however, the name original name of this factor was retained as it is

As shown in Table 4.3, factor loading of expected quality variables items on the four factors ranged from 0.559 to 0.810. Thus, this study found that expected quality in Sudanese Health sector consists of four factors, namely; tangibles, responsiveness, reliability and empathy

Table (4.3) Rotated Factor Loading for Expected Quality variables

Items No:	Components			
	4	1	2	3
<b>Tangibles</b>				
They should have up-to date equipment. .	.710	.116	.050	.178
Their physical facilities should be visually appealing.	.700	.143	-.037	.164
Their employees should get adequate support from this organization to do their jobs well.	.691	.226	.292	-.065
This organization should be dependable.	.642	.263	.189	.265
When customers have problems, these firms should be sympathetic and reassuring.	.634	.264	.092	.288
these organization should not be expected to give customers individual attention	.559	.246	.476	.069
<b>Responsiveness</b>				
Their employees don't always have to be willing to help customers.	.193	.719	.186	.327
Customers should be able to feel safe in their transaction with these organization ' employees.	.325	.704	.238	-.104
customers should be able to trust employee of these organization	.119	.682	.302	.053
Their employees should be polite.	.333	.658	.058	.189
its ok if they are too busy to respond to customers request promptly	.033	.605	.022	.461
They should not be expecting to tell customers exactly when	.347	.579	.115	.252

services will be performed.				
Reliability				
it's unrealistic to expect these firms to have their customers , best interests at heart	.250	.085	.810	.126
They should not be expected to have operating hours convenient to all their customers.	.019	.320	.719	.138
Empathy				
They should provide their services at the time they promise to do so.	.318	.193	.117	.689
When these organization promise to do something by a certain time, they should do so.	.441	.143	.090	.645
It's unrealistic to expect employees to know what the needs of their customers are.	.016	.188	.472	.568
Total variance explained (%)			60.73	
Kaiser-Meyer-Olkin (KMO)			.90	
Bartlett's Test of Sphercity			2132.85	

### 4.3.1 Factor Analysis of Perceived Quality Variables

Table 4.4 shows that the items for perceived quality loaded on three component/ factor with eigenvalues exceeding 1.0. These three factors explain 64.97% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factors of perceived quality are responsiveness' captures nine items and the second factor of

perceived quality is empathy captures four items thus there is some items merged together, the third factor of perceived quality is tangibles captures three items however, the name of this factor will be tangibles.



Items No:	Components		
	1	2	3
Responsiveness'			
You can trust employees of (BIF).	.857	.055	.249
(BIF) does not have operating hours convenient to all their customers.	.787	.237	.201
Employees of (BIF) are polite.	.755	.140	.294
You feel safe in your transaction with (BIF) employees.	.687	.233	.259
You don't receive prompt service from (BIF) employees.	.669	.405	.148
Employees of (BIF) are too busy to respond to customer request promptly.	.657	.399	.168
When you have problems, (BIF) is sympathetic and reassuring.	.637	.368	.188
(BIF) is dependable.	.552	.467	.336
(BIF) does not tell customers exactly when services will be performed.	.541	.377	.352
Empathy			
Employees of (BIF) do not give personal attention.	.065	.830	.110
(BIF) provides its service at the time it promises to do so.	.375	.658	.181
Employees get adequate support from (BIF) to do their jobs well.	.356	.599	.310
(BIF) does not give you individual attention.	.499	.573	.183
Tangibles			
(BIF) employees are well dressed and appear neat.	.245	.069	.810
(BIF) physical facilities are visually appealing.	.251	.208	.783
The appearance of the physical facilities of (BIF) is in keeping with the type of services provided.	.247	.408	.645

Total Variance Explained (%)	64.97
Kaiser-Meyer-Olkin (KMO)	.923
Bartlett's Test of Sphericity	3003.57

As shown in Table 4.4, factor loading perceived quality items present in three factors ranged from 0.541 to 0.857. Thus, this study found that perceived quality in Sudanese Health sector consists of three factors

Table 4.4 Rotated Factor Loading for Perceived Quality variables

### 4.3.2 Factor Analysis of Brand Image Variables

Table 4.5 shows that the items for brand image loaded on one component/factor with eigenvalues exceeding 1.0. These three factors explain 63.29% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factor of brand image is captures ten items out of ten merged. However, the name of this factor will as its.

As shown in Table 4.5, factor loading brand image items present in one factors ranged from 0.73 to 0.85. Thus, this study found brand image in Sudanese health sector consists of one factor,

Table (4.5) Factor analysis of Brand Image

Variables	Factor 1	
(BIF) provides an excellent service to customers.	.851	
(BIF) is sincere to the customers.	.838	
(BIF) is a successful organization.	.826	
(BIF) is honest	.814	
(BIF) is familiar to the customer satisfaction.	.810	

(BIF) makes a lot of contribution to the society.	.790	
(BIF) is a large-scale organization.	.764	
(BIF) has a good reputation.	.761	
(BIF) reliable organization.	.757	
(BIF) has a superior technology in health.	.736	
Variance explained	63.29	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.935	
Bartlett's Test of Sphericity	2391.71	

#### 4.3.4 Factor Analysis of Customer Loyalty Variables

Table 4.6 shows that the items for customer loyalty loaded on one component/factor with eigenvalues exceeding 1.0. These three factors explain 71.33% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum values of 0.50, with value of cross loading less than .50. The first factors of customer loyalty is captures ten items out of ten merged., however, the name of this factor will as its.

As shown in Table 4.6, factor loading customer loyalty items present in one factors ranged from 0.75 to 0.878. Thus, this study found that customer loyalty in Sudanese health sector consists of one factor,

Table (4.6)) Factor analysis of Customer Loyalty

Variables	Factor 1	
I intend to continue to benefit from the services of this hospital.	.878	
I will definitely buy services from this hospital in the future	.877	
I encourage friends and relatives to use hospital	.865	
I feel comfortable in visit this hospital	.864	
I would like to visit this hospital again in the future	.864	
I am likely to revisit this hospital in the future	.858	
I am recommending the hospital to those who seek my advice.	.850	
I feel I am very loyal to this hospital as a destination choice.	.845	
I can trust the performance of this hospital to be good	.779	
I am saying positive things about the hospital to other people.	.757	
Variance explained	71.33	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.938	
Bartlett's Test of Sphericity	3344.07	

### 4.3.5 Factor Analysis of Customer Satisfaction Variables

Table 4.7 shows that the items for customer satisfaction loaded on one component/factor with eigenvalues exceeding 1.0. These three factors explain 70.74% of variance in the data (above the recommended level of 0.60). All the remaining items also had the factor loading values above the minimum

values of 0.50, with value of cross loading less than .50. The first factors of customer satisfaction is captures ten items out of ten merged., however, the name of this factor will as its.

As shown in Table 4.7, factor loading customer satisfaction items present in one factors ranged from 0.61 to 0.91. Thus, this study found customer satisfaction in Sudanese health sector consists of one factor.

Table (4.7) Factor analysis of Customer Satisfaction

Variables	Factor 1	
I am pleased that I purchased the services from the hospital.	.912	
I feel good about my decision to purchase the hospital services.	.902	
My decision to purchase services from hospital was a wise one	.878	
Overall satisfaction with hospital	.862	
This hospital has met our expectations	.615	
Variance explained	70.74	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.861	
Bartlett's Test of Sphericity	1212.19	

The results in the above table (4.8) indicates to the respondents evaluation of services quality provided by Makah Hospital measured by the difference between the average of perceptions and expectation for each elements of variables, the data analysis illustrate the following:

It can be seen from the table that all parameters under (*tangibles, responsiveness and empathy*) dimensions customers' expectations & perceptions are at same level. Overall perception of customers' concerning these dimensions is highest from the expectation.

These three dimensions where majority of dimensions of service quality are having positive mean quality gap score so it can be stated that Makah Hospital is meeting with the expectations of customers for these dimension or customers are satisfied with (*tangibles, responsiveness, empathy*)

Table 4.8 the difference between the mean of customer perceptions and expectations of service quality elements provided by Makah hospital for eyes in Sudan

Dimensions of Service Quality	Mean of Expectations	Mean of Perceptions	The Difference
<i>Tangibles</i>	1.68	1.68	0.00
<i>Responsiveness</i>	1.72	1.67	0.05
<i>Empathy</i>	1.75	1.52	0.23

#### 4.4. Reliability Analysis

Reliability is an assessment of the degree of consistency between multiple measurements of variables (Hair et al., 2010). To test reliability this study used cronbach's alpha as a diagnostic measure, which assesses the consistency of entire scale, since being the most widely used measure. According to Hair et al. (2010), the lower limit for cronbach's alpha is 0.70, although it may decrease to 0.60 in exploratory research. While Nunnally (1978) considered cronbach's alpha values greater than 0.60 are to be taken as reliable.

The results of the reliability analysis summarized in Table 4.9 confirmed that all the scales display satisfactory level of reliability (cronbach's alpha exceed the minimum value of 0.60). Therefore, it can be concluded that the measures have acceptable level of reliability. The full SPSS output is displayed in Appendix.

Table (4.9) Reliability

Construct	Variable	Number of items	Cronbach's alpha
Expectation Quality	Tangibles	6	.8270
	Responsiveness	6	0.832
	Reliability	2	.6780
	Empathy	3	0.651
Perceptions Quality	Responsiveness'	9	.919
	Empathy	4	0.790
	Tangibles	3	0.770
Brand	Brand image	10	0.935
The Mediator	Customer Satisfaction	5	0.848
customer <i>loyalty</i>	customer loyalty	10	0.955

#### 4.4.1 Descriptive Analysis of Service quality (expected and percept) variables

Table 4.10 shows the means and standard deviations of the four dimensions of *service quality (expectation) variables*: tangibles, reliability, responsiveness' and empathy. The table reveals that the *quality (expectation)*

*variables* emphasized more on empathy (mean=1.52, standard deviation=.635), followed by responsiveness (mean=1.67, standard deviation=0.599), and then tangibles (mean=1.68, standard deviation=0.554), followed by reliability (mean=1.70, standard deviation=0.646), and

While *service quality (perceptions) variables*: tangibles, responsiveness', and empathy, The table below reveal that *service quality (perceptions) variables* emphasized more on tangibles (mean=1.68, standard deviation=.648), followed by responsiveness (mean=1.72, standard deviation=0.626), and then empathy (mean=1.75, standard deviation =0.660),

Given that the scale used a 5-point scale (1= strongly agree, 5= strongly disagree), it can be concluded that Makah Hospital have high Level of service quality above the average mean.

