The SERVQUAL Measuring Instrument Applied in Assessing "Service Quality and customer Satisfaction"
Case of Norrlands Universitets Sjukhuset - Umea.

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Spring semester 2013
Master thesis, one-year, 15 hp
Abstract

Service quality has become one of the key aspects among other factors that contribute to business growth and leading position in the business environment with mass competition. Service quality also plays a significant role in service sectors since due to its untouchable nature the features cannot be spelled out for consumers to directly make judgment before decisions are made. In order for businesses to improve and maintain a better positioning in the competitive era, it is necessary to evaluate the performance of the services rendered to their customers. In recent times, service provider companies spend a great deal of time and money in configuring high quality services to satisfy their customers. Satisfied customers in most cases are likely to become loyal to companies. Customer satisfaction can be evaluated through an assessment of the quality of service delivered by the service provider to their customers and the level of service quality can also be measured considering customers’ expectations and perceptions.

Purpose: This study is aimed to apply the SERVQUAL instrument in assessing patients (students of Umea University) perceptions of service quality and the level of satisfaction obtained from the services rendered by the Norrlands Universitets sjukhuset.

Method: The convenience sampling technique was used to obtain data from the chosen population to enable an evaluation of perceptions of service quality at the Norrlands Universitets Sjukhuset.

Findings and Conclusion: The factor analysis was used to analyze finding and test validity. Meanwhile the Cronbach Alpha enabled the determination of internal consistency and reliability. The gap score between perceptions and expectations was also deliberated. Results show that items from the same dimensions fall under more than one component. Although the other dimensions had a single factor, items from one dimension are not regrouped under the same factor but are affected by the different factors except for the Empathy dimension that was grouped correctly, but Empathy dimension alone is not sufficient to determine the extent of validity of the instrument applied. In this study the overall reliability coefficient is 0.933 more than 0.9 being the standard coefficient indicating an acceptable level of internal consistency. In conclusion patients from a chosen sample size of 201 students at the NUS expressed higher expectations than what they perceived in four dimensions and expressed satisfaction in one dimension. Result shows that in all the dimensions customers’ expectations were higher than perceptions except the dimension of tangibility score implying that although people expect quite much from the hospital they expressed a satisfactory level on the Tangibility dimension (physical facilities, equipment and appearance of personnel). This study contributes to the already prevailing knowledge and studies that have explored both the concept of service quality and customer satisfaction in the health care service sector with the help of the SERVQUAL instrument. The empirical results from this study can also help in guiding managerial operations in the health care service sectors.

Keywords: Service Quality, Service, Customer Satisfaction, Expectations and Perceptions, SERVQUAL.
Acknowledgement

The way to success is not without prodigious challenges, but it becomes fascinating when these challenges are overcome with achievements. The success of this work would certainly not be attained without both material and moral support from people who represent the foundation of my educational adventures.

My sincere thanks go to the Lord Almighty for his abundant blessings, love and care throughout my educational tour and most especially my entire life.

Thanks to my adored mother (Mbunwe Christina) for the courage and everything a mother could provide as support despite the distance. My heartfelt and never-ending love to Chesly Peace Ntache (daughter) for her exertion infused during my absence. It’s unbearable to stop here without a word(s) of appreciation to my family, relatives and friends who never kept away from me when I needed them most.

I must appreciate the Umeå University library for being of gigantic use to me in the process of this work and most especially my supervisor Kiflemariam Hamde.
Dedication

I dedicate this wedge to the blessed memory of my father Papa George Mbunwe Ndamnsa.

A Dieu!!!
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Abbreviations

SERVQUAL..... Service Quality
SERVPERF.......Service Performance
NUS..............Norrlands Universitets Sjukhuset
TA................Tangibility
RL....................Reliability
RP....................Responsiveness
AR.....................Assurance
EP....................Empathy
CHAPTER ONE

1 INTRODUCTION

“We continue in the extensive tradition of service quality research by developing, refining, and testing a service quality instrument” (Benlian, Koufaris, & Hess, 2011, p. 87), the SERVQUAL model, but the imminent question of what is service quality and how it can be measured continue to be an issue.

In this chapter the writer will address the concept of service quality, its importance, and a brief discussion about service quality in the business place. The author will also discuss briefly about customer satisfaction and how it might be related to service quality. Some of the problems of service quality will also be discussed in this chapter to pave way for the formulation of the problem statement. This chapter will also carry lines of discussion of models that have been used to measure service quality and introduce the SERVQUAL model the case in question.

The author will proceed to discuss the SERVQUAL model as a proxy for customer satisfaction which will permit identification of the research question and purpose and also pave the way forward for the study.

1.1 Background to the area of study

Competition is continuously getting stronger in the domain of marketing and this serve as a drive for managers to pay more attention to what they offer to the end users be it product or service. Consumers are unceasingly growing in their consumption knowledge and have developed so much that in addition to demanding quality in the goods produced they equally think about the various stages of production before consumption. Business environment is engaged with so much complexity and challenges embracing an augmented competitive level among organizations. Therefore, it is of great significance for companies to build loyalty and trust to be able to capture and maintain consumers to the company. Building trust and loyalty may possibly include delivering the needs and expectations of consumers. However, if a company is successful in adapting and rendering services that best suit the needs of its customers then there is a possibility to build strong grounds for customer satisfaction (Desai, 2011; Grönroos, 1996). Customers’ satisfaction is complex looking at it from a general perspective but what could be of more importance to management is how to create and maintain a higher level of customers’ satisfaction. In as much as this is important, the question of how customers’ satisfaction is measured remains at the anterior of every company’s attention during their strategic decision planning processes. Dominici & Palumbo, (2013, p. 89) argued that it is not an easy task for companies paying attention to customers satisfaction so therefore, it is indispensable for companies to ripen strategies and instruments that will facilitate the identification of consumers’ need.

Ample research bodies have argued different ways in which customer satisfaction could be measured. In this light, and in order to increase and maintain high-quality services unbiased methods must be applied (Coulthard, 2004, p. 479). In addition, until the year
1988, there has been no particular measuring instrument recommended to be applied in all service industries to identify customers’ expectations and perceptions (Coulthard, 2004, p. 479). Parasuraman et al., (1985) suggested that customer satisfaction could be measured through an assessment of the quality of services offered by organizations or companies. The SERVQUAL is an instrument that is applied to assess client satisfaction and this is determined by the differences or the gap score between customer expectation and the acquired outcome (Oliver, 2005, cited in Nair et al., 2010, p. 35). However, understanding service quality and customers satisfaction is necessary when there is a need to identify customers’ expectation and perceptions from acquired services. In as much as the concept of customer satisfaction is complex so does the concept of services especially when viewing services in a generic form. A service in an ordinary dictionary definition could be understood as something that is untouchable. In this study, it would be important to understand what a service is in a business arena. Although a service has got several definitions, Meirelles (2006), describes a service as intangible, and maintained that services are measured only when linked with other functions that are included in the productive procedures of tangible products. For instance the people, materials, time etc.

A service could be differentiated from product by easily saying that a service is what we cannot touch meanwhile a product is what we can see and touch but this will be a lay mans’ way of expressing the differences between a service and a product. Researchers in other to differentiate services from the manufactured products came up with some characteristics that could be considered to make the differences clear. Parasuraman et al., (1985, p. 42), acknowledged some well-known characteristics of services which include; intangibility, heterogeneity and inseparability and these characteristics facilitate the grasp of the differences between a service and a product. An understanding of these characteristics will enable a practical view about services in general. Services are intangible as earlier mentioned and the intangible nature of a service makes it difficult for a service to be evaluated and also to be stored (Khan, 2003). For example products are either perishable or non-perishable, non- perishable product are stored and could last for some time depending on the type of product whereas, those that are perishable could still be stored following required directives. There are some services that could not be stored for later consumption. An example of this could be in a situation whereby, someone turns on a heater to heat a hall for guest and maybe due to some circumstances the guest were not able to use the hall and so therefore heating services were not consumed. In this case the service of the heat gets dissipated and the services of the heat are as good as nothing. Where services are not consumed at the time it was intended to, it gets wasted since it is not storable. This depends on the nature of the services in question since this could not be applicable to all service industry (Khan, 2003; Amorim et al., 2012, p.2).

This study is focused on service quality and customer satisfaction, having a brief explanation of a service is important but this cannot be complete without a blend about service quality. A service is one thing and the quality is another aspect of the type of services consumers expect from their service providers. For instance, a consumer might be sick and needs to go to the hospital to obtain health care services for the health care service provider; in this case the consumer is much more interested in getting healed the evaluation of the quality of the services might not be at the front of his or her mind at that particular point in time but after receiving treatment the consumer is left with the impression he or she
gets regarding the quality of the services that was rendered to him or her. It is only after the services must have been acquired that the consumer can make judgments of being satisfied or unsatisfied. Quality is important since the consumers can attest satisfaction through an evaluation of the quality of services offered to them compared to what they expect or have as experienced. It may sometimes be difficult for consumers to evaluate or judge the quality of a service since a service is intangible. In this case consumers must depend on some other hints for instance, other persons who have acquired the services before and shared their experiences through word of mouth or through personal experiences (Parasuraman et al., 1985, p. 42). Unlike product wherein consumers may have a good number of cues to consider before making their decisions to buy, for example after an evaluation of the quality of the product looking at the features of the products say by touching, smelling, tasting etc., when purchasing services, the decision about the quality of the tangible cues is limited just to the physical facilities, that is those aspects that are involved in the process of delivering the services and this includes, the employees and equipment of the service provider (Parasuraman et al., 1985, p. 41 - 42).