Table (4.10)

Descriptive Analysis of *service quality (expectation& Perceptions) variables*

Descriptive Analysis of <i>service quality (expectation)</i>	Mean	Standard Deviation
Tangibles	1.68	.554
Responsiveness	1.67	.599
Empathy	1.52	.635
Reliability	1.70	.646
<i>service quality (Perceptions)</i>		
Responsiveness	1.72	.626
Empathy	1.75	.660



Tangibles	1.68	.648

Note: All variables used a 5-point likert scale (1= strongly agree, 5= strongly disagree)

#### 4.4.2 Descriptive Analysis of Brand Image

Table 4.11 shows the means and standard deviations of the brand image. The table reveals that the Makkah Hospital have well known and accepted brand image (mean=1.55, standard deviation=.570), Given that the scale used a 5-point scale (1= strongly agree, 5= strongly disagree),

Table 4.11

Descriptive Analysis of Brand Image Variables

Descriptive Analysis of Brand Image	Mean	Standard Deviation
of Brand Image	1.55	.570

Note: All variables used a 5-point likert scale (1= strongly agree, 5= strongly disagree)

#### 4.4.3 Descriptive Analysis of Customer Satisfaction

Table 4.12 shows the means and standard deviations of the customer satisfaction. The table reveals that the customers of Makah Hospital are very satisfied (mean=1.61, standard deviation=.713), Given that the scale used a 5-point scale (1= strongly agree, 5= strongly disagree),

Table 4.12

Descriptive Analysis of Customer Satisfaction Variables

Descriptive Analysis of Customer Satisfaction	Mean	Standard Deviation
Customer Satisfaction	1.61	.713

Note: All variables used a 5-point likert scale (1= strongly agree, 5= strongly disagree)

#### 4.4.4 Descriptive Analysis of Customer loyalty

Table 4.13 shows the means and standard deviations of the two dimensions of customer loyalty: customer loyalty. The table reveals that the customer of Makah Hospital have high loyalty to Makah Hospital by (mean=1.59, standard deviation=0.667), Given that the scale used a 5-point scale it can be concluded that Makah Hospital have a high loyal customer

Table 4.13

Descriptive Analysis of customer loyalty Variables

Descriptive Analysis customer loyalty	Mean	Standard Deviation
customer loyalty	1.59	.667

Note: All variables used a 5-point likert scale

The first hypothesis: There are statistically significant differences between the average mean of the Respondents in terms of quality of service by demographic variables (gender, age, educational level, occupation, number of times dealing, years of dealing)

Table (4.14) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by gender

Variables		Mean	St.Deviation	T value	Sig	
Tangibles	Male	1.65	.540	-1.774	.171	T
	Female	1.75	.581	-1.747		
Responsiveness	Male	1.67	.568	-.298	.664	
	Female	1.69	.638	-.291		
Empathy	Male	1.52	.644	-.099	.676	
	Female	1.53	.623	-.100		
Reliability	Male	1.68	.607	-1.099	.133	
	Female	1.76	.684	-1.072		

For Testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in Table (4.14), which shows that the value of the significance level for expectation quality of service variable above 0.05, which means that there are No differences in the gender and expectation quality of service

Table (4.15) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by gender

Variables		Mean	St.Deviation	T value	Sig
Tangibles	Male	1.71	.600	-.680	.221
	Female	1.75	.669	-.665	
Responsiveness	Male	1.76	.639	.243	.660
	Female	1.74	.669	.240	
Empathy	Male	1.68	.668	-.447	.241
	Female	1.71	.622	-.454	

For Testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in Table (4.15), which shows that the value of the significance level for perceptions quality of service variable above 0.05, which means that there are no differences in the gender and perceptions quality of service

Table (4.16) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by age

Variables	Mean square	Sum of square	F	Sig
Tangibles	2.264	4.53	7.59	.001
	.298	114.27		
		118.80		
Responsiveness	.842	1.68	2.36	.096
	.356	134.65		
		136.33		
Empathy	.721	1.44	1.78	.171
	.406	152.52		
		153.96		
Reliability	1.734	3.47	4.20	.016
	.413	157.70		
	2.264	161.17		

From the table (4.16) we found that the present value of (empathy and responsiveness) above the value of significance level (0.05) beside found that value of significance level of (tangibles and reliability) less than the (0.05)

which means that there are differences in the age and expectation quality of service

Table (4.17) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by age

Variables	Mean square	Sum of square	F	Sig
Tangibles	1.542	3.08	3.972	.020
	.388	142.87		
		145.95		
Responsiveness	2.060	4.12	4.801	.009
	.429	157.91		
		162.03		
Empathy	1.417	2.83	3.411	.034
	.416	152.91		
		155.74		

From the table (4.17 ) we found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level less than the (0.05) which means that there are differences in the age and perceptions quality of service

Table (4.18) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by Education Level

Variables	Mean square	Sum of square	F	Sig
Tangibles	3.401	10.20	11.997	.000
	.283	108.57		
		118.77		
Responsiveness	1.178	3.54	3.333	.020
	.354	133.66		
		137.20		
Empathy	.184	0.55	.452	.716
	.408	153.41		
		153.96		
Reliability	2.080	6.24	5.139	.002
	.405	154.65		
		160.89		

From the table (4.18) we found that the present value of (empathy) above the value of significance level (0.05) beside found that value of significance level of (tangibles, responsiveness and reliability) less than the (0.05) which means that there are differences in the education Level and expectation quality of service

Table (4.19) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by education Level

Variables	Mean square	Sum of square	F	Sig
Tangibles	3.622	10.87	9.887	.000
	.366	134.81		
		145.68		
Responsiveness	3.043	9.13	7.336	.000
	.415	152.67		
		161.80		
Empathy	3.798	11.39	9.698	.000
	.392	144.10		
		155.49		

From the table ( 4.19) we found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level less than the (0.05) which means that there are differences in the education Level and perceptions quality of service

Table (4.20) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by number of times dealing with hospital

Variables	Mean square	Sum of square	F	Sig
Tangibles	.646	1.29	2.106	.123
	.307	116.94		
		118.23		
Responsiveness	1.352	2.70	3.807	.023
	.355	133.49		
		136.20		
Empathy	.020	0.04	.049	.952
	.411	153.69		
		153.73		
Reliability	.519	1.04	1.232	.293
	.421	159.90		
		160.94		

From the table (4.20 ) we found that the present value of (tangibles, empathy, reliability) above the value of significance level (0.05) beside found that value of significance level of ( responsiveness) less than the (0.05) which means that there are differences in the number of times dealing with hospital and expectation quality of service



Table (4.21) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by number of times dealing with hospital

Variables	Mean square	Sum of square	F	Sig
Tangibles	.258	.52	.650	.523
	.397	145.21		
		145.72		
Responsiveness	.017	.03	.039	.962
	.442	161.87		
		161.91		
Empathy	.720	1.44	1.710	.182
	.421	154.08		
		155.52		

From the table (4.21) we found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level above than the (0.05) which means that there are no differences in the number of times deals with hospital and perceptions quality of service.

Table (4.22) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by number of years with hospital

Variables		Mean	St.Deviation	T value	Sig
Tangibles	1 – 5	1.70	.567	.133	.828
	6 – 10 above	1.69	.531	.139	
Responsiveness	1 – 5	1.72	.633	1.711	.992

	6 – 10 above	1.55	.545	1.893	
Empathy	1 – 5	1.55	.636	1.817	.262
	6 – 10 above	1.38	.526	2.066	
Reliability	1 – 5	1.75	.683	.998	.758
	6 – 10 above	1.65	.602	1.089	

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.22), which shows that the value of the significance level for expectation quality of service variable above 0.05, which means that there are no differences by the number of years with hospital and expectation quality of service

Table (4.23) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by number of years with hospital

Variables		Mean	St.Deviation	T value	Sig
Tangibles	1 – 5	1.738	.615	.970	.720
	6 – 10 above	1.643	.618	.967	
Responsiveness	1 – 5	1.760	.659	.449	.328
	6 – 10 above	1.713	.700	.431	
Empathy	1 – 5	1.700	.639	-.090	.099
	6 – 10 above	1.709	.731	-.082	

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.23), which shows that the value of the significance level for perceptions quality of service variable above 0.05, which means that there are no differences by the number of years with hospital and perceptions quality of service

Table (4.24) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by job

Variables	Mean square	Sum of square	F	Sig
Tangibles	.885	4.43	2.925	.013
	.303	112.25		
		116.67		
Responsiveness	.608	3.04	1.695	.135
	.359	131.24		
		134.28		
Empathy	.602	3.01	1.518	.183
	.396	144.32		
		147.33		
Reliability	.485	2.42	1.171	.323
	.414	153.21		
		155.64		

From the table (4.24 ) we found that the present value of (responsiveness, empathy, reliability) above the value of significance level (0.05) beside found that value of significance level of (tangibles) less than the (0.05) which means that there are differences in the job and expectation quality of service

Table (4.25) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by job

Variables	Mean square	Sum of square	F	Sig
Tangibles	.486	2.43	1.228	.295
	.396	140.82		
		143.25		
Responsiveness	.147	0.74	.334	.893
	.442	157.33		
		158.07		
Empathy	.780	3.90	1.866	.100
	.418	149.24		
		153.14		

From the table (4.25) we found that the present value of variables:

(tangibles, empathy and responsiveness) at value of significance level above than the (0.05) which means that there are no differences between the job and perceptions quality of service.

Table (4.26) there are statistically significant differences between the average mean of respondents in terms of expectation quality of service by hospital location

Variables	Mean square	Sum of square	F	ig
Tangibles	.249	1.99	.753	.645
	.331	108.44		
		110.43		

Responsiveness	.194	1.55	.532	.832
	.365	118.34		
		119.89		
Empathy	1.197	9.58	3.399	.001
	.352	113.40		
		122.97		
Reliability	.269	2.15	.635	.748
	.423	138.42		
		140.57		

From the table (4.26 ) we found that the present value of (responsiveness, tangibles, reliability) above the value of significance level (0.05) beside found that value of significance level of (empathy) is less than the (0.05) which means that there are differences by the hospital location and expectation quality of service

Table (4.27) there are statistically significant differences between the average mean of respondents in terms of perceptions quality of service by hospital location

Variables	Mean square	Sum of square	F	Sig
Tangibles	.174	1.39	.415	.912
	.419	133.80		
		135.19		
Responsiveness	.196	1.57	.437	.899
	.449	143.28		
		144.85		

Empathy	.105	0.84	.250	.981
	.420	133.99		
		134.83		

From the table (4.27) we found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level above than the (0.05) which means that there are no differences by the hospital location and perceptions quality of service.

Table (4.28) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by gender

Variables		Mean	St.Deviation	T value	Sig
Customer Loyalty	Male	1.582	.670	-0.361	.765
	Female	1.608	.671	-0.361	

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.28), which shows that the value of the significance level for customer loyalty above 0.05, which means that there are no differences in the gender and customer loyalty

Table (4.29) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by age

Variables	Mean square	Sum of square	F	Sig
Customer Loyalty	1.410	2.82	3.15	.044
	.447	165.08		
		167.90		

From the table (4.29) we found that the present value of customer loyalty at value of significance level less than the (0.05) which means that there are differences by the age and customer loyalty

Table (4.30) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by education level

Variables	Mean square	Sum of square	F	Sig
Customer Loyalty	1.908	5.724	4.34	.005
	.439	162.016		
		167.740		

From the table (4.30) we found that the present value of customer loyalty at value of significance level less than the (0.05) which means that there are differences by the education level and customer loyalty

Table (4.31) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by number of times deals with hospital

Variables	Mean square	Sum of square	F	Sig
Customer Loyalty	.004	.01	.009	.991
	.456	167.41		
		167.42		

From the table (4.31) we found that the present value of customer loyalty at value of significance level above than the (0.05) which means that there are no differences by the number of times deals with hospital and customer loyalty

Table (4.32) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by number of years with hospital

Variables		Mean	St.Deviation	T value	Sig
Customer Loyalty	1 - 5	1.61	.678	1.333	.306
	6 – 10 above	1.47	.554	1.527	

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.32), which shows that the value of the significance level for customer loyalty variable above 0.05, which means that there are no differences by the number of years with hospital and customer loyalty

Table (4.33) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by job

Variables	Mean square	Sum of square	F	Sig
Customer Loyalty	.125	.62	.720	.674
	.452	161.67		
		162.29		

From the table (4.33) we found that the present value of customer loyalty above the value of significance level (0.05) which means that there are no differences in the job and customer loyalty



Table (4.34) there are statistically significant differences between the average mean of respondents in terms of customer loyalty by hospital location

Variables	Mean square	Sum of square	F	Sig
Customer Loyalty	0.332	2.65	.276	.926
	0.46	145.90		
		148.55		

From the table (4.34) we found that the present value of customer loyalty above the value of significance level (0.05) which means that there are no differences by the hospital location and customer loyalty

Table (4.35) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by gender

Variables		Mean	St.Deviation	T value	Sig
Customer Satisfaction	Male	1.603	.711	-.307	.571
	Female	1.626	.665	-.312	

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.35), which shows that the value of the significance level for customer Satisfaction above 0.05, which means that there are no differences by the gender and customer satisfaction

Table (4.36) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by age

Variables	Mean square	Sum of square	F	Sig
Customer Satisfaction	0.749	1.50	1.45	.235
	0.514	185.57		
		187.07		

From the table (4.36) we found that the present value of customer satisfaction at value of significance level above than the (0.05) which means that there are no differences by the age and customer satisfaction

Table (4.37) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by education level

Variables	Mean square	Sum of square	F	Sig
Customer Satisfaction	2.777	8.33	5.60	.001
	.495	178.79		
		187.12		

From the table (4.37) we found that the present value of customer satisfaction at value of significance level less than the (0.05) which means that there are differences by the education level and customer satisfaction

Table (4.38) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by number of times deals with hospital

Variables	Mean square	Sum of square	F	Sig
Customer	.425	.850	.821	.441
Satisfaction	.517	185.677		
		186.527		

From the table (4.38) we found that the present value of customer satisfaction at value of significance level above than the (0.05) which means that there are no differences by the number of times deals with hospital and customer satisfaction

Table (4.39) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by number of years with hospital

Variables		Mean	St.Deviation	T value	Sig
Customer	1 - 5	1.618	.7197	.511	.548
Satisfaction	6 – 10 above	1.562	.5921		

For testing the hypothesis; (T) test was used for differences between two independent samples and the results are shown in table (4.39), which shows that the value of the significance level for customer satisfaction variable above 0.05, which means that there are no differences by the number of years with hospital and customer satisfaction

Table (4.40) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by job

Variables	Mean square	Sum of square	F	Sig
Customer Satisfaction	.247	1.23	.473	.797
	.522	182.08		
		183.32		

From the table (4.40) we found that the present value of Customer Satisfaction above the value of significance level (0.05) which means that there are no differences in the job and customer satisfaction

Table (4.41) there are statistically significant differences between the average mean of respondents in terms of customer satisfaction by hospital location

Variables	Mean square	Sum of square	F	Sig
Customer Satisfaction	.100	.80	.194	.992
	.513	158.89		
		159.69		

From the table (4.41) we found that the present value of customer satisfaction above the value of significance level (0.05) which means that there are no differences by the hospital location and customer satisfaction

Table (4.42) summary of hypotheses testing results:

There are statistically significant differences between the average mean of the respondents in terms of quality of service by demographic variables (gender, age, educational level, occupation, number of times a deal and years of deals)

Statement of Hypothesis: There are statistically significant differences between the average mean of the Respondents in terms of quality of service by demographic variables	Remark
between the average mean of Respondents in terms in terms of Expectation quality of service by Gender	Not Supported
Gender and Expectation Tangibles	Not Supported
Gender and Expectation Responsiveness	Not Supported
Gender and Expectation Empathy	Not Supported
Gender and Expectation Reliability	Not Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Gender	Not Supported
Gender and Perceptions Responsiveness	Not Supported
Gender and Perceptions Empathy	Not Supported
Gender and Perceptions Tangibles	Not Supported
between the average mean of Respondents in terms in terms of Expectation quality of service by Age	Partially Supported
Age and Expectation Tangibles	Supported
Age and Expectation Responsiveness	Not Supported
Age and Expectation Empathy	Not Supported
Age and Expectation Reliability	Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Age	Partially Supported
Age and Perceptions Responsiveness	Supported
Age and Perceptions Empathy	Supported

Age and Perceptions Tangibles	Supported
between the average mean of Respondents in terms in terms of Expectation quality of service by Level of education	Partially Supported
Level of education and Expectation Tangibles	Supported
Level of education and Expectation Responsiveness	Supported
Level of education and Expectation Empathy	Not Supported
Level of education and Expectation Reliability	Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Level of education	Supported
Level of education and Perceptions Responsiveness	Supported
Level of education and Perceptions Empathy	Supported
Level of education and Perceptions Tangibles	Supported
between the average mean of Respondents in terms in terms of Expectation quality of service by Number of Times Deals with Hospital	Partially Supported
Number of Times Deals with Hospital and Expectation Tangibles	Not Supported
Number of Times Deals with Hospital and Expectation Responsiveness	Supported
Number of Times Deals with Hospital and Expectation Empathy	Not Supported
Number of Times Deals with Hospital and Expectation Reliability	Not Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Number of Times Deals with Hospital	Not Supported
Number of Times Deals with Hospital and Perceptions Responsiveness	Not Supported
Number of Times Deals with Hospital and Perceptions Empathy	Not Supported
Number of Times Deals with Hospital and Perceptions Tangibles	Not Supported

between the average mean of Respondents in terms in terms of Expectation quality of service by Number of Years with Hospital	Not Supported
Number of Years with Hospital and Expectation Tangibles	Not Supported
Number of Years with Hospital and Expectation Responsiveness	Not Supported
Number of Years with Hospital and Expectation Empathy	Not Supported
Number of Years with Hospital and Expectation Reliability	Not Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Number of Years with Hospital	Not Supported
Number of Years with Hospital and Perceptions Responsiveness	Not Supported
Number of Years with Hospital and Perceptions Empathy	Not Supported
Number of Years with Hospital and Perceptions Tangibles	Not Supported
between the average mean of Respondents in terms in terms of Expectation quality of service by JOB	partially Supported
JOB and Expectation Tangibles	Supported
JOB and Expectation Responsiveness	Not Supported
JOB and Expectation Empathy	Not Supported
JOB and Expectation Reliability	Not Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by JOB	Not Supported
JOB and Perceptions Responsiveness	Not Supported
JOB and Perceptions Empathy	Not Supported
JOB and Perceptions Tangibles	Not Supported
between the average mean of Respondents in terms in terms of Expectation quality of service by Hospital Location	partially Supported

Hospital Location and Expectation Tangibles	Not Supported
Hospital Location and Expectation Responsiveness	Not Supported
Hospital Location and Expectation Empathy	Supported
Hospital Location and Expectation Reliability	Not Supported
between the average mean of Respondents in terms in terms of Perceptions quality of service by Hospital Location	Not Supported
Hospital Location and Perceptions Responsiveness	Not Supported
Hospital Location and Perceptions Empathy	Not Supported
Hospital Location and Perceptions Tangibles	Not Supported
There are statistically significant differences between the average mean of the Respondents in terms of Customer Loyalty by demographic variables	
Gender and Customer Loyalty	Not Supported
Age and Customer Loyalty	Supported
Level of Education and Customer Loyalty	Supported
Number of Times Deals with Hospital and Customer Loyalty	Not Supported
Number of Years Deals with Hospital and Customer Loyalty	Not Supported
Job and Customer Loyalty	Not Supported
Hospital Location and Customer Loyalty	
There are statistically significant differences between the average mean of the Respondents in terms of Customer Satisfaction by demographic variables	partially Supported
Gender and Customer Satisfaction	Not Supported
Age and Customer Satisfaction	Not Supported
Level of Education and Customer Satisfaction	Supported
Number of Times Deals with Hospital and Customer Satisfaction	Not Supported



Number of Years Deals with Hospital and Customer Satisfaction	Not Supported
Job and Customer Satisfaction	Not Supported
Hospital Location and Customer Satisfaction	Not Supported

#### 4.5 Correlation Analysis

Table 4.43 presents the results of the intercorrelation among the variables. The correlation analysis was conducted to see the initial picture of the interrelationships among the variables of the study. Therefore, the importance of conducting correlation analysis is to identify any potential problems associated with multicollinearity (Sekaran, 2000). Table 4.10 represents the correlation matrix for the constructs operationalized in this study. These bivariate correlations allow for preliminary inspection and information regarding hypothesized relationships. In addition to that, correlation matrix gives information regarding test for the presence of multicollinearity. The table shows that no correlations near 1.0 (or approaching 0.8 or 0.9) were detected, which indicate that multicollinearity is not a significant problem in this particular data set.

Table 4.43 shows the interaction between service quality (expectation and *perceptions*) and *brand image* (tangibles\* *brand image* , responsiveness\* *brand image*, empathy\* *brand image* , reliability\* *brand image*) ) is positively and significantly correlated with customer loyalty ( $r = .735$ ,  $p\text{-value} < 0.01$ ), ( $r = .689$ ,  $p\text{-value} < 0.01$ ), ( $r = .661$ ,  $p\text{-value} < 0.01$ ), ( $r = .714$ ,  $p\text{-value} < 0.01$ ) and also service *quality (perceptions)* (responsiveness\* *brand image*, empathy\* *brand image* , tangibles\* *brand image*) significantly correlated with loyalty ( $r = .813$ ,  $p\text{-value} < 0.01$ ), ( $r = .797$ ,  $p\text{-value} < 0.01$ ), ( $r = .729$ ,  $p\text{-value} < 0.01$ ) in

addition customer satisfaction is significantly correlated with customer loyalty (r = .824, p-value < 0.01), The SPSS Output is attached in appendix.