Despite the intricacy in making judgments about the quality of a service due to its intangible nature, service quality is important since it enables managers and researchers to compare consumers’ expectations in accordance with the performance of the service provider. This enables management to be aware of the level of quality services rendered to customers and makes it easier to gauge customers’ satisfaction. Service quality is measured to know how effective the services rendered satisfy or meets the expectations of customers (Lewis & Boom, 1983). Service quality has been defined by different authors in diverse area of studies but what is important is the fact that despite these differences in their line of definitions there is a common sense and meaning derived from and making it easy to understand the meaning of service quality. According to Eshghi, Roy, & Ganguli, (2008, p. 121), service quality is described as the overall assessment of a service by the customers. Looking at the above definitions, it can be acknowledged that service quality has to do with assessing consumers perceptions with respect to the type of services offered to them and what they actually expect from companies that is, their expectations.

The concept of Service quality is of paramount importance to researchers, academicians and businesses as service quality remain a vibrant competitive strategy that enable service organizations to preserve customer support and build pronounced base and also serve as a great tool for winning customer loyalty (Al, Ramzi, & Mohamed, 2010, p. 886). This has provoked an urge for researchers in the field of marketing to carry out an intense and continuous study in this realm. Service quality is an important aspect that is and should be considered by management especially during implementation of their strategic decision planning (Desai, 2011, p. 40). According to Nalini et al., (2011, p. 52), service quality plays a significant role in the success of every business. In order for businesses to improve and maintain a better positioning in the competitive era, it is necessary to evaluate the performance of the services rendered by them. In addition, the service provider companies spend a great deal of time and money in configuring the high quality services to satisfy their customers. An assessment of customer loyalty and trust enables the company to deliver proper services to the right segment of customers. These services can be delivered rightly if the company understands consumers’ perception and expectations. Consumers’ perception of company’s performance is what is experienced by the consumer himself
(Parasuraman et al., 1988, p.17-18). Meanwhile consumer’s expectation is described as what consumers feel service provider should offer and this could be influenced by their past experience, advertisement, personal needs, word-of-mouth and service provider’s communications (Parasuraman et al., 1985, p. 49-50). Furthermore, this simply put, signifies that in a situation where perceptions are higher than expectations the service will be considered excellent. Meanwhile, in a case where expectations equal perceptions then the services are classified to be of good quality but where expectations are not attained, the services are termed to be of poor quality and in a situation where the perceptions matches expectations there is an expression of being indifferent or neutral (Parasuraman et al., 1985). While “Fairness or equity of the exchange over time affects the consumer’s usage of services”, Bolton et al., (1999, p. 171) suggest the role of price in customer satisfaction, while Goode et al., (2005, p. 755) suggest age, peer opinion, product quality, expertise, brand perception among others as important factors that determine customer satisfaction but, it is complicated establishing this relationship between service quality and customer satisfaction. Service quality is a social construct and the variation of results of studies in this domain suggests the elusive and subjective nature of this construct (Goode et al., 2005, p. 755). Therefore before I proceed, I will like to prove that it is a valid proxy for customer satisfaction. Having buttressed the concept of service quality, as it will be used in this thesis, the author will like to discuss briefly the concept of customer satisfaction before linking them.

Reading from previous writings and publications from academicians and other researchers, it could be understood that there is a need for companies or organizations to augment their level of quality service in order to create customer satisfaction which in another way enables continuous erecting and maintaining customer’s loyalty. According to Oliver, (1997, p. 13), customer satisfaction is an outcome of a consumers’ judgment about the features of the services delivered by the service provider. Customer satisfaction is also described as a function of the level of product/service performance with respect to customers’ expectations and a customers’ satisfaction may depends on the set of attribute made about the success or failure of the product/service performance (Pham, Goukens, Lehmann, & Stuart, 2010, p. 921). Customer satisfaction is defined by Goncalves & Sampaio, (2012, p. 1511) as “consumer’s fulfillment response”. Looking at the above mentioned definition, customers’ satisfaction has a lot to do with what the customers actually received in return as services from the service providers compared to what was expected.

1.2 Need for the study

The health care industry has been in an increasing trend with many new challenges for instance, increase in the demand for quality health services, customer/patient satisfaction and increased competition. To face these challenges, it is important that health care institutions pay more attention in developing effective ways to satisfy the desires and needs of patients (Desai, 2011, p. 40). This study focuses on health care service providers the author has chosen the Norrlands Universitets Sjukhuset-Umea (NUS). The health care sectors play an important role in the lives of every individual and health is what we need in order to live.
Studies have been carried out on service quality and customer satisfaction in various works of life, both in product and service industries like food retailing industries, financial services, transportation and other tangible product providers. Some of these studies in their different areas realized that there is an increased in and high concentration rate by management of service organizations towards consumers perceptions and the quality of services since it permits them to revitalized and develop new strategies that will boost an increase in customer satisfaction (Saravanan and Rao, 2007. P. 437). In addition, the service provider companies spend a great deal of time and money in configuring the high quality services to satisfy their customers. This study is focused in the domain of health care and the services rendered to patients. Patients in this case are the ones to attest if the services they get are satisfactory or not. Knowing what they patients expects as health care services in fulfillment of their different health needs will enable management of the set services sector to operate at a minimize cost in providing and enhancing service quality and thus attain the level of patients satisfaction. That notwithstanding, there are other issues that management in order to attain a certain level of customers satisfaction might need to address. Health organizations are rapidly changing as a result of unambiguous health-behavioral issues and challenges facing them and also as a result of the differences in health needs from the patients (smith, Orleans, &Jenkins, 2004, p. 127-128).

The service sector is growing faster in the global economy than the producing sectors and this is shown by a statistical figure as stated below. In addition, there have been an increase in percentage of service sector activities and a decrease in percentage from the goods producing activities that is 26.1% in 1979 to 19.1% in 1992 and 62.2% in 1979 to 70% in 1992 respectively (Biema & Greenwald, 1997). Despite the rapid growth and the importance of service sector activities, service organizations have however been sluggish to recognize the implications of the quality of services delivered to consumers (Pakdil &Harwood (2005, p. 15). Pakdil & Harwood, (2005) further confirmed that this might be as a result of the difficulties involved in relocating the concept of production quality from the manufacturing sector to a more human-centered service organization. Service sectors have recently begun to acknowledge the fact that service quality is a possible source of sustainable competitive advantage and building customer loyalty (Kuei, 1998). In an environment where there is high competition in the services provided by health care providers, patients’ loyalty seems not to be certain. Therefore, how to build and maintain patients loyalty becomes a vital issue for today’s health services providers because having loyal patients permit the health care service providers to better deliver quality health services and reduce the rate at which patients complain and attain a high level of patient satisfaction (Torres et al., 2009, p. 184). If patient satisfaction is considered as a top priority by health care services providers, then the possibility to build efficient bases and minimize cost for petitioning new users since the cost of obtaining new patients surpasses that of upholding existing ones (Barlow & Moller, 1996). You et al., (2013, p. 155) mention in their study “Hospital nursing, care quality, and patient satisfaction” that augmenting patients satisfaction and refining quality of health care services are the top priorities in health care services providers.

The quality of health care service might also be influenced by factors such as cultural differences, differences in languages, lack of ethnic knowledge by the health care provider (Strunk et al., 2013, p. 45). Understanding the concept of health care services and service
quality is crucial as researchers continue to search for answers in this domain. This study focuses on health care and how patients perceive service quality at the NUS, going back to the above mentions issues that might have an impact on the service quality delivered to patients, it is mentioned that service sectors have recently discovered that service quality is a potential aspect that is needed to acquire competitive advantages and win a leading position in the business environment. The students of the Umea University who are chosen to represent the sample of this study are of difference cultural background and language differences. Because health is life, health care providers are striving to provide the best they can to make sure patients need for health care services are fulfilled and every health care organization wants to stand at the leading position in the health care services sector through competition. NUS is the Umeå University hospital and though students pay little or limited amount of money to acquire health care services it will be of a great important that they actually get the best health services they could get from the NUS. A study of this nature will enable the NUS body to know where the curve turns down on their part and seek for ways to make amendment in order to satisfy its patients. This has led them to find ways in which quality health services will be delivered to patients and attain a high level of patient satisfaction. This explains the reason why health care service sectors should constantly measure the services quality through and assessment of the level of customer perception and expectations using the different dimensions and models deployed to enable them get an understanding of which of this dimensions provide satisfaction. In addition, given that competition is on an increasing trend, rapid growth and changes in technology in the health-care market and the fact that patients nowadays possess a certain level of awareness about health care, health care health care services providers are somehow limited in their ability to improve service quality to mark a hundred percent fulfillment of patient satisfaction (Chahal & Kumari, 2012, p. 182). The study in question will be of significance to the health care providers on the development of service quality and patient satisfaction especially with the help of the five dimensions used in measuring perceptions and expectations of patients. This study apart from providing guides to healthcare providers on how to pursue and achieve patient satisfaction will also be of use to researchers since the results may bring up suggestions for further studies.

Some researchers used the SERVQUAL in carrying out studies in the health care domain an example of these studies include; “Service Quality Assessment of workers’ compensation Health Care Delivery programs in New York state Using the SERVQUAL”, “Using the SERVQUAL model to evaluate the Impact of Public Service Reforms in the Provision of Primary Healthcare in Botswana” (Arunasalam, Paulson., &Wallace, 2003; J. Pansiri & R.N. Mnereki, 2010). Other researchers have also applied the SERVQUAL model in different areas other than health for example Grocery stores, banks and other service organizations. Despite the fact that the SERVQUAL model has been used in different studies, it is still important for a study like this to be conducted since service quality and patients satisfaction remain at top priority of healthcare service providers and coupled with the fact that competition in this area is in an increasing trend with new technological changes in the health-care market and the constant change in patients knowledge about health care, studies of this nature will be of help to management to make strategic decisions planning to be up to date and enable them deliver service quality and attain patient satisfaction since the strategy for health care services providers remain critical when trying to deliver quality service. Other studies were found in healthcare publications
using the SERVQUAL instrument on health care, hospitals and clinics studies within and out of Sweden with little emphasis at the NUS, the author takes the challenge to contribute in this area of study with respect to the changes in technology and patient knowledge and the fact that patient satisfaction remain the top priority to health care service provider.

With readings and experiences combined, it can be attested that service quality directly or indirectly affect the utility that customers derived from participation in service chains. As the author of this study, am personally fascinated at the level of quality in the services rendered to patients at the Norrlands Universitets Sjukhusets-Umeå (NUS). Norrlands Universitets Sjukhusets-Umeå will be represented in this text by NUS. With a grasp of the fact that there is a cause effect relationship between service quality and customer satisfaction, the author will move on to find out what patients (students at the Umea University) think about the services rendered at NUS and subsequently established if these set of patients at NUS are satisfied with their experiences of services rendered by the personnel of the chosen hospital. Several models have been developed and used to measure service quality in various service sectors and over several regions in the world but as mentioned in the previous paragraphs, the concept remain obscure due to its intangibility nature and thus difficult to measure (Douglas & Connor, 2003, p. 171). The fact that they are different from manufacturing processes and requires the direct participation of clients (Nair et., al. 2010, p. 35) makes it difficult to measure. It is however important to consider the interaction between customers and service providers if service quality has to be measured then this interaction will provides useful information that can help the service provider understand what the customer actually desires or needs and facilitate their strategic decision planning in order to be able to deliver quality services (Nair et., al. 2010, p. 35).

1.3 Research Question

This study is carried out to enable an assessment of service quality and customer satisfaction in the domain of health care using the SERVQUAL measuring instrument developed by the famous writers Parasuraman et al., (1985). The author is going to apply the SERVQUAL instrument with the refined dimensions including Tangibility, Reliability, Responsiveness, Assurance and Empathy. These are the five dimensions that will be applied in this study to enable the assessment of patients’ expectations and perceptions of the service quality rendered by the NUS. This is attracted by the curiosity to know the extent of which students of the Umea University (patients) are satisfied with the health care services they get form the NUS. since the study is directed to know how patients perceive service quality, the research questions will be unambiguous to know what they have as experience and what they actually expects of the personnel at NUS. In order for this to be possible the author will seek to know the extent to which patients are satisfied with the health care services delivered to them by the employees and the different functions involved at the NUS and if there is an expression of patients satisfaction which of the dimensions provides these patients satisfaction and that which do not provide satisfaction. Through the questions that will be asked to patients, the author would be able to make analysis from the gap that will be derived between patients’ perceptions and expectations. In a nutshell, the research question as stated below will permit the author streamline the study and enable completion as well.
• How do patients perceive service quality at the Norrlands Universitets Sjukhuset?
• Are patients satisfied with the quality of services acquired from the Norrlands Universitets Sjukhuset?

1.4 Research Purpose

The purpose of this study is to assess consumers of health care services (patient’s) perceptions of service quality at the NUS and to find out patients level of satisfaction derived from the services rendered to them. In order to accomplish this, the SERVQUAL model will be used to enable the author determine which attributes of this model convey customer satisfaction and that which do not at NUS. Apart from the main purpose of this study as mentioned above, there are other objectives that could be attained upon the completion of this work. This study is also tied with some secondary though silent objectives that could be realized at the end of the study. In the process of this study, knowledge will be gained from the literature of service quality and customer’s satisfaction and also contributions to this area will be effected. It might also be useful in the health care service area and management when implementing their operating strategies to deliver optimum customer satisfaction especially in the service sectors. This study will also permit better understanding of how customer satisfaction could be measured through an evaluation of service quality.

1.5 Delimitation of study

The concept of service quality is broad and has many different areas which are also important to pursue in terms of research. To make things clear and easy to understand the area that this study focuses on, the author has to streamline and define the scope of this research. This study is based on health care services and in this case, I have chosen the Norrlands Universitets Sjukhuset-Umeå (NUS) as a case. The author is interested in knowing how consumers of health care services perceive service quality at NUS. Although there are many other health care service providers in Umeå, this study is limited to Norrlands Universitets Sjukhuset-Umea. The sample is drawn from student of Umeå who has acquired health care services from the NUS. In this case, consumers will be represented by the students of Umeå University and strictly those who have acquired or are still acquiring health care services at Norrlands Universitets Sjukhuset. Consumers of the healthcare services at the NUS are chosen from the Umeå university students and this is a limiting factor to generalized conclusion as this also affects the response and results as well.

1.6 Thesis outline

Chapter one: Introduction

In this chapter the writer will address service quality as a concept, its importance, and a brief talk about service quality in the business place. In addition, the author will introduce customer satisfaction and show how it relates to service quality and thereafter introduce the case of study. This chapter will also carry lines of discussion of models that have been used in the past to measure service quality and introduce the SERVQUAL model.
The author will proceed to discuss the SERVQUAL model as a proxy for customer satisfaction which is going to help to clearly identify and state the research question and purpose and also pave the way forward for the study.

**Chapter two: Methodology**
This chapter encompasses explanations and presentation of the researcher’s method of collecting and analyzing data from both the primary and secondary point of view that may be more/less relevant to the context of the study as shown further.

**Chapter three: Literature Review of Service quality customer satisfaction**
In this chapter, the researcher will review existing and relevant literature within the field of service quality and customer satisfaction. Discussions will be made based on the issues of service quality and customer satisfaction and how they are related. Definitions of some important concepts will be provided to ease understanding of the subject and what has been examined within this area of study so as to render some authenticity to the work.

**Chapter four: Empirical explanation**
This chapter will present discussions of the empirical tools including explanation of the questionnaire, collected data, the sample, measurement of variables, data coding and also explain the coded language used.

**Chapter five: Empirical Results and Analyses**
In this chapter the empirical findings will be presented and analyzed based on the theoretical concepts to answers to the research question. This chapter begins with presentation of the data that were collected followed by the analyses of the data.

**Chapter six:**
In this chapter, answers to the research purpose will be provided by drawing conclusions from findings and analysis. This will be followed by a presentation of implications for a service provider, limitation of the study and finally suggestions for further research.
CHAPTER TWO

2 RESEARCH METHODOLOGY

This chapter encompasses explanations and presentation of the researcher’s choice and method of collecting and analyzing data from both a practical and theoretical point of view and explaining the advantages and disadvantages of using different methods that may be more/less relevant to the context.

2.1 Choice of Study

Health is an important aspect in our daily lives and good health determines how our activities of each day could run. In the western world, the health industries are growing so fast and increasing in their numbers. It is realized that health care industries in the western world are making much effort to see how they can constantly save the lives of individuals in need of their services. The services I get from the hospital each time I need health care drives me to know if it is the same feelings or experience others have when they visit the NUS to be precise. I tried to answer this question personally by reading some other articles or example “Patient Satisfaction and Service Quality Dimensions” (Desai, 2011). Little or limited numbers were found with particular emphasis on the type of service offered to patient at NUS compared to their expectation and perceptions in the department of business in Umea school of business and in English. This inspired me to carry out a study in this area and with the knowledge acquired during my study in the business courses I acquired knowledge about the SERVQUAL model and how useful it is to studies that are intended to measure services quality. These arouse my interest to use the SERVQUAL model as an instrument to assess the perceptions and expectations of other individual at the NUS.

2.2 Research Philosophy

According to Saunders et al., (2009, p. 108), a researcher should be careful on the philosophical choices to make a stand on their philosophy while choosing the alternatives in the research process. Taking into consideration the subject matter and area of this study, the author finds it necessary to explain the ontological and epistemological assumptions. These are the two main research philosophies. These assumptions in line with knowledge and reality will enable the writer to determine which research approach to use in carrying out the study and also helps to streamline the research process from the type of questions asked and the method used (Saunders et al., 2009, p. 111).