Table 4.43. Person's correlation coefficient for all variables

Variables	Tangibles* <i>Brand</i>	Responsiveness* <i>Brand</i>	Empathy* <i>Brand</i>	Reliability* <i>Brand</i>	Responsiveness* <i>Brand</i>	Empathy* <i>Brand</i>	Tangibles* <i>Brand</i>	Customer satisfaction	Customer Loyalty
Tangibles* <i>Brand</i>	1.00								
Responsiveness* <i>Brand</i>	.874**	1.00							
Empathy* <i>Brand</i>	.743**	.783**	1.00						
Reliability* <i>Brand</i>	.856**	.851**	.753**	1.00					
Responsiveness* <i>Brand</i>	.888**	.881**	.765**	.850**	1.00				
Empathy* <i>Brand</i>	.874**	.835**	.765**	.861**	.903**	1.00			
Tangibles* <i>Brand</i>	.879**	.838**	.763**	.812**	.894**	.855**	1.00		
Customer satisfaction	.721**	.657**	.609**	.638**	.772**	.768**	.710**	1.00	
Customer Loyalty	.735**	.689**	.661**	.714**	.813**	.797**	.729**	.832**	1.00

\*\* p < .01

\* p < .05

\*\* p < .01

\* p < .05

#### 4.5.1 The Relationship between Service Quality variables (expectation) and customer loyalty

This section deal with the first hypotheses in the study which predicts that four service quality variables components (tangibles, responsiveness,

reliability and empathy) have positive relationship with the two dimensions of customer loyalty

The relationship between service quality variables (expectations) variables (tangibles, responsiveness, reliability and empathy) and customer loyalty

Table 4.44 shows the results of the hierarchical regression equation testing the influence of the service quality variables (expectations) on customer loyalty. However, the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer loyalty the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables (expectations) and customer loyalty

The results also showed that tangibles have the most significant effect on customer loyalty ( $\beta=0.311$ ,  $p<0.000$ ), and empathy have the significant effect on customer loyalty ( $\beta=0.184$ ,  $p<0.003$ ), followed by reliability ( $\beta= 0.164$ ,  $p<0.003$ ), followed by empathy ( $\beta= 0.079$ ,  $p<0.102$ ), Therefore, these results provide support for the assertion that the Service quality variables (expectations) partially does lead to the creation of customer loyalty . The full SPSS output is displayed in Appendix

Table (4.44) Service quality variables (expectations) and customer loyalty (*Beta coefficient*)

Variables	Customer loyalty	Sig
Tangibles	.311	.000
Responsiveness	.184	.003

Empathy	.079	.102
Reliability	.164	.003
R <sup>2</sup>	.379	
Adjusted R <sup>2</sup>	.372	
Δ R <sup>2</sup>	.379	
F change	54.72	

Note: Level of significant: \*p<0.10, \*\*p<0.05, \*\*\*p<0

The Relationship between Service Quality variables (Perceptions) (Responsiveness, Empathy and Tangibles) and Customer Loyalty

Table 4.45 shows the results of the hierarchical regression equation testing the influence of the service quality variables (perceptions) on customer loyalty. However, the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer loyalty the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables (perceptions) and customer loyalty

The results also showed that responsiveness have the most significant effect on customer loyalty ( $\beta=0.455$ ,  $p<0.000$ ), and empathy have the significant effect on customer loyalty ( $\beta=0.378$ ,  $p<0.003$ ), followed by tangibles ( $\beta= -0.012$ ,  $p<0.793$ ), Therefore, these results provide support for the assertion that the service quality variables (perceptions) partially does lead to the creation of customer loyalty . The full SPSS output is displayed in Appendix

Table (4.45) service quality variables (perceptions) and customer loyalty (*Beta coefficient*)

Variables	Customer loyalty	Sig
Responsiveness	.455	.000
Empathy	.378	.000
Tangibles	-.012	.793
R <sup>2</sup>	.598.	
Adjusted R <sup>2</sup>	.595	
Δ R <sup>2</sup>	.598.	
F change	176.65	

Note: Level of significant: \*p<0.10, \*\*p<0.05,\*\*\*p<0

Table 4.46 shows the results of the hierarchical regression equation testing the influence of the service quality variables (expectations) variables on customer satisfaction. However, the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer satisfaction the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables (expectations) variables and customer satisfaction

The results also showed that tangibles have the most significant effect on customer loyalty ( $\beta=0.353$ ,  $p<0.000$ ), and empathy have the significant effect on customer loyalty ( $\beta=0.251$ ,  $p<0.000$ ), followed by reliability ( $\beta= 0.085$ ,  $p<0.136$ ), followed by Empathy ( $\beta= 0.027$ ,  $p<0.58$ ), Therefore, these results provide support for the assertion that the service quality variables (expectations)

variables partially does lead to the creation of customer satisfaction. The full SPSS output is displayed in Appendix

Table (4.46) Service quality variables (expectations,) and customer satisfaction  
(Beta coefficient)

Variables	Customer satisfaction	Sig
Tangibles	.353	.000
Responsiveness	.251	.000
Empathy	.027	.588
Reliability	.085	.136
R <sup>2</sup>	.379	
Adjusted R <sup>2</sup>	.372	
Δ R <sup>2</sup>	.379	
F change	54.72	

Note: Level of significant: \*p<0.10, \*\*p<0.05,\*\*\*p<0

The relationship between service quality variables (perceptions) variables (, responsiveness, empathy and tangibles) and customer satisfaction

Table 4.47 shows the results of the hierarchical regression equation testing the influence of the service quality variables (perceptions) variables on customer satisfaction. However, the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer satisfaction, the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables (perceptions) variables and customer satisfaction

The results also showed that responsiveness have the most significant effect on customer loyalty ( $\beta=0.536$ ,  $p<0.000$ ), and empathy have the significant effect on customer loyalty ( $\beta=0.305$ ,  $p<0.000$ ), followed by tangibles ( $\beta= 0.003$ ,  $p<0.94$ ), Therefore, these results provide support for the assertion that the service quality variables (perceptions) variables partially does lead to the creation of customer Satisfaction. The full SPSS output is displayed in Appendix

Table (4.47) Service quality variables (perceptions) and customer satisfaction  
(Beta coefficient)

Variables	Customer satisfaction	Sig
Responsiveness	.536	.000
Empathy	.305	.000
Tangibles	.003	.946
R <sup>2</sup>	.631.	
Adjusted R <sup>2</sup>	.628	
$\Delta R^2$	.631.	
F change	197.76	

Note: Level of significant: \* $p<0.10$ , \*\* $p<0.05$ , \*\*\* $p<0$

The relationship between brand image and customer satisfaction

Table 4.48 shows the results of the hierarchical regression equation testing the influence of the relationship between customer satisfaction and customer loyalty

The results also showed that customer satisfaction have a high significant effect on customer loyalty ( $\beta=0.935$ ,  $p<0.000$ ), these results support hypotheses of the

relationship between brand image and customer satisfaction . Therefore, these results provide support for the assertion that the brand image does lead to the creation of customer satisfaction . The full SPSS output is displayed in Appendix

Table (4.48) Brand Image and Customer Satisfaction (*Beta coefficient*)

Variables	Customer Satisfaction	Sig
Brand Image	.800	.000
R <sup>2</sup>	.640.	
Adjusted R <sup>2</sup>	.639	
Δ R <sup>2</sup>	.640.	
F change	613.94	

The Relationship between Brand Image and Customer Loyalty

Table 4.49 shows the results of the hierarchical regression equation testing the influence of the relationship between brand image and customer loyalty

The results also showed that brand image have a high significant effect on customer loyalty ( $\beta=0.893$ ,  $p<0.000$ ), , These results support the hypotheses of the relationship between brand image and customer loyalty Therefore, these results provide support for the assertion that the brand image does lead to the creation of customer loyalty . The full SPSS output is displayed in Appendix

Table (4.49) Customer Satisfaction and Customer Loyalty (*Beta coefficient*)



Variables	Customer loyalty	Sig
Brand Image	.893	.000
R <sup>2</sup>	.798	
Adjusted R <sup>2</sup>	.798	
Δ R <sup>2</sup>	.798	
F change	1348.70	

Note: Level of significant: \*p<0.10, \*\*p<0.05, \*\*\*p<0

Table 4.50

Summary of the Hypotheses testing results for the service quality variables and customer loyalty

Statement of Hypothesis: There is a positive relationship between,	Remark
Service quality(expectations) variables and customer loyalty	Partially Supported
Tangibles and Customer Loyalty	Supported
Responsiveness and Customer Loyalty	Supported
Empathy and Customer Loyalty	not Supported
Reliability and Customer Loyalty	Supported
Service Quality(Perceptions) variables and Customer Loyalty	Supported
Responsiveness and Customer Loyalty	Supported
Empathy and Customer Loyalty	Supported
Tangibles and Customer Loyalty	Not Supported
Service Quality( expectation) variables and Customer Satisfaction	Partially Supported

Tangibles and Customer Satisfaction	Supported
Responsiveness and Customer Satisfaction	Supported
Empathy and Customer Satisfaction	Not Supported
Reliability and Customer Satisfaction	Not Supported
Service Quality(Perceptions) variables and Customer Satisfaction	Partially Supported
Responsiveness and Customer Satisfaction	Supported
Empathy and Customer Satisfaction	Supported
Tangibles and Customer Satisfaction	Not Supported
Brand Image and Customer Satisfaction	Supported
Brand Image and customer loyalty	Supported
Customer Satisfaction and customer loyalty	Supported

The relationship between interaction of service quality variables (expectations, perceptions) with brand image and customer loyalty

This section deal with the first hypotheses in the study which predicts that Four service quality interacted variables with brand image (tangibles\* *brand image*, responsiveness\* *brand image*, empathy\* *brand image*, reliability\* *brand image*) have positive relationship with the customer loyalty

The Interaction relationship between service quality variables (expectations, perceptions) variables with brand image (tangibles\* *brand image*, responsiveness\* *brand image*, empathy\* *brand image*, reliability\* *brand image*) and customer loyalty

Table 4.51 shows the results of the hierarchical regression equation testing the influence of the service quality variables (expectations, perceptions) variables on customer loyalty. However, the result shows that the model is significant. In addition the results show that the interacted component of service quality variables and brand image is a positive significantly influenced customer loyalty the results showed that the hypothesis was supported, i.e. there is a positive relationship between Interaction of service quality variables (expectations, perceptions) variables with brand image and customer loyalty

The results also showed that percept interaction of empathy\* brand have the most significant effect on customer loyalty ( $\beta=0.526$ ,  $p<0.000$ ), and followed by responsiveness\* brand ( $\beta=0.520$ ,  $p<0.000$ ), followed by expected of interaction responsiveness\* brand service ( $\beta= -0.175$ ,  $p<0.012$ ), and percept interaction of tangibles\* brand quality( $\beta= -0.129$ ,  $p<0.062$ ), followed by expected of interaction empathy\* brand( $\beta=0.072$ ,  $p<0.139$ ) followed by expected of interaction reliability\* brand ( $\beta=0.059$ ,  $p<0.354$ ) followed by expected of interaction tangibles\* brand( $\beta= -0.011$ ,  $p<0.881$ ), These results give support to hypotheses (expected responsiveness\* brand and customer loyalty ), (perceived responsiveness\* brand and customer loyalty ), and support (perceived empathy\* brand and customer loyalty Therefore, these results provide support for the assertion that the Service Quality Variables(expectations ,perceptions) variables partially does lead to the creation of customer loyalty . The full SPSS output is displayed in Appendix

Table (4.51) Service quality variables (expectations, perceptions) and customer loyalty (*Beta coefficient*)

Variables	Customer loyalty	Sig
Tangibles* <i>Brand</i>	-.011	.881
Responsiveness* <i>Brand</i>	-.175	.012
Empathy* <i>Brand</i>	.072	.139
Reliability* <i>Brand</i>	.059	.354
Responsiveness* <i>Brand</i>	.520	.000
Empathy* <i>Brand</i>	.526	.000
Tangibles* <i>Brand</i>	-.129	.062
R <sup>2</sup>	.737	
Adjusted R <sup>2</sup>	.731	
Δ R <sup>2</sup>	.737	
F change	139.935	

Note: Level of significant: \*p<0.10, \*\*p<0.05, \*\*\*p<0

The relationship between service quality variables (expectations, perceptions) variables (tangibles, reliability, responsiveness, assurance and empathy) and customer satisfaction

This section deal with the first hypotheses in the study which predicts that service quality Table 4.46 shows the results of the hierarchical regression equation testing the influence of the service quality variables (expectations, perceptions) variables on customer satisfaction. However, the result shows that the model is significant. In addition the results show that the Interacted component of service quality variables and brand image is a positive

significantly influenced customer satisfaction. The results showed that the hypothesis was supported, i.e. there is a positive relationship between Interaction of service quality variables (expectations, perceptions) variables with brand image and customer satisfaction. The results also showed that percept interaction of responsiveness\* *brand* have the most significant effect on customer loyalty ( $\beta=0.553$ ,  $p<0.000$ ), and followed by empathy\* *brand* ( $\beta=0.528$ ,  $p<0.000$ ), followed by tangibles\* *brand* ( $\beta= -0.098$ ,  $p<0.18$ ), and the expected interaction of tangibles\* *brand* ( $\beta= 0.037$ ,  $p<0.65$ ), and followed by interaction of responsiveness\* *brand* ( $\beta= -0.022$ ,  $p<0.77$ ), followed by expected of interaction empathy\* *brand* ( $\beta= -0.062$ ,  $p<0.23$ ) followed by expected of interaction reliability\* *brand* ( $\beta= -0.097$ ,  $p<0.16$ ), These results give support to hypotheses (perceived responsiveness\* *brand* and customer loyalty), (perceived responsiveness\* *brand* and customer loyalty), Therefore, these results provide support for the assertion that the service quality variables (expectations ,perceptions) variables partially does lead to the creation of customer loyalty .

The full SPSS output is displayed in Appendix

Table (4.52) service quality variables (expectations, perceptions) and customer satisfaction (*Beta coefficient*)

Variables	Customer satisfaction	Sig
Tangibles* <i>Brand</i>	.037	.65
Responsiveness* <i>Brand</i>	-.022	.77
Empathy* <i>Brand</i>	-.062	.23
Reliability* <i>Brand</i>	-.097	.16
Responsiveness* <i>Brand</i>	.553	.000
Empathy* <i>Brand</i>	.528	.000
Tangibles* <i>Brand</i>	-.098	.18
R <sup>2</sup>	.721	
Adjusted R <sup>2</sup>	.715	
Δ R <sup>2</sup>	.721	
F change	126.382	

Note: Level of significant: \*p<0.10, \*\*p<0.05, \*\*\*p<0

### 4.5.3 The Relationship between Customer Satisfaction and Customer Loyalty

This section deals with the first hypotheses in the study which predicts that customer satisfaction have positive relationship with customer loyalty

Table 4.53 shows the results of the hierarchical regression equation testing the influence of the relationship between customer satisfaction and customer loyalty

The results also showed that customer satisfaction have a high significant effect on customer loyalty ( $\beta=0.935$ ,  $p<0.000$ ), , These results support hypotheses of the relationship between customer satisfaction and customer loyalty Therefore, these results provide support for the assertion that the customer satisfaction does lead to the creation of customer loyalty . The full SPSS output is displayed in Appendix

Table (4.53) customer satisfaction and customer loyalty (*Beta coefficient*)

Variables	Customer loyalty	Sig
Customer Satisfaction	.935	.000
R <sup>2</sup>	.721.	
Adjusted R <sup>2</sup>	.715	
$\Delta$ R <sup>2</sup>	.721.	
F change	126.382	

Note: Level of significant: \* $p<0.10$ , \*\* $p<0.05$ , \*\*\* $p<0$

Table 4.54

Summary of Hypotheses Testing Results for the Service Quality variables and Customer Loyalty

Statement of Hypothesis: There is a positive relationship between,	Remark
Service Quality(Expectations) variables and Customer loyalty	Partially Supported
Tangibles* <i>Brand</i> and Customer Loyalty	Not Supported
Responsiveness* <i>Brand</i> and Customer Loyalty	not Supported
Empathy* <i>Brand</i> and Customer Loyalty	not Supported

Reliability* <i>Brand</i> and Customer Loyalty	not Supported
Service Quality(Perceptions) variables and Customer Loyalty	Supported
Responsiveness* <i>Brand</i> and Customer Loyalty	Supported
Empathy* <i>Brand</i> and Customer Loyalty	Not Supported
Tangibles* <i>Brand</i> and Customer Loyalty	Not Supported
Service Quality( Expectation) variables and Customer Satisfaction	Partially Supported
Tangibles* <i>Brand</i> and Customer Satisfaction	Not Supported
Responsiveness* <i>Brand</i> and Customer Satisfaction	Not Supported
Empathy* <i>Brand</i> and Customer Satisfaction	Not Supported
Reliability* <i>Brand</i> and Customer Satisfaction	Not Supported
Service Quality(Perceptions) variables and Customer Satisfaction	Partially Supported
Responsiveness* <i>Brand</i> and Customer Satisfaction	Supported
Empathy* <i>Brand</i> and Customer Satisfaction	Supported
Tangibles* <i>Brand</i> and Customer Satisfaction	Not Supported
Customer Satisfaction and customer loyalty	Supported

#### **4.5.4 Mediation of Customer Satisfaction on the Relationship between Service Quality variables and Customer Loyalty**

Regarding the mediation effect of customer satisfaction on the relationship between service quality variables (expectations, perceptions) interaction with brand image and customer loyalty the results of regression analysis given in Table 4.49 showed

Table 4.55 showed the results of the hierarchical regression testing the mediation effect of customer satisfaction on the relationship between service



quality variables and customer loyalty In model 1, the results showed that service quality variables (expectations) (tangibles\* brand image, responsiveness\* brand image, empathy\* brand image, reliability\* brand image) significantly influence customer loyalty with beta coefficient ( $\beta=.044$ ), ( $\beta= -.226$ ), and ( $\beta=.086$ ) ( $\beta= -.068$ ), ( $\beta= .004$ ), respectively. In model 2, the extent, as the beta value coefficient responsiveness\* brand were decreased. ( $\beta= -.087$ ), however tangibles\* brand image, empathy\* brand image, reliability\* brand image were increased also customer satisfaction mediate the relationship between service quality variables (perceptions) interaction with brand image and customer loyalty with beta coefficient for responsiveness\* brand, empathy\* brand, and tangible\* brand ( $\beta=.448$ ), ( $\beta= .504$ ), and ( $\beta= -.001$ ) respectively. In model 2, the extent, as the beta value coefficient of: responsiveness\* brand and empathy\* brand were decreased. ( $\beta=.024$ ), ( $\beta= .212$ ), however tangible were increased. Concerning the type of mediation of customer satisfaction on the tangibles, reliability, assurance and empathy, brand image and customer loyalty, the results showed that the value of perceived responsiveness\* brand, expected responsiveness\* brand significantly reduced (in model 2) this indicated that, customer satisfaction fully mediated the relationship

Brand image, and customer loyalty, The SPSS output is reflected in Appendix Table (4.55) Mediation of Customer Satisfaction on the Relationship between Service Quality variables and Customer Loyalty

Variables	Customer Loyalty	
	Model 1	Model 2
Tangibles* Brand	.044	-.127*

Responsiveness* <i>Brand</i>	-.226**	-.087
Empathy* <i>Brand</i>	.086	.097**
Reliability* <i>Brand</i>	.004	.159**
Responsiveness* <i>Brand</i>	.448***	.024
Empathy* <i>Brand</i>	.504***	.212***
Tangibles* <i>Brand</i>	-.001	.012
Customer Satisfaction		.699***
R <sup>2</sup>	.720	0.867
Adjusted R <sup>2</sup>	.715	.864
Δ R <sup>2</sup>	.720	.147
F change	125.90	375.69

Note: Level of significant: \*p<0.10, \*\*p<0.05, \*\*\*p<0.

Table (4.56)

Summary of Hypotheses Testing Results for Mediated Effects of Customer satisfaction

Statement of the hypothesis:	Remark
Customer satisfaction <i>mediates the relationship between</i> Service Quality variables and Customer Loyalty.	Partially Supported
Customer satisfaction <i>mediates the relationship between</i> Tangibles* <i>Brand</i> (expectation) and <i>customer</i> Loyalty	Not Supported
Customer satisfaction <i>mediates the relationship between</i> Responsiveness* <i>Brand</i> (expectation) and <i>customer</i> Loyalty	Supported
Customer satisfaction <i>mediates the relationship between</i> Empathy* <i>Brand</i> (expectation) and <i>customer</i> Loyalty	Not Supported

Customer satisfaction <i>mediates the relationship between</i> Reliability* <i>Brand</i> (expectation) and <i>customer Loyalty</i>	Not Supported
Customer satisfaction <i>mediates the relationship between</i> Service Quality variables (Perceptions) and <i>customer Loyalty</i> .	Partially Supported
Customer satisfaction <i>mediates the relationship between</i> Responsiveness* <i>Brand</i> (Perceptions) and <i>customer Loyalty</i>	Supported
Customer satisfaction <i>mediates the relationship between</i> Empathy* <i>Brand</i> (Perceptions) and <i>customer Loyalty</i>	Supported
Customer satisfaction <i>mediates the relationship between</i> Tangibles* <i>Brand</i> (Perceptions) and <i>customer Loyalty</i>	Not Supported

# CHAPTER 5

## DISCUSSION AND CONCLUSION

### 5.1 Introduction

Interest in healthcare service quality is remarkable. Practitioners and academics are struggling to find healthcare systems that satisfy the different stakeholders (patients, providers, practitioners, and insurers). Healthcare organizations are under pressure. Laws emphasizing patients' rights to a good care interfere with cutting costs and insurance system pressures.

Therefore, the emerging question is 'How to satisfy patients, provide service quality and maximize profit under limited resources in a competitive environment?' is still waiting to be answered in many countries, Likewise, Sudan is no exception. The pressures from powerful insurance institutions and the politics of minimizing costs lead the Sudanese healthcare services providers to valorize quantity (examined patients) to service quality detriment. Such situations seem to deeply affect medical practices and perceived quality. Elleuch Amira (2008).

This study will contribute knowledge to the theory and practice of service quality, marketing particularly for medical institutions. Its theoretical significance will add more insights compared to previous empirical studies done in this area, especially on the issue of service quality, For policy makers as medical institutions, this study provides a framework on the determinants of service quality in developing countries.

The first part of this chapter summarizes the major findings, followed by the consequent implications and the conclusions of the study.