2.2.1 Ontological Assumptions

According to Saunders et al., (2009, p. 110-111), ontology refers to the reality of the natural world. Bryman & Bell (2007, p. 30), also describes ontology as how reality is being perceived by individuals and where this is influenced by previous knowledge and experience. There are two positions involved under ontology assumptions and are usually referred to as objectivism and constructivism.
Objectivism refers to the ontological position which states that social phenomena faces us as external facts that are beyond out influence. That is, the existence reality is independent of social actors. This explains how the social categories and phenomena that are used in daily discourse have an existence that is independent from actors (Bryman & Bell, 2007, p. 22).

Constructivism is an alternative ontological position which states that social occurrences and what they actually mean are continuously being convoyed by social actors. Realities are created by the social performers (Bryman & Bell, 2007, p. 23). According to Bryman & Bell, (2007, p. 24), categories that people employ in helping them have a grasp of the world are considered social products, in which the meanings are constructed in and through collaboration.

The ontological position of this study is objectivism. This study is aim to know how patients perceive service quality at the NUS and what level of satisfaction they derive in relation to their expectations and perceptions of service quality. This position of ontological assumptions influences the choice of data collection method, giving that this is a quantitative study and quantitative research practices are motivated by the need to collect information from a good number of the chosen population (Shiu et al., 2009, p. 225). With this method the researcher was able to collect data from a chosen population with a good number of sample sizes through questionnaires that was designed to get responses about what the patients perceived and what they expect for the services rendered to them. There is also the possibility to analysis the data in different ways depending on the range of the variables.

The descriptive analysis is applied to analyze the data that will be collected. While the chosen method embraces distinct pluses, the method is not also without issues and these issues can in one way or another influence results and conclusion. Some of these issues may arise as respondent not willing to give honest responses, low rate of response, inappropriate use of stastical techniques and misinterpretation of data (Shiu et al., 2009, p. 227). In as much as the author is aware of the various issues that might occur which could have impact on the results and conclusion, intense care was put in place to make sure little or none of these issues arises.

With respect to the study in question, the author believes that there is a reality that can be observed. The idea of customer satisfaction and service quality is what has been and continuously exists in today’s business world and these aspects can be seen as external to customers that observe these realities. In this case, the writer looks towards the direction of objectivism that is an objectivist manner of viewing social occurrences. As it is digested from past research works, companies are making relentless effort to make sure they attain highest level of profitability and this can be done if they are leading in the customer satisfaction perspective which can be gained by providing quality services to the customers. If customers are satisfied with the services they get from the services provider or firm, it could be agreed upon that the quality of that services are good. To clear the doubt of whether it could be or it is a reality that service quality affects customers satisfaction, a survey has to be carried out in order to determine or assess how customers observe service quality and if their observations are below, above or suits their expectations. It could be
true that if what customers perceive is higher than what they expect then they are term to be satisfied thus the firm will acknowledge an attainment of customer satisfaction. Because we are in a research world, this cannot just be assumed but it can be best proven. To do so the author will use structured questions which are developed from the model that seeks to guide this study and that is the SERVQUAL model.

Respondent will provide answers to the questions that will be presented to them. Although it will be individual responses, the writer is not limiting this to individual responses but a more general answer on consumers’ expectation and perception using an already designed model by Parasuraman. The feedback gotten from the respondents will assist in generating answers to the research questions and also a completion of the study. In this case, and by the use of these method the study is an objective study. The Likert scale will be used to facilitate the responses and perceptions will be categorized into different levels permitting the respondents to detect and select where he or she best fits.

2.2.2 Epistemological Assumptions

Epistemology refers to the acceptability of nature and grounds of knowledge in a field of study (Saunders et al., 2009, p. 112-116). Knowledge in this case can be regarded as objective and theoretically manageable to all, or viewed as subjective and dependent on individual understanding (Long et al., 2000). The contradictory concern with epistemology is whether the social world should be considered the same as the principles and processes as the natural science (Bryman & Bell, 2007, p.16). Under epistemology there are two major ways of thinking: Interpretivism and Positivism.

Positivism supports the application of the methods of natural science to the study of social reality and beyond. The researcher takes the view of the research subject as being external, objective, and independent of social actors. That is, the researcher thinks that only observable phenomena can provide credible data and facts (Saunders et al., 2009, p. 112-116). Positivism involves the subsequent principles stated by (Bryman & Bell, 2007, p.16). Phenomenalism principles which states that only phenomena and hence knowledge confirmed by the senses can honestly be justified as knowledge. Deductivism which states that the purpose of theory is to create assumptions that can be tested and enable descriptions of laws to be evaluated. The principle of inductivism states that, knowledge is attained through assembling of evidences that delivers the basis for laws. Objective principles states that, science must be conducted in a way that is value free. Lastly, there is a clear difference between scientific statements and normative statements and a belief that the former are true area of experts (Bryman & Bell, 2007, p.16).

Bryman & Bell, (2007, p.17-18) stated that some writers influenced by different intellectual traditions consider interpretivism as a contrasts of positivism and shares view that the issue of social sciences – people and their institutions are profoundly different from that of the natural science. That is, the purpose of interpretivism is to understand differences between humans in their role as social actors. Interpretivism is concerned with the understanding of human action than those forces that act on it. Means while, positivism stresses on the description and understanding of human conduct.
With an understanding of the above elaborations, this study seeks to pursue a positivist opinion of epistemology. Existing theories and concepts will be used to augment knowledge in line with the subject and also to clarify the research question. Although it might be difficult to eradicate personal influence, the author will take proper care to make sure biases are eliminated (Saunders et al., 2003, p. 83).

In this study, the author is interested to assess patients’ satisfaction in health care service industry with NUS as the chosen case and this will be done with the help of the SERVQUAL model. In this study patient satisfaction and service quality can be viewed as social phenomena from the customers’ perspective. Service quality and customers satisfaction are realities and plays a great role in the authors mind. It can be clearly seen that there is a link between existing theory and the study in question. To enable me have a genuine response from the respondents, I will make sure that they are free from influencing power from the researcher and that they are not under any tensed condition while providing their answers. The questionnaires will be filled strictly on an independent basis by the respondent.

2.3 Research Approach

There exist two important methods used for gathering knowledge and these include; the Deductive and Inductive approach. The deduction approach begins with reading of existing theories and then hypothesis are set and tested in reality (Bryman & Bell, 2007, p.11). The deductive approach will be used in this study as it characterized by a common view of the nature of the relationship between research and theory. The inductive approach is generally useful in social sciences to better understand the nature of the problem. This means that the study begins with an observation that will later be interpreted and possibly create a new theory. The researcher in the process of interpreting data that has been collected creates a new theory. However, these two research approaches are in a way related to different research philosophies, that is, deduction owes more to positivism and induction to interpretivism (Saunders et al., 2009, p. 124-129).

The author stared this study by visiting existing theories and then the problem was derived which directed me to the type of data collection process that will be appropriate for the study. The deductive approach is used in this study because the research problem came as a result of the gap that was found after reading from existing theories. The SERVQUAL model was used as a guide to streamline the theories that were used which enabled the measurement of the gap that exist between what is perceived and what is expected by consumers from the service providers. Data is collected based on the perceptions and expectations of consumers and the results that will be produced by this data will provide answers to the research questions. The model that is introduced in this research work is the SERVQUAL model and it arouse my interest because it has been used by different writers to assess service quality and customer satisfaction in service industries with diminutive to the health care sector particularly the NUS. According to the author of the instrument that is applied in this study to serve as the measuring stick, it is an appropriate instrument to measure customer satisfaction using the different service quality dimensions and other authors have applied it in different studies both in service sector and product organizations. However, it is relevant to be conscious of the fact that consumers are important to keep the
business alive so, it is the responsibility of the management body of every organization or company to have constant knowledge on how their customers perceive service quality in the health care service industry and those factors that affect consumer’s perception. Looking back to the already read theories and other studies that used the SERVQUAL model to measure customer satisfaction in the service firms, I could scarcely come across a great number of articles, thesis and other academic papers that was carried out using the SERVQUAL model to assess service quality and customer satisfaction in the realm of health and precisely at the NUS. With these assumptions which is backed by the fact that a lot of search was done, I think that a study in this area and using the NUS for a case will help to close stated research gap. Closing the research gap will only be completed or successful if data is collected and analyzed to answer the research question. A quantitative data collection method will be used and with the help of the responses gathered from respondents, the researcher will be able to present findings and make conclusions.

2.4 Research Strategy

There are two main and commonly used research strategies and these strategies include the quantitative and qualitative research strategy. A quantitative research method implies a quantitative method of data collection and analysis. As rightly stated by Ray, (2007, p. 570), a study that is carried out with attention on assembling quantifiable data pursues a quantitative strategy. This study uses a quantitative strategy and using a quantitative strategy explains that the study is also focused on using a deductive approach due to the relationship between the theory and the study and also the theory that is been verified. A natural scientific model is adopted and includes an observation of social reality as a peripheral and unbiased reality (Bryman & Bell, 2007, p.29). The quantitative method is used in this study and this is justified by the ontology position of objectivism and the epistemological position of positivism and also a deductive sense of approach (Bryman & Bell, 2003, p. 25).

The quantitative method has been chosen because it is a suitable approach to enable answers to my already mentioned research questions. In order to term it success in assessing service quality and customer satisfaction in the NUS, I strongly believe that this strategy is an appropriate strategy that will assist me to measure the different variables that were derived from the SERVQUAL model. However, this study was not designed with the aim of sprouting theories but the reason behind it was rather to test existing theories and as Bryman & Bell, (2003, p. 25) stated that using numerical data is another feature of a quantitative method. This strategy is not only applied in this study to permit a description of the various characteristics of the SERVQUAL model, but also to help examine how important these characteristics could be to consumers. Quantitative research pays more attention on generalization, causality, measurement and replication (Bryman and Bell, 2005). The scientific nature of the quantitative strategy permits me to deliberate on values and biases in order to create a replication of findings.

2.5 Research design

The research design provides a framework that guides the researcher from the foundation of the theme, to the gathering of literature, right to the point of data collection and analysis. A
choice of research design redirects decisions about the priority being given to the following; expressing causal connections between variables, generalizing to greater collections of persons than those essentially developing portions of the investigation, understanding performance and logic of that conduct in its specific social framework and having a time-based appreciation of social phenomena and their interconnections (Bryman & Bell, 2007).

According to Bryman & Bell, (2007), there exist several different types of research designs for instance, experimental design; cross-sectional or social survey design; longitudinal design; case study design; and comparative design. A Cross-sectional design which is used in this study involves data collection on more than one case (usually a lot more than one) and at a particular point in time in order to assemble a frame of quantitative data in connection with two or additional variables (generally many more than two), which are then scrutinized to identify forms of association (Bryman & Bell, 2007, p.55).

With the great number of studies carried out in the realm of service quality and customer satisfaction, I think choosing this design is necessary. The concept of service quality and customer satisfaction is complex so researchers are in a continuous trend to keep it up to date. However, it will be of great assistance to me when drawing up plans to come out with a questionnaire since many has worked in this domain and applied the same measuring instrument. This will serve as an additional guide on the bases of collecting appropriate data. The five chosen dimensions will be applied to enable accomplishment of the findings with respect to respondents (patients of health care services at NUS) perceptions of service quality. Using a quantitative manner of approach, the author of this study will be able to assess how these respondents who are considered to have acquired or are still receiving health care services from the NUS perceive service quality and also if their expectations are more or lesser than their perceptions. It is from these responses that conclusions will be made. Questionnaires are designed following the already made twenty statements of the author of the SERVQUAL instrument. This will be administered to the chosen sample and each respondent is expected to provide honest answers to the questions individually without any sort of influence from either a friend or the researcher. The questionnaires will be administered in a manner that will avoid bias and rather the research will just be objective during the process of data collection.

2.6 method of data collection

In social research, primary and secondary data are two of the three main types identified by Blaikie (2009). Blaikie (2009) contends that primary data are generated by the researcher who takes the responsibility to design questionnaires for the study, collects data and analyze collected data. Primary data are raw data that collected from the respondent by the researchers. This could be more costly and difficult to obtain; unlike secondary data. An advantage of primary data is its level of reliability; primary data can be reliable since the data is collected using a chosen and appropriate methods out of the different methods of collecting data that the researcher thinks will suit the study. According to Saunders et al., (2009), primary data can be collected or obtained through surveys, observation and interviews. They are used to answer specific research questions to enable the researcher analysis and make conclusions derived from the study. Secondary data, according to
Blaikie (2009), are data that have been gathered by someone else for a specific research project.

In this case, the researcher will apply both the primary and secondary sources of data collection. It is hard to say that only one source of data will enable the provision of the answers to the research questions since this study started with the help of reading already existing articles, journal etc. and then the idea of how these materials could be if we blend them with first-hand information from the chosen sample population. Through designed questionnaires the researcher will be able to collect primary data from respondents that are patients. The articles and journals that were read by the author before making a move to commence writing on this study was chosen from a secondary sources through the Umeå University library. For instance through EBSCO host, Emerald, Business source Premier, and Umeå University database. Existing empirical findings and reliable literature review were used to get and in-depth understanding of service quality and customer satisfaction and the chosen measuring instrument for this study. Knowledge was generated from the secondary sources and this helped me to build a guide in conducting this study. These sites are full and rich in knowledge for academician and business entities.

In this study the SERVQUAL rules were deployed to facilitate the data collection process. The original SERVQUAL questionnaire has a total number of twenty-two questions; the questionnaire is divided into two sections with the aim of obtaining respondents views with respect to their expectations and perceptions of service quality. The first section seeks to measure patients’ expectations regarding the service quality offered by the NUS. Meanwhile the second section measures patients’ perceptions of service quality (parasuraman et al., 1988). These questions were designed based on a 7-point likert scale distributed among the five chosen categories. These questions were not changed from its original format by Parasuraman et al., (1985), but it was rearticulated to fit with the context of the study in question. The questionnaire was then transformed to have 25 questions including a section that was designed considering the gender, level of education and the frequency of the respondents. The SERVQUAL measuring instrument has been used and recommended to be a good model when measuring service quality in different industries but it is also important to make an appropriate choice of the dimensions that are relevant to fit a particular study when measuring service quality in a given section (Ladhari, 2009). In this study the author is interested to know about patients’ expectations and their perceptions of the service quality they acquired from the NUS. Since the study is based on assessing services quality and customer’s expectations and perceptions are known to be the best aspects to consider when measuring service quality in service sectors and the gap between these two aspects determines the level of customers satisfaction (Shahin, 2005), the author chooses to use the five different dimensions in measuring service quality. Based on the fact that customers take into consideration many different factors when evaluating their perceptions, the author decided to consider the human aspect and physical environment to determine the level of service quality perceived by patients. The chosen five dimensions are Tangibility which is directed to the physical environment and Reliability, Responsiveness, Empathy and Assurance are assumed to measure the human aspect of service delivery (Parasuraman et al., 1985).
The five dimensions could only be measured successfully and completely if all the questions are deployed since every dimension has its own set of questions that seeks to measure the gap between expectations and perceptions. The different dimensions were measured using the ranges of statement that were designed out of the 22 statements. The first set of questions which ranges from question number one to four is set to measure the interactions and/or what the customers have to say about the physical facilities at the NUS. This is termed as tangibles (Tangibility). Proceeding to the next set of questions stating from question number five to nine, these set of questions are set to measure how reliable the services rendered by the staff of NUS is (Reliability). The dimension of Responsiveness is measured with the range of questions from number ten to thirteen. This section of the questionnaire seeks to measure the level at which the employees at NUS respond to patients’ call (Responsiveness). Question number fourteen to seventeen are designed to measure the extent to which employees at the NUS provide assurance to their patients for example assuring the patients of their safety and confidence instill in them (Assurance). The last but one dimension which is measured using question number eighteen to twenty two are used to measure empathy that is the level of individual attention employees at NUS provide to their patients (Empathy). These dimensions are relevant since they consider both the human aspect and physical environment of service delivery. Patients however will appreciate acquiring treatment or healthcare services in an environment that is proper and with up to date equipment as well. This dimension is also relevant to as service sectors tend to accentuate the area of tangibility when implementing and establishing their strategies to enrich their image (Zeithaml & Bitner, 2003). This justifies the need to evaluate their expectations and perceptions in the tangibility dimension and with the use of all the questions in this area. The dimensions of the service quality might differ when applied in different services sectors and this might also have an impact on the overall quality of the services delivered. In the area of health care not all the dimensions could possibly determine the level of quality service delivery since individual have different perspectives and expectations regarding the type of health care services they required and considering the fact that patients health need differs. In also gives reason why results could not be generalized.

2.6.1 Sample Choice

The interest of this study is to find out how students at the Umea University (patients / students who have acquired or are still acquiring health care services at the NUS) perceive service quality at the Norrlands Universitetets Sjukhuset (NUS). The choice of respondents was chosen to be students although not only student visit or acquire health care services from the NUS. The Umea University is rich in the population of students with about thirty three thousands students studying on campus as per the statistics from the Umea university (Umeå University, 2009).

The use of students as sample for survey studies is common in management related studies including information technology adoption and services quality evaluation. Indeed, many studies suggest that students have a higher affinity towards the adoption and use of innovation than the average citizen. For example, Carter, Schaupp, & McBride, (2011), used 260 MBA students to test a model of electronic tax filing adoption in the United States. DeSantis & Hane, (2010) used 175 undergraduate students from a large public research university in the United States to identify how they conceive of attention deficit
hyperactivity disorder stimulants and their illegal use. Cem Canel & Fletcher, (2001) used 500 students to conduct an analysis of the quality of service provided by a university health care center. More specifically, they were looking at Students’ expectations and perceptions of the center’s services. van Iwaarden et al., (2004) used a sample taken from American and Dutch students to identify the quality aspects perceived to be most important in the design and use of web sites. Qin & Prybutok, (2013) used a sample of 918 college students from the South western university in the United States to study patient perceptions of health care quality.