## **5.2 Recapitulation of the Major Findings**

The objectives of this study are 1) to determine the relationship between service quality contextual variables, customer satisfaction and loyalty. 2 ) To assess the possible relationship between variables, brand image, customer satisfaction and loyalty. 3) Study of the interaction between perceived service quality and brand image and impact on the customer satisfaction. 4.) Examining the gap between customer expectation and customer perception.

Table 5.1 shows the summary of the hypotheses testing and comparing the results of this study with the previous study findings. It should be noted that in some parts, it is difficult to compare the findings of this study with the previous findings, either because of the lack of previous studies (in case of interaction between perceived service quality and brand image) or because of the different component of the construct used in the previous studies (in the case of perceived service quality and customer loyalty).

Table 5.1

*Summary of Hypothesis Testing*

Hypotheses	Previous Studies		Results		
	Author	Relationship	Relationship	Supported	Significance
Expectation quality of service by Gender	<i>Min &amp; Khoon (2013)</i>	-	-	No	Not Significant
Gender and Expectation Tangibles	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Gender and Expectation Responsiveness	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Gender and Expectation Empathy	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Gender and Expectation Reliability	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Perceptions quality of service by Gender		-	-	No	Not Significant

Gender and Perceptions Responsiveness	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Gender and Perceptions Empathy	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Gender and Perceptions Tangibles	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Expectation quality of service by Age			+ -	Partially Supported	
Age and Expectation Tangibles	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	+	+	yes	.001
Age and Expectation Responsiveness	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Age and Expectation Empathy	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	-	-	No	Not Significant
Age and Expectation Reliability	<i>Safiek Mokhlis (2012), Min &amp; Khoon (2013) Min &amp; Khoon (2014)</i>	+	+	yes	.016

Perceptions quality of service by Age			+	-	Partially Supported	
Age and Perceptions Responsiveness	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+		yes	.020
Age and Perceptions Empathy	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+		yes	.009
Age and Perceptions Tangibles	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+		yes	.034
Expectation quality of service by Level of education			+	-	Partially Supported	
Level of education and Expectation Tangibles	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+		yes	.000
Level of education and Expectation Responsiveness	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+		yes	.020
Level of education and Expectation Empathy	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	-	-		No	Not Significant



Level of education and Expectation Reliability	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+	yes	.002
Perceptions quality of service by Level of education			+	yes	
Level of education and Perceptions Responsiveness	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+	yes	.000
Level of education and Perceptions Empathy	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+	yes	.000
Level of education and Perceptions Tangibles	Safiek Mokhlis (2012), Min & Khoon (2013) Min & Khoon (2014)	+	+	yes	.000
Expectation quality of service by Number of Times Deals with Hospital			+ -	Partially Supported	
Number of Times Deals with Hospital and Expectation Tangibles	kumara, (online)	-	-	No	Not Significant
Number of Times Deals with	kumara, (online)	+	+	yes	.023

Hospital and Expectation Responsiveness					
Number of Times Deals with Hospital and Expectation Empathy	kumara, (online)	-	-	No	Not Significant
Number of Times Deals with Hospital and Expectation Reliability	kumara, (online)	-	-	No	Not Significant
Perceptions quality of service by Number of Times Deals with Hospital			-	No	Not Significant
Number of Times Deals with Hospital and Perceptions Responsiveness	kumara, (online)	-	-	No	Not Significant
Number of Times Deals with Hospital and Perceptions Empathy	kumara, (online)	-	-	No	Not Significant
Number of Times Deals with Hospital and Perceptions Tangibles	kumara, (online)	-	-	No	Not Significant

Expectation quality of service by Number of Years with Hospital			-	No	Not Significant
Number of Years with Hospital and Expectation Tangibles	kumara, (online)	-	-	No	Not Significant
Number of Years with Hospital and Expectation Responsiveness	kumara, (online)	-	-	No	Not Significant
Number of Years with Hospital and Expectation Empathy	kumara, (online)	-	-	No	Not Significant
Number of Years with Hospital and Expectation Reliability	kumara, (online)	-	-	No	Not Significant
Perceptions quality of service by Number of Years with Hospital			-	No	Not Significant
Number of Years with Hospital and Perceptions Responsiveness	kumara, (online)	-	-	No	Not Significant
Number of Years with Hospital and Perceptions Empathy	kumara, (online)	-	-	No	Not Significant

Number of Years with Hospital and Perceptions Tangibles	kumara, (online)	-	-	No	Not Significant
Expectation quality of service by Job			+ -	Partially Supported	
JOB and Expectation Tangibles	anand, selfarj (2012).	+	+	yes	.013
JOB and Expectation Responsiveness	anand, selfarj (2012).	-	-	No	Not Significant
JOB and Expectation Empathy	anand, selfarj (2012).	-	-	No	Not Significant
JOB and Expectation Reliability	anand, selfarj (2012).	-	-	No	Not Significant
Perceptions quality of service by JOB			-	No	Not Significant
JOB and Perceptions Responsiveness	anand, selfarj (2012).	-	-	No	Not Significant
JOB and Perceptions Empathy	anand, selfarj (2012).	-	-	No	Not

					Significant
JOB and Perceptions Tangibles	anand, selfarj (2012).	-	-	No	Not Significant
Expectation quality of service by Hospital Location			+ -	Partially Supported	
Hospital Location and Expectation Tangibles			-	No	Not Significant
Hospital Location and Expectation Responsiveness			-	No	Not Significant
Hospital Location and Expectation Empathy			+	yes	.001
Hospital Location and Expectation Reliability			-	No	Not Significant
Perceptions quality of service by Hospital Location			-	No	Not Significant
Hospital Location and Perceptions			-	No	Not

Responsiveness					Significant
Hospital Location and Perceptions Empathy			-	No	Not Significant
Hospital Location and Perceptions Tangibles			-	No	Not Significant
Customer Loyalty by demographic variables			+ -	Partially Supported	
Gender and Customer Loyalty	li, huang and yang (2011)	-	-	No	Not Significant
Age and Customer Loyalty	upamannya 2014, hardeep chahal 2011)	+	+	yes	.044
Level of Education and Customer Loyalty	hardeep chahal (2011).	+	+	yes	.005
Number of Times Deals with Hospital and Customer Loyalty	( li, huang and yang 2011, naureen afzan 2013 ).	-	-	No	Not Significant

Number of Years Deals with Hospital and Customer Loyalty	( li, huang and yang 2011, naureen afzan 2013 ).	-	-	No	Not Significant
Job and Customer Loyalty	hardeep chahal (2011).	-	-	No	Not Significant
Hospital Location and Customer Loyalty	( li, huang and yang 2011, naureen afzan 2013 ).	-	-	No	Not Significant
Customer Satisfaction by demographic variables			+ -	Partially Supported	
Gender and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Age and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Level of Education and Customer Satisfaction	( Min & Khoon 2014 )	+	+	yes	.001

Number of Times Deals with Hospital and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Number of Years Deals with Hospital and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Job and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Hospital Location and Customer Satisfaction	(Ajmer Singh 2013, hardeep chahal 2011)	-	-	No	Not Significant
Service Quality(Expectations) variables and Customer Loyalty			+ -	Partially Supported	
Tangibles and Customer Loyalty	li, huang and yang 2011	+	+	yes	.000
Responsiveness and Customer Loyalty	li, huang and yang 2011	+	+	yes	.003
Empathy and Customer Loyalty	li, huang and yang 2011	-	-	No	Not Significant
Reliability and Customer Loyalty	li, huang and yang 2011	+	+	yes	.003



Service Quality(Perceptions) variables and Customer Loyalty			+	-	Partially Supported	
Responsiveness and Customer Loyalty	( li, huang and yang 2011, aliman , mohamad 2013	+	+		yes	.000
Empathy and Customer Loyalty	( li, huang and yang 2011, aliman , mohamad 2013	+	+		yes	.000
Tangibles and Customer Loyalty	( li, huang and yang 2011, aliman , mohamad 2013	-	-		No	Not Significant
Service Quality( expectation) variables and Customer Satisfaction	( lianxi zhou 2004, Mohsin Zafar, Sana Zafar, Aasia Asif, Hunjra, Ahmad 2012, zamil and Areiqat 2012).		+	-	Partially Supported	
Tangibles and Customer Satisfaction	( lianxi zhou 2004, Mohsin Zafar, Sana Zafar, Aasia Asif, Hunjra, Ahmad 2012, zamil and Areiqat 2012).	+	+		yes	.000

Responsiveness and Customer Satisfaction	( lianxi zhou 2004, Mohsin Zafar, Sana Zafar, Aasia Asif, Hunjra, Ahmad 2012, zamil and Areiqat 2012).	+	+	yes	.000
Empathy and Customer Satisfaction	( lianxi zhou 2004, Mohsin Zafar, Sana Zafar, Aasia Asif, Hunjra, Ahmad 2012, zamil and Areiqat 2012).	-	-	No	Not Significant
Reliability and Customer Satisfaction	( lianxi zhou 2004, Mohsin Zafar, Sana Zafar, Aasia Asif, Hunjra, Ahmad 2012, zamil and Areiqat 2012).	-	-	No	Not Significant
Service Quality(Perceptions) variables and Customer Satisfaction	(aliman, mohammed 2013, zamil and Areiqat 2012).		+ -	Partially Supported	
Responsiveness and Customer satisfaction	(aliman, mohammed 2013, zamil and Areiqat 2012).	+	+	yes	.000

Empathy and Customer satisfaction	(aliman, mohammed 2013, zamil and Areiqat 2012).	+	+	yes	.000
Tangibles and Customer satisfaction	(aliman, mohammed 2013, zamil and Areiqat 2012).	-	-	No	Not Significant
Brand Image and Customer Satisfaction	(Malik, Ghafoor, Iqbal 2012, Abd-El-Salam, Shawky and El-Nahas 2013)	+	+	yes	.000
Brand Image and customer loyalty	(UPAMANNYU, GULATI, MATHUR , 2014, Liao 2012).	+	+	yes	.000
Customer Satisfaction and customer loyalty	(Malik, Ghafoor, Iqbal 2012, Abd-El-Salam, Shawky and El-Nahas 2013)	+	+	yes	.000
Service Quality(Expectations) variables and Customer loyalty	Interaction theory		-	No	Not Significant
Tangibles* Brand and Customer	Interaction theory		-	No	Not

Loyalty					Significant
Responsiveness* Brand and Customer Loyalty	Interaction theory		-	No	Not Significant
Empathy* Brand and Customer Loyalty	Interaction theory		-	No	Not Significant
Reliability* Brand and Customer Loyalty	Interaction theory		-	No	Not Significant
Service Quality(Perceptions) variables and Customer Loyalty	Interaction theory		+	yes	
Responsiveness* Brand and Customer Loyalty	Interaction theory		+	yes	.000
Empathy* Brand and Customer Loyalty	Interaction theory		+	yes	.000
Tangibles* Brand and Customer Loyalty	Interaction theory		-	No	Not Significant
Service Quality( Expectation)	Interaction theory		+	Partially	

variables and Customer Satisfaction			-	Supported	
Tangibles* Brand and Customer Satisfaction	Interaction theory		-	No	Not Significant
Responsiveness* Brand and Customer Satisfaction	Interaction theory		-	No	Not Significant
Empathy* Brand and Customer Satisfaction	Interaction theory		-	No	Not Significant
Reliability* Brand and Customer Satisfaction	Interaction theory		-	No	Not Significant
Service Quality(Perceptions) variables and Customer Satisfaction	Interaction theory		+ -	Partially Supported	
Responsiveness* Brand and Customer Satisfaction	Interaction theory		+	yes	.000
Empathy* Brand and Customer Satisfaction	Interaction theory		+	yes	.000
Tangibles* Brand and Customer Satisfaction	Interaction theory		-	No	Not