Even though students are often used as sample for survey studies to produce valid results; they also represent a limit in terms of diversity in the sample. Indeed, students sample are homogenous samples (Qin & Prybutok, 2013). Therefore, the results need to be taken with cautious as the nature of the sample limits the generalization of the findings. However, we agree with Qin & Prybutok, (2013) who posit that college students are frequent patients and therefore qualified to evaluate healthcare services. Consequently, future studies should try to use a more diverse sample of patients to test the model.

A sample of 210students was drawn from the Umeå University population irrespective of nationality and the program of study in the university since respondent are not been tested on a particular topic that requires knowledge in the area. The sample was not chosen from a particular group of students. Before the questionnaires were been given to respondents the criteria were set as those who are students of the Umea University irrespective of the level, and some other factors like demographic factors and also those who must have either in one way or another acquired health care services or are still in the process of acquiring health care’s services from the NUS. The different type of health care services needed was not taken into consideration since that would have been breaking into individual health privacy to call it. The author is only interested to have those who have ever acquired health care services be it an emergency or follow-up. These students were not defined as being typical patients because the questionnaire was designed in a way that enabled the respondents to say how many times they visit the hospital or how frequent their visit to the hospital was. The NUS is big hospital with several units and patients do have different needs with respect to health and this is as a result of the fact that not everyone that goes to the hospital has the same compliant. In this case expectation here is looked at from a general perspective concerning health care. For example what the patients expects from the health care services providers with respect to their demand at a particular point in time.

2.6.2 Choice of sampling technique

There are two types of sampling techniques which include the probability and non-probability sampling technique. A probability sampling refers to a situation where the chances of each case to be selected from a population are known and equal for all cases. Whereas non-probability sampling can be explain as where the chances of each case selected from the entire population is not known which could make hard for a research question to derive an answer (Saunders et al., 2009, p. 213).

In this study, the convenience sampling technique will be used to select respondents. Convenience sampling is a technique in which samples are drawn based on convenience (Shiu et al., 2009, p. 480). These respondents will be contacted both on campus and at the
Norrlands Universitets sjukhuset. The decision to meet students at the hospital will enable collection of on the spot data particularly from those who are in the process of receiving health care service or are just from receiving such services rendered by NUS. The convenience sampling technique is what is used in this study because there is no particular time that it will be possible for me to have all the targeted respondents around to answer these questions, this is so due to the fact that there are different schedules and during which data could be collected without bias. Moreover, it is somehow impossible to meet all those who may have used or are still receiving health care service at the NUS and presume a higher rate of response. Taking into consideration the time, availability and effort need, it will be hard and makes it impossible for a probability sampling to be used.

As earlier mentioned I will take the time to also go to the NUS to distribute questionnaires to respondent, this way I believe I will have some on the spot users of the hospital services and also at the campus which will make it easier to have many respondents. Before giving out the questionnaires, I will make sure I ask the person if he/she has ever acquired NUS services, I will try not to be bias while given out these questionnaires and the questionnaires will be given to those who are willing to participate and ready to provide responses to the questions at that particular point. That is I would not want a situation where a student will promise or take the questionnaire home and maybe give it back some other time. The targeted respondents for this survey are students of the Umea University who must have received health care services at the NUS but I will spend most of the time on campus since it will be of greater chances to meet many students then take some time too to visit the hospital (NUS) to be able to get some patients (students at Umea Universitets) who are in the process or those that have just received health care services. I will use verbal and polite approach to capture the respondents and it is obvious that English will be the language of use since a good proportion of students on campus can understand, speak and use English as a study language.

2.6.3 Primary data

Primary data represent ‘firsthand’ raw data. This type of data enables the researcher to get information that has not been in any way interpreted or manipulated (Shiu et al., 2009, p. 63). The author collected primary data from the sample of 201 students representing patients as earlier mentioned. This choice of data collection came as a result of the advantages for example using a sample size of 201 was less costly unlike other method of data collection. In this case, I will be able to know the inside or what these patients think from they themselves and not from other sources. There is a possibility to administer at a faster pace since many respondent say more than ten persons can be filling the questionnaires at almost the same time. Despites the advantages of collecting primary data, there are some disadvantages such as, low response rate from respondents, response could be bias, and some of the questionnaires are not fully answered. The fact that respondents are independent in answering the questions goes a long way to avoid bias. In order to avoid some of these disadvantages, I exercised some patient and make sure I checked the completed form to see if there are some questions that the respondent didn’t answer. Doing so will reduce the rate of having uncompleted questionnaires. I will also give a brief explanation to the respondent so that they know exactly what is expected of them since some questions may seem alike.
The questions are structured in a way that will attract the respondent and these questions are designed to enable the researcher obtain responses about what patients think about the services rendered by the NUS, (their perceptions and expectations). Prior to the overall questions on health care service providers there are questions that pursue to find out what customers prefer to have as the individual attributes of the SERVQUAL model. This will provide thorough understanding of those attributes that really matters to health care service consumers. By so doing the objective to find out from these patients their level of satisfaction from the healthcare services obtained will be met.

2.7 Source Critic

In this study, both the primary and secondary sources of data were used to complete the study. The primary data was collected from a defined sample size meanwhile secondary data was gotten from a good number of secondary sources through the Umea University Library and other relevant sources. During the collection of primary data, the researcher is faced with sampling issues such as, non-response rate, precision just to name a few and these issues could have an impact on the sample quality which in one way or another influences the generalization of the findings (Shiu et al., 2009, p. 63). This however was avoided by the researchers to some extent. According to Shiu et al., (2009, p. 448), sampling is concerned with the selection of a small portion of element from a larger defined group of elements and be able to draw correct results about the larger portion with respect to the data obtained from the smaller portion.

In this study, the primary data was used to enable the research question to be answered. In as much as the primary data is important to be able to complete this study, so does the secondary data. These sources are both important but with their drawbacks. The secondary data for example might not be up to date, in other words, secondary data that could be found in older editions could have an effect with the present situation and affecting the study in question. In this study, the researcher tried to use more recent articles where available. Another weakness of secondary data is not being able to find the original source of data which could make it difficult for the researcher and thus create chances of misinterpretation of data. This has been taken care of as many efforts were made not to use information from such sources (Shiu et al., 2009).

2.8 Design of Questionnaire

In the cause of designing the questionnaire, I went back to the beginning of the paper to get a reminder of exactly what the objectives of the study states and with the help of this, I prepared the questionnaire knowing fully well what the objectives of the research are gave me the guide to what type of questions must be included in the questionnaire if I have to get feedback that will be appropriate in answering the research question.

The questionnaire is designed in different portions with each part specifying its aim. The first two portions of the questionnaire were aimed at finding what are the respondent’s expectations and perceptions of service quality at the University hospital. In the first portion I intend to measure the expectations of the consumers of health care services. The sentences were written in a manner that seeks to define how the services of the health care service providers should be expressed. The second portion of the questionnaire is designed
to measure consumers’ perceptions. Here respondents are expected to rank the statement that describes a particular service attributes in NUS, and these statements are ranked with respect to how their thought applies to the NUS or what they think and hold as experiences concerning the NUS.

The statements used are of the origin of the author (Parasuraman et al., 1988). It has not been changed from its original form except for the fact that it is meant to be used in a different study so therefore; it will only be amended to suit the purpose of the study in question. These twenty two statements have been structured to fit the purpose of this study and to make sure the questions are able to provide answers that will enable an analysis of what these patients actually expects and their perceptions about the health care services they get from the personnel of the NUS.

2.9 Pre-test of questionnaire

According to Shiu et al., (2009, p. 65), it is necessary to for researchers to always pretest their questionnaires before the proper distribution. Pretest will enable the researcher to have comments or discover issues that may be related to the questions such as clarity of the instructions and any sort of difficulties that might be encountered by the respondent. Studies have also proven that it is better to detect a problem during the pretest of a questionnaire than to discover issues after publishing the survey. The questionnaire was designed and tested so as to be able to detect any issues before the final publishing. This pre-test assist and produce a clear picture of how the survey looks like and how it could be handled by respondent and also if the questions are simple to understand and not misleading the respondent to provide answers that doesn’t reflect his/her honest opinion.

I tested this questionnaire with the help of some seven students at the university campus since it will be the main area of data collection. The completed questionnaires were verified and I was a bit relief haven gotten from these students feedback that the questions were just no problems in answering them.

The only problem that was raised by three of the students who assisted in the pre-test was about the language. They complain that English was a problem for them and that if more simple words were used it would have been better and easier to understand and fill without taking much time. I didn’t under-estimated this feedback from the pre-test as it was one of the main reason I had to make a pre-test. Getting feedback that will help enrich the questionnaire. I agreed with them and later changed the words that were indicated as not very easy to understand to more simply ones. I didn’t do another pre-test after the first one because the corrections were not that complicated, I had just some words that I had to change and use common words instead of those that needed to be defined for the respondent to understand in other to proceed.