Satisfaction					Significant
Customer satisfaction mediate the relationship between Service Quality variables and Customer Loyalty.	Interaction theory		+ -	Partially Supported	
Customer satisfaction mediates the relationship between Tangibles* Brand (expectation) and customer Loyalty	Interaction theory		+	yes	Significant
Customer satisfaction mediates the relationship between Responsiveness* Brand (expectation) and customer Loyalty	Interaction theory		-	no	Not Significant
Customer satisfaction mediates the relationship between Empathy* Brand (expectation) and customer Loyalty	Interaction theory		+	yes	Significant

Customer satisfaction mediates the relationship between Reliability* Brand (expectation) and customer Loyalty	Interaction theory		+	yes	Significant
Customer satisfaction mediates the relationship between Service Quality variables (Perceptions) and customer Loyalty.	Interaction theory		+ -	Partially Supported	
Customer satisfaction mediates the relationship between Responsiveness* Brand (Perceptions) and customer Loyalty	Interaction theory		-	no	Not Significant
Customer satisfaction mediates the relationship between Empathy* Brand (Perceptions) and customer Loyalty	Interaction theory		-	no	Not Significant

Customer satisfaction mediates the relationship between Tangibles* Brand (Perceptions) and customer Loyalty	Interaction theory		+	yes	.012
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*Summary of Hypothesis Testing*



### 5.3 Discussion

The purpose of this study was to investigate of the perceived service quality and examined the gap between service quality expectation and service quality perception when seeking treatment in private healthcare settings in Sudan. Our results showed that perceived quality in Sudanese health sector consists of three factors (tangibles, responsiveness and empathy) adoption (Tucker and. Adams 2001; Li, Huang, Yang 2011) in Taiwan.

As shown in Table 4.3, factor loading of expected quality variables items on the four factors ranged from 0.559 to 0.810. Thus, this study found that expected quality in Sudanese Health sector consists of four factors, namely; tangibles, responsiveness, reliability and empathy. This finding is consistent with the previous research (karydis& kodvazeniti& hatzigeiou snd panis 2001; Tucker and Adams 2001; Li, Huang& Yang 2011). Factor loading perceived quality items present in three factors ranged from 0.541 to 0.857. Thus, this study found that perceived quality in Sudanese Health sector consists of three factors. This finding is consistent with the previous research.

This study found brand image in Sudanese health sector consists of one factor, and found that customer loyalty in Sudanese health sector consists of one factor and study found customer satisfaction in Sudanese health sector consists of one factor. This finding is consistent with the previous research. (Kun-Hsi Liao 2012; Abd-El-Salam& Shawky and El-Nahas 2013).

It can be seen in the results that all parameters under (tangibles) dimensions customers' expectations & perceptions are at same level. Overall expectation of customers' concerning these dimensions is highest from the perception (responsiveness, empathy). These three dimensions where majority of dimensions of service quality are having positive mean quality gap score so it can be stated that Makah Hospital is meeting with the expectations of customers for these dimension or customers are satisfied with (tangibles, responsiveness and empathy). This finding is consistent with the previous research (suki,lian and suki 2011; Moghadam and amiresmaili 2011; mizenur Rahman& md Abdullah and rahman 2011; Chang and Annaraud 2008).

The results of the reliability analysis summarized in Table 4.9 confirmed that all the scales display satisfactory level of reliability (Cronbach's alpha exceed the minimum value of 0.60). Therefore, it can be concluded that the measures have acceptable level of reliability, Shows the means and standard deviations of the four dimensions of service quality (expectation) variables: tangibles, reliability, responsiveness' and empathy. The table reveals that the quality (expectation) variables emphasized more on empathy (mean=1.52, standard deviation=.635), followed by responsiveness (mean=1.67, standard deviation=0.599), and then tangibles (mean=1.68, standard deviation=0.554), followed by reliability (mean=1.70, standard deviation=0.646), and While service quality (perceptions) variables: tangibles, responsiveness' and empathy.

The table below reveal that service quality (perceptions) variables emphasized more on tangibles (mean=1.68, standard deviation=.648),

followed by responsiveness (mean=1.72, standard deviation=0.626), and then empathy (mean=1.75, standard deviation=0.660), Given that the scale used a 5-point scale (1= strongly agree, 5= strongly disagree), it can be concluded that Makah Hospital have high level of service quality above the average mean. This finding is consistent with the previous research (karydis& kodvazeniti& hatzigeiou and panis (2001).

The results of this study show that the Makah Hospital have well known and accepted brand image (mean=1.55, standard deviation=.570), The results of this study show that the customers of Makah Hospital are very satisfied (mean=1.61, standard deviation=.713), The results of this study show that the customer of Makah Hospital have high loyalty to Makah Hospital by (mean=1.59, standard deviation=0.667), Given that the scale used a 5-point scale it can be concluded that Makah Hospital have a high loyal customer. Adoption (Angelova, Zekiri 2011; Kun-Hsi Liao 2012; Abd-El-Salam& Shawky and El-Nahas 2013).

(T) test was used for differences between two independent samples and the results are shown in Table (4.14), which shows that the value of the significance level for expectation quality of service variable above 0.05, which means that there are No differences in the gender and expectation quality of service and used (T) test for differences between two independent samples and the results are shown in Table (4.15), which shows that the value of the significance level for perceptions quality of service variable above 0.05, which means that there are no differences in the gender and perceptions quality of service. This finding is consistent with the previous research (Safiek Mokhlis 2012; Min & Khoon 2013 Min & Khoon 2014).

*The results of this study show that the present value of (empathy and responsiveness) above the value of significance level (0.05) beside found that value of significance level of (tangibles and reliability) less than the (0.05) which means that there are differences in the age and expectation quality of service , and found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level less than the (0.05) which means that there are differences in the age and perceptions quality of service, This finding is consistent with the previous research (Safiek Mokhlis 2012; Min & Khoon 2013 Min & Khoon 2014).*

*the results found that the present value of (empathy) above the value of significance level (0.05) beside found that value of significance level of (tangibles, responsiveness and reliability) less than the (0.05) which means that there are differences in the education level and expectation quality of service , and we found that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level less than the (0.05) which means that there are differences in the education level and perceptions quality of service. This finding is consistent with the previous research (Safiek Mokhlis 2012; Min & Khoon 2013 Min & Khoon 2014).*

The results of this study show that the present value of (tangibles, empathy, reliability) above the value of significance level (0.05) beside found that value of significance level of ( responsiveness) less than the (0.05) which means that there are differences in the number of times deals with Hospital and expectation quality of service, and we found that the present value of variables: (tangibles, empathy and responsiveness) at value

of significance level above than the (0.05) which means that there are no differences in the number of times deals with Hospital and perceptions quality of service, Adoption (kumara, (online).

The finding shows that the value of the significance level for expectation quality of service variable above 0.05, which means that there are no differences by the number of years with Hospital and expectation quality of service, and shows that the value of the significance level for perceptions quality of service variable above 0.05, which means that there are no differences by the number of years with Hospital and perceptions quality of service. Adoption kumara (online) .

the results found that the present value of (responsiveness, empathy and reliability) above the value of significance level (0.05) beside found that value of significance level of (tangibles) less than the (0.05) which means that there are differences in the job and expectation quality of service, and that the present value of variables: (tangibles, empathy and responsiveness) at value of significance level above than the (0.05) which means that there are no differences by the job and perceptions quality of service. This finding is consistent with the previous research (anand, selfarj (2012).

The results of this study show that the present value of (responsiveness, tangibles and reliability) above the value of significance level (0.05) beside found that the value of significance level of (empathy) less than the (0.05) which means that there are differences by the Hospital location and expectation quality of service, and found that the present value of variables: (tangibles, empathy and responsiveness) at value of

significance level above than the (0.05) which means that there are no differences by the Hospital Location and perceptions quality of service.

The results of this study show that the value of the significance level for customer loyalty above 0.05, which means that there are no differences in the gender and customer loyalty. This finding is consistent with the previous research li, huang and yang (2011), and found that the present value of customer loyalty at value of significance level less than the (0.05) which means that there are differences by the age and customer loyalty, This result is also similar to previous studies by upamannya 2014, hardeep chahal 2011), also results found that the present value of customer loyalty at value of significance level less than the (0.05) which means that there are differences by the education level and customer loyalty, This result is also similar to previous studies by hardeep chahal (2011). and found that the present value of customer loyalty above the value of significance level (0.05) which means that there are No differences in the job and customer loyalty adoption by hardeep chahal (2011) and there are no differences by the number of times dealing with the Hospital, number of years with the Hospital and customer loyalty, that is results different with previous studies (li, huang and yang 2011; naureen afzan 2013).

The research findings revealed shows that the value of the significance level for customer satisfaction above 0.05, which means that there are no differences by the gender and customer Satisfaction, and there are no differences by the age and customer satisfaction, and there are no differences by the number of times dealing with the Hospital and customer satisfaction. There are no differences by the number of years with the

Hospital and customer satisfaction, and there are no differences in the job and customer satisfaction, and there are no differences by the Hospital location and customer satisfaction. These results consistent with previous studies (Ajmer Singh 2013, hardeep chahal 2011), but the result found that the present value of customer satisfaction at value of significance level less than the (0.05) which means that there are differences by the education level and customer satisfaction. Adoption by (Min & Khoon 2014).

The results of the hierarchical regression equation testing the influence of the service quality variables (expectations) variables on customer loyalty; however the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer loyalty the results showed that the hypothesis was supported, i.e. there is a positive relationship between Service quality variables (expectations) variables and customer loyalty. The results also showed that tangibles have the most significant effect on customer recommending ( $\beta=0.311$ ,  $p<0.000$ ), and empathy have the significant effect on customer loyalty ( $\beta=0.184$ ,  $p<0.003$ ), followed by reliability ( $\beta= 0.164$ ,  $p<0.003$ ), followed by empathy ( $\beta= 0.079$ ,  $p<0.102$ ), Therefore, these results provide support for the assertion that the service quality variables (expectations) variables partially does lead to the creation of customer loyalty .These results consistent with previous studies ( li, huang and yang 2011,

The results of the hierarchical regression equation testing the influence of the service quality variables (perceptions) variables on customer loyalty, however the result shows that the model is significant. In

addition the results show that all the four component of service quality variables is a positive significantly influenced customer loyalty the results showed that the hypothesis was supported, i.e. there is a positive relationship between Service quality variables (perceptions) variables and customer loyalty. The results also showed that responsiveness have the most significant effect on customer loyalty ( $\beta=0.455$ ,  $p<0.000$ ) and empathy have the significant effect on customer loyalty ( $\beta=0.378$ ,  $p<0.003$ ), followed by tangibles ( $\beta= -0.012$ ,  $p<0.793$ ) Therefore, these results provide support for the assertion that the service quality variables (perceptions) variables partially does lead to the creation of customer loyalty. These results consistent with previous studies (li, huang and yang 2011, aliman, mohamad 2013,).

The results of the hierarchical regression equation testing the influence of the service quality variables (expectations) variables on customer satisfaction; however the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer satisfaction. The results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality Variables (expectations) variables and customer satisfaction. The results also showed that Tangibles have the most significant effect on customer recommending ( $\beta=0.353$ ,  $p<0.000$ ) and empathy have the significant effect on customer loyalty ( $\beta=0.251$ ,  $p<0.000$ ), followed by reliability ( $\beta= 0.085$ ,  $p<0.136$ ), followed by empathy ( $\beta= 0.027$ ,  $p<0.58$ ) Therefore, these results provide support for the assertion that the service quality variables (expectations) variables



partially does lead to the creation of customer satisfaction. These results consistent with previous studies (Lianxi Zhou 2004; Mohsin Zafar & Sana Zafar & Aasia & Hunjra, 2012; Zamil and Areiqat 2012).

The results of the hierarchical regression equation testing the influence of the service quality variables (perceptions) variables on customer satisfaction, however the result shows that the model is significant. In addition the results show that all the four component of service quality variables is a positive significantly influenced customer satisfaction the results showed that the hypothesis was supported, i.e. there is a positive relationship between service quality variables (perceptions) variables and customer satisfaction, The results also showed that responsiveness have the most significant effect on customer satisfaction ( $\beta=0.536$ ,  $p<0.000$ ) and empathy have the significant effect on customer satisfaction ( $\beta=0.305$ ,  $p<0.000$ ), followed by tangibles ( $\beta= 0.003$ ,  $p<0.94$ ) Therefore, these results provide support for the assertion that the service quality variables (perceptions) variables partially does lead to the creation of customer satisfaction. These results consistent with previous studies (Aliman & Mohammed 2013, Zamil and Areiqat 2012).

The results of the hierarchical regression equation testing the influence of the relationship between customer satisfaction and customer loyalty. The results also showed that customer satisfaction have a high significant effect on customer loyalty ( $\beta=0.935$ ,  $p<0.000$ ). These results support hypothesis of the relationship between brand image and customer satisfaction. Therefore, these results provide support for the assertion that the brand image does lead to the creation of customer satisfaction, These

results consistent with previous studies (Malik& Ghafoor& Iqbal 2012, Abd-El-Salam& Shawky and El-Nahas 2013).

The results of the hierarchical regression equation testing the influence of the relationship between brand image and customer loyalty, The results also showed that brand image have a high significant effect on customer loyalty ( $\beta=0.893$ ,  $p<0.000$ ), These results support hypotheses of the relationship between brand image and customer loyalty Therefore, these results provide support for the assertion that the brand image does lead to the creation of customer loyalty, These results consistent with previous studies (UPAMANNYU& GULATI& MATHUR 2014; Liao 2012).

It can be seen in the results that the interaction between service quality (expectation and perceptions) and brand image (tangibles\* brand image, responsiveness\* brand image, empathy\* brand image, reliability\* brand image)) is positively and significantly correlated with customer loyalty. And also service quality (perceptions) (responsiveness\* brand image, empathy\* brand image, tangibles\* brand image) significantly correlated with loyalty. In addition customer satisfaction is significantly correlated with customer loyalty.

The results of the hierarchical regression equation testing the influence of the service quality variables (expectations, perceptions) variables on customer loyalty, however the result shows that the model is significant. In addition the results show that the interacted component of service quality variables and brand image is a positive significantly influence on customer loyalty. The results showed that the hypothesis was supported, i.e. there is a positive relationship between interaction of service quality variables (expectations, perceptions) variables with brand image and customer loyalty.

The results also showed that percept interaction of empathy\* brand have the most significant effect on customer loyalty ( $\beta=0.526$ ,  $p<0.000$ ), and followed by responsiveness\* brand ( $\beta=0.520$ ,  $p<0.000$ ), followed by expected of interaction responsiveness\* brand service ( $\beta= -0.175$ ,  $p<0.012$ ), and percept interaction of tangibles\* brand quality( $\beta= -0.129$ ,  $p<0.062$ ), followed by expected of interaction empathy\* brand( $\beta=0.072$ ,  $p<0.139$ ) followed by expected of interaction reliability\* brand ( $\beta=0.059$ ,  $p<0.354$ ) followed by expected of interaction tangibles\* brand( $\beta= -0.011$ ,  $p<0.881$ ) These results give support to hypotheses (expected responsiveness\* brand and customer loyalty ), (perceived responsiveness\* brand and customer loyalty ), and support (perceived empathy\* brand and customer loyalty Therefore, these results provide support for the assertion that the service quality variables(expectations ,perceptions) variables partially does lead to the creation of customer loyalty.

The results of the hierarchical regression equation testing the influence of the service quality variables (expectations, perceptions) variables on customer satisfaction; however the result shows that the model is significant. In addition the results show that the Interacted component of service quality variables and brand image is a positive significantly influenced customer satisfaction , The results showed that the hypothesis was supported, i.e. there is a positive relationship between interaction of service quality variables(expectations, perceptions) variables with brand image and customer satisfaction , The results also showed that percept interaction of responsiveness\* brand have the most significant effect on customer loyalty ( $\beta=0.553$ ,  $p<0.000$ ), and followed by empathy\* brand ( $\beta=0.528$ ,  $p<0.000$ ), followed by tangibles\* brand ( $\beta= -0.098$ ,  $p<0.18$ ), and the expected interaction of tangibles\* brand ( $\beta= 0.037$ ,  $p<0.65$ ), and followed by

interaction of responsiveness\* brand ( $\beta = -0.022$ ,  $p < 0.77$ ), followed by expected of interaction empathy\* brand ( $\beta = -0.062$ ,  $p < 0.23$ ) followed by expected of interaction reliability\* brand ( $\beta = -0.097$ ,  $p < 0.16$ ). These results give support to hypotheses (perceived responsiveness\* brand and customer loyalty), (perceived responsiveness\* brand and customer loyalty), Therefore, these results provide support for the assertion that the service quality variables (expectations, perceptions) variables partially does lead to the creation of customer loyalty.

As regard the mediation effect of customer satisfaction on the relationship between service quality variables (expectations, perceptions) interaction with brand image and customer loyalty the results of regression analysis given in Table 4.49 showed Table 4.55 showed the results of the hierarchical regression testing the mediation effect of customer satisfaction on the relationship between service quality variables and customer loyalty in model 1, the results showed that service quality variables (expectations) (tangibles\* brand image, responsiveness\* brand image, empathy\* brand image, reliability\* brand image) significantly influence customer loyalty with beta coefficient ( $\beta = .044$ ), ( $\beta = -.226$ ), and ( $\beta = .086$ ) ( $\beta = -.068$ ), ( $\beta = .004$ ), respectively. In model 2, the extent, as the beta value coefficient responsiveness\* brand were decreased. ( $\beta = -.087$ ). However tangibles\* brand image, empathy\* brand image, reliability\* brand image were increasing customer loyalty, also customer satisfaction mediate the relationship between service quality variables (perceptions) interaction with brand image and customer loyalty with beta coefficient for responsiveness\* brand, empathy\* brand, and tangible\* brand ( $\beta = .448$ ), ( $\beta = .504$ ) and ( $\beta = -.001$ ) respectively. In model 2, the extent, as the beta value coefficient of: responsiveness\* brand and empathy\* brand were decreased. ( $\beta = .024$ ), ( $\beta = .212$ ),

however tangible were increased. concerning the type of mediation of customer satisfaction on the tangibles, reliability, assurance and empathy, brand image and customer loyalty, the results showed that the value of perceived responsiveness\* brand, expected responsiveness\* brand significantly reduced (in model 2) this indicated that, customer satisfaction fully mediated the relationship between brand image, and customer loyalty.

Previous studies covered the relationship between the variables (service quality, brand image, customer satisfaction, and customer loyalty) but did not cover any study of the interaction between service quality and brand image and its impact on customer satisfaction and customer loyalty.

#### **5.4 Conclusions**

- As the results point out, some of the variables are related to demographic factors, which implies that Makkah Hospital managers need to stress the need for the staff to understand patients' needs whatever the demographic factors. Once customers have a positive intention, they will have a positive word of mouth and continue to revisit the hospital.
- Furthermore, the researcher suggests that the hospital set a special service centre for tracing patients' condition and actively inform them of any medical check-up or subsequent consultation via the phone or email. For some departments with a higher visiting rate,
- The hospital should provide more medical staffs in order to reduce the risk of physicians' negligence to patients because of their busy schedule. Also, the researcher suggests that the hospital managers keep training their medical staffs so as to further develop their skills in order for them to be more professional and have sufficient skills to deal with any case.

- The service quality at the interaction part of the process is another point to which the managers need to pay attention. Thus, the researcher recommends that the managers of each branch set a training program for their staffs in order to strengthen their communication skills and improve their interaction with patients during service procedures so as to display more individual concerns toward these patients.
- Besides, the hospital can provide magazines, books and televisions to help patients and their families occupy themselves during the waiting time.
- Continue to work hard by those responsible for hospitals in upgrading the quality of health service and continue the process of development and modernization, especially in the area training of human resources and upgrading of staff.
- The need for action by the departments of hospitals to review quality dimensions by applications of quality measurements periodically during close periods and control levels of quality and patient satisfaction levels and modify errors to maintain sustainable health quality.
- the departments of hospitals showed develop a mechanism to communicate with patients and surveyed after their service is completed and returning to home and because some patients conceal feelings and opinions, especially if they express dissatisfaction, fearing abuse by medical and nursing personnel at hospitals & that achieves two benefits:
  - a) See the real situation of quality of service provided.
  - b) Also, in the event of consent by the patient satisfaction, it creates depth and in the absence of consent to mitigate the impact of discontent and identifies the

areas of deficiency in service which reflects the mental image of the hospital and mitigate the impact of the low level of service.

- Providing better physical facilities.
- Providing a trustful atmosphere across the hospital.
- Paying individual attention to each patient; and better facilities for visitors.
- Overall, the research revealed that the customer's perceptions did not exceed their expectations. Customers nowadays have very high expectations, especially when it comes to medical treatment they are receiving. The responsiveness empathy variables had the lowest service gaps score. This means Sudanese hospitals need to Willingness to help customers and provide prompt service and caring, individualized attention which the hospital provides for its customers.
- Generally, our study demonstrates that Sudanese healthcare providers ought to take into account patient needs. Providers are encouraged to build long-term relationships with patients if they want to maintain their viability. Evolution in micro- and macro-levels seems necessary to avoid an unsolvable 'breakdown' of Sudanese medical services.

## **5.5 Recommended to future researchers**

It would be recommended to future researchers that this type of survey showed be conducted on a larger scale to assist all private healthcare providers to render better service to their customers. It would be beneficial if all private healthcare providers would participate and help facilitate and expand the research scope.

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