2.10 Method of Data Analysis

The method of data analysis applied in this study is chosen in line with the type of study. This is a quantitative research study and with the use of a convenience sampling technique, the author deems it necessary to analyze data using a statistical instrument (inferential and descriptive statistics) as justified by the quantitative nature of data collection. Descriptive statistics are used to summarize and describe the data obtained from the respondent (Shiu et al., 2009, p. 513). The data collected from the set of respondent will be analyzed with the
help of the Statistical package for the Social Sciences (SPSS). There exist different software packages that could be used to analyze already collected quantitative data. The SPSS (Statistical Package for the Social Sciences) is a program that is used for statistical analysis in social science as the name implies. This package is used not only by researchers in the business and marketing field but it is also a useful tool for health researchers, survey companies and a lot more of other bodies finds it important when analyzing data (Shiu et al., 2009))

2.11 The use of Models in research study

“A model is defined as a representation of the most significant elements of the perceived real-world system” (Leeflang, Wittink, Wedel, & Naert, 2000, p. 10). These authors further added that models are summarized representation or basic pictures of reality. Models are structures that are significant for decision makers to comprehend the systematic parts of a core reality (Leeflang, Wittink, Wedel, & Naert, 2000, p. 10). An advantage of a model may include the fact that it enables the researcher to streamline significant elements of reality and provide information that is needed (Williams, 2002, p. 32). Seth and Deshmukh (2005) added that a service quality model permit management to detect problems associated with quality and thus enable them to improve on their strategies in order to attain efficiency, profitability and improve in their overall performance. Despite the advantages of using a model, there exist some limitations of a model. The SERVQUAL model was applied in this study to facilitate answers to the research questions. Ladhari, (2008) argued about the validity of the SERVQAUL model as a standard mechanism for measuring service quality across different service sectors. In addition, the use of gap scores is not an appropriate method due to its lack of support in the theory of consumers appraising service quality in terms of perception – expectation (Ladhari, 2008).

2.12 Ethical Considerations

It is important to take into consideration the ethical aspects when carrying out a research study. (Ackroyd and Hughes 1981, p.77) This study is a quantitative study and questionnaires were used to collect data from respondent and it was important to think about the responsibility of the chosen respondent. However, the process of doing this is not without predicaments but as researchers, one need to respect the privacy of respondent and make sure responses are treated with confidentiality. In this study, the author had it as an obligation to maintain respondents’ privacy and use the data as collected without any modifications. In the process of administering questionnaires, the researcher explained to the respondent the level of confidentiality and the purpose of the study these motivated them to give in their responses with some level of honesty. Due to the fact the researcher might influence the responses unknowingly or inadvertently Murphy et al., (2005, p. 65-68), care was been taking in order not to influence the responses and to avoid any sort of either body language or physical moves that could have an impact on the way the respondents will react in providing answers to the questions.

2.13 Credibility of study

The quality of a study could be appraised through Reliability, Validity and generalizability (Saunders et al., 2009, p. 156).
Reliability: This is concerned with the various techniques of data collection or the different ways that could be used to produce reliable results (Saunders et al., 2009, p. 156). Bryman & Bell, (2007, p.58) stated that reliability is apprehensive with the uniformity of processes over time. Reliability is concerned with questions such as; will the results be alike if the same study is conducted by another researcher? How transparent are the interpretation of the data? If the results of the research are going to be the same if conducted at another instance? (Saunders et al., 2003, p.101). Therefore, a research is considered to be reliable if the same results are obtained after conducting the same study by another researcher. This is a quantitative study and reliability is linked with quantitative research as it is concerned with the issue if the measure is the same over time. SPSS which is an acceptable statistical tool was used to analyze data that was collected. The reliability was tested with the help of the Cronbach alpha and the overall value was above the established standard coefficient implying an acceptable level of internal consistency. The score for the individual dimensions also produced level of internal consistency with the lowest coming from the tangibility dimension. However, it is relevant to acknowledge the fact that individuals turn to change their way of thinking over time meaning that what an individual might perceive best today might not be the same tomorrow. Apart this fact, the author can attest reliability of the study.

Validity: Validity of a study determines whether the study truly measures what it was intended to measure and also determines the extent of truthfulness of the results (Joppe, 2000, cited in Golafshani, 2003, p. 597). The purpose of this study was to assess consumers’ perception on service quality at the NUS with the help of the SERVQUAL model and no hypothesis was used so therefore there wouldn’t be need to talk about the internal validity. However, the validity of the model applied in this study was test with the help of factor analysis. The study was intended to use The SEVQUAL model to assess patients perceptions and these was done as intended the results from the factor analysis shows that the model was not an appropriate instrument to measure service quality at the NUS with students as patients since just one out of the five dimension could be interpreted to produce patients satisfaction at the NUS.

Generalizability here refers to external validity and this is to ensure whether findings of the set study could be generalized. In this study the convenience sampling techniques was used to administer questionnaires to a chosen population (student at the Umea University) that have or are still acquiring health care services at the Norrland Universitets Sjukhuset. According to Shiu et al., (2009, p. 480), ‘using a convenience samples to develop construct and scales can be risky’ since question could be asked as to whether the selected population are truly representative of the general population. The population of student with a sample size of 201 respondent might risky to strongly attest it as a true representative of the general population but this study was not intended to generalize statement but to find out the level of satisfaction with a chosen sample population.
CHAPTER THREE

3 THEORETICAL FRAMEWORK

3.1 Literature Review Of Service Quality And Customer Satisfaction

In this chapter, the researcher will review existing and relevant literature within the field of service quality and customer satisfaction. Discussions will be made based on the issues of service quality and customer satisfaction and how they are related. Definitions of some important concepts will be provided to ease understanding of the subject and what has been examined within this area of study so as to render some authenticity to the work. Thus the researcher would be spared the rhetoric of “reinvent the wheel” (Bryman & Bell, 2007, p.93). In a nutshell, the frame of theories will permit construction of a conceptual model that will serve as a conductor and guide towards empirical observations.

3.1.1 Service

Services are economic movements that create value and convey profits to the customer at a particular point with respect to what the customer’s desire or expect (Lovelock, 2001). Other researchers gave different meanings of what a service is all about. Looking at another definition of a service by Meirelles (2006), a service is basically intangible and only measured when combined with other functions. For instance, since a service is not something that one can touch to either evaluate its features before judgments, it can only be measured through the person providing the service. A service is intangible as confirmed by (Ladhari, 2009, p. 173). Intangibility simply put describes something that has no physical appearance and therefore untouchable. The intangibility nature of services could make consumers find it difficult to evaluate what they are paying for before completing payment for what they actually will receive in return same thing applies to service providers who will find it tough to make valuation before a sale or delivery (Khan, 2003, p. 110). Because of the intangibility, organizations or companies may also find it inspiring to have an understanding of how to measure the quality of the services rendered to consumers taking into consideration their expectation. (Parasuraman, Zeithaml, & Berry, 1985, p. 42). In addition, service is categorized differently and with many different characteristics but the famous writer Parasuraman, (1985, p. 42), stated three well-known characteristics as; Intangibility, heterogeneity and inseparability.

Intangibility; a service is term intangible because services are performance and not objects, in services it is difficult to find any precise manufacturing specifications describing the quality attached to the service unlike product where a brief description of the content is written on it. Most services cannot be touched, counted, measured, tested and verified before sales to assure that it is of good quality Parasuraman, et al., 1985, p. 42). Heterogeneity; services that are of high labour content are term heterogenous. Their performance often varies from manufacturer to manufacturer and from consumer to consumer and from day to day. It is difficult to assure uniformity of the behaviour from service personnel reason being that, what the service provider intends to render might be
completely different from what the customer receives (Boom and Bitner, 1981). A service(s) are heterogenous in nature, services varies depending on the customers, the place, area, the time and the day (Khan, 2003, p. 110). Inseparability; production and consumption of most services are inseparable. Thus, quality in services is not engineered at the manufacturing shrub, then later distributed complete to the consumer. In labor intensive services, for instance, quality occurs during service delivery, generally in an interaction between the client and the contact person from the service organization. The service provider may also have less administrate control over quality in the services where consumers’ participation is powerful. An example of such a situation may be a doctor's visit since the client affects the process. In this situation, the consumer's contribution which is the description of the symptoms to the doctor becomes critical to the quality of service performance (Carmen and Langeard, 1980; Lehtinen and Lehtinen, 1982). It is somehow complicated with dealing with services, services are meant to be consumed in order for it to be valued, a service or services is valueless when it is not consumed or used for the purpose which it was intended to (Khan, 2003).

3.1.2 Quality

According to Parasuraman et al., (1985), the perception of quality concept has changed due to the growing trend of integrating service management in today’s business environment. There has been great effort by researchers in defining what quality really is and how quality could be measured. It is easier to measure or evaluate quality in a product perspective since the features of a product can be seen from the product itself. Unlike services, a customer could not find it easier to make judgment on the quality of the services he or she desires to acquire (Parasuraman, et al., 1985, pp. 41-42). Quality according to principle of Japanese philosophy is defined as "Zero defects-doing it right the first time". Crosby, (1979) defines quality as “conformance to requirements”. Although quality is important, it is also challenging to management and it is regarded as a multifaceted component in a business and the formulation and implementation of business strategies. In addition, quality is an important aspect that drives companies to competition and consumers are driven to make decisions on a product or services by the quality of the product or service, quality is powerful component in transforming the market place (Golder, Mitra, & Mooman, 2012, p.1).

Quality is an indefinable and unclear concept which is frequently mistaken for indefinite adjectives like “luxury, or goodness, or weight”, quality and its requirements are difficult to express by consumers (Crosby, 1979). Researchers in the realm of service management stressed the significance of continuous study of customer perceived quality considering the fact or idea that customers are the main entities eligible to decide what quality is all about. Since it is difficult to have a clear definition of quality and the determinants and substance of quality might also be unclear, it is therefore importance for organizations to established endless concern about quality and thus focuses on strategic planning and implementation of quality strategy (Grönroos, 2008, p. 115).

The concept of quality as understood from other researchers review is complex and it might be more complicated defining quality in a service sector. Most reviews in defining quality gives more to the product perspective but however, as earlier mentioned this study is not
about product quality but on the contrary service quality thought it is also somehow necessary for attention to be drawn on what quality in a generic term is all about. Looking at quality in a service sector is of interest since the quality of a service can only be fully measured when other functions are considered (Khan, 2003). “Quality is a set of three distinct states of an offerings’ attribute’ relative performance generated while producing, experiencing and evaluating the offering” (Golder et al., 2012, p. 4). Looking at this definition, it could be attested that experiences could also play a strong role in determining the quality of a service from the consumers perspective and experienced employees from the service providers perspective too. An example of this could be seen in a situation where a consumer gives positive word of mouth about a particular service rendered by a certain service provider. However, what is actually best in determining a quality of a service remains in a continue research process. It is a challenging task in service sectors managing the features of a service to be able to successfully deliver quality services in cross different frontiers (Dahringer, 1991, p. 6).

3.1.3 The Concept of Service Quality

Service quality has been described as a form of attitude, which is related to but not equal to satisfaction, that results from the assessment of expectations with performance, in other words, service quality can be described as “the differences between customer expectations and perceptions of service” (Bolton and Drew, 1991; Parasuraman, et al., 1988). Service quality is a measure of how thriving the service rendered meet customer expectations. Rendering quality service means meeting the requirement of customer expectations on regular basis (Lewis and Booms 1983). Service quality has been accentuated to be of great significance and superior service quality delivers competitive advantage in service sectors dealing with consumers from diverse cultural background (Sichtmann et al., 2011, p. 2). Organizations or companies could gain competitive advantages by implementing superior service quality strategies that is, using new technologies that could enhance the quality of services rendered considering what the customers perceive and expect (Parasuraman et al., 1991). Service quality has been deliberated by researchers as an essential instrument that organizations could use to stand at a leading position in the market (Ladhari, 2009). There are more than hand full definitions of service quality but it is fascinating to know that the definition of service quality and its characteristics might be unclear but the important aspect of service quality is the end results. The level of customer’s loyalty, profitability, cost-effectiveness and a rise in company’s market share could be as a result of the service quality rendered to customer (Khan, 2003, p. 110).

Chang (2008) stated that the concept of service quality should be approached from customers’ point of observation since customers could have different principles, capacities and be of varied opinion. Parasuraman, Zeithaml and Berry, (1990, p. 18) pointed out the fact that service quality is an external perception based on the customers’ experience. Previous studies on service quality features can be basically divided into two perspectives, namely, the Nordic perspective and the American perspective (Rha, 2012, p. 1883). The Nordic perspective (Gronroos, 2000) examines service quality by subdividing and categorizing it (1) “what the customer is left with” after the service is acquired and (2) “how the service outcomes are delivered”. The quality of services is determined by the service provider but the appreciation of the quality if with the customers and this can be
appraised after consuming the service. When the customers is satisfied with the services he or she gets as required, then the services are recognized as being of quality. The issue of how to measure service quality is continuous in the research chain, it is important for management to be able to measure the company’s level of offering service quality. When measuring service quality, the gap between expected quality from the customers point and the actual quality provided from the service providers point should be clearly differentiated (Wolniak et al., 2012, p. 2). This gap is derived from the differences between customers’ expectations and perceptions. In this study the author is interested in what the patients/ consumers perceive and what they expect as health care services from the NUS. The gap between patients’ perceptions and expectations will prove if they are satisfied, unsatisfied or neutral regarding the health care services obtained.

After going through many different writing by researchers on service quality, it can be agreed upon that researchers have not only discussed the importance of service quality but have also made immense effort to emphasis that companies should take note or owe it as a duty and responsibility to make sure that they understand how consumers perceive quality service and how to measure this service quality taking into consideration the gap between customers perception and expectations. In this light, it will be of an added advantage to the author of this study to build stronger points that could be beneficial to the health care service providers. That is understanding what customers perceptions and expectations are in the realm of health care services makes it easier for health care service providers to understand how customer perceive service quality and how to measure service quality in this domain and thus increase the level of customer satisfaction. Therefore, understanding customer’s perceptions and expectations is important if quality service has to be delivered.

3.1.4 Customer Expectation and Perception

Expectations are forecasts about what is going to happen or the likelihood that something is going to happen and how it might happen. Looking at expectation from the business perspective and most especially customer’s perspective, expectation could have a different way of looking at it. Looking at expectation from the service quality literature varies from the customers’ satisfaction literature (Parasuraman, Zeithaml, Berry, 1988, p. 17). Expectations have been described differently with respect to the different areas of literature. For instance, expectation from the service quality literature, expectations are observed as what consumers need or what they want, in other word what consumers think that they service provider should offer in return to the price they are paying. It can be noticed here that consumers are not so much concern or pay more attention to what service provider would provide but they are more concerned with what the service provider should provide. Another description of expectations looking at it from the satisfaction literature is that ‘expectations are seen as predictions’ from consumers about what is going to happen in the future (Parasuraman, Zeithaml, Berry, 1988). Despite the differences in describing expectations according to different literatures, expectation is generally agreed that “expectations are consumer-defined probabilities of the occurrence of positive and negative events if the consumer engages in some behavior” (Oliver, 1981, p. 33).

Customers’ expectation can be described as the guesses about future occurrence that is from general belief to an actual experience about a particular product or service (Diehl &
Expectations act as bases for assessment, customers’ expectation enable judgment on the level of satisfaction when these expectations are compared with customers’ perceptions. What a customer expects to have or consumed can only be rated if it actually meets desires when it is compared with what the customer actually perceived (Forsythe, 2012, p. 587). Relating expectation to this study, expectation could be viewed as what patients actually desire as health care services from the health care service provider. Patients who are consumers of health care services might set their expectations based on experience, reputation or positive word of mouth and many other means since it is difficult to evaluate or judge a service that is intangible (Khan, 2003).

Customers’ perception of the service acquired plays a significant role in the level of satisfaction as well as the employees in charge of services delivery also have an important role to play in the process of delivering service quality and customer satisfaction (Swar, 2012, p. 27). Customer’s perception of service quality is based on the assessment of their expectations that is, what customers think service providers should deliver considering their perceptions of the performance of the service provider (Parasuraman et al., 1985). Tam, (2005) states that it is important for firms to have an influencing power in order to attain customer satisfaction and also understands how customer expectations changes so as to make constant update even in a situation where expectation is unclear and hard to understand.

Understanding the expectations of customers could be referred to as getting a true inside of how customers assess expected service and what actually is delivered. In cases where customers receive services that did not meet their expectations they will term the quality of that service as poor or not satisfactory and where services rendered are far more than what they expected they will believe so much in that service provider and make recommendations. In our everyday life, it is true that everybody needs to be satisfied with what he or she acquires or consumes especially those that are paid for in return or exchange. It is hard for customers to attest satisfaction in a case where they are not satisfied except for reasons that might be termed as hidden reasons. Customers’ expectations depend on the different service providers and also might depend on influences from past experience or word of mouth and/or advertisement in a case where they don’t have experience or awareness of the service needed (Lovelock and Wirtz, 2007). This study is based on the area of health care service provider so consumers’ expectations in this sense cannot be clearly define since not everybody who seeks health care could expect to have negative returns, same responds, or are of the same illness but what is important is that consumer going for health care services will have in mind that good health is what they expect and keeping aside other variables. From the above mentioned literature on expectation and perceptions, one could come in an agreement that expectations and perceptions and related since the difference between customer expectations and perception determine the level of satisfaction. Service quality is possibly assessed using the gap between customers’ expectations and perceptions (Parasuraman et al., 1994).

Parasuraman et al., (1985, p.47) identified ten determinants used in assessing service quality and these include; reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer, and tangibles. Majority of these determinants requires past experiences from the consumer to enable an assessment
of their level of expectation of service quality. Most studies in the field of service quality made attempt to link service quality to customer satisfaction supported with assumptions that when expected service is more than perceive service, perceived quality is considered less satisfactory and could give the service a bad title; when expected service is equivalent to perceived service, perceived quality is termed satisfactory and when expected service is less than perceived service, perceived quality is more than satisfactory and will receive the title of a perfect quality (Parasuraman et al., 1985, p.48). When organizations make effort to close the gap between customers’ expectations and perceptions, they aimed at attaining a higher level of customer’s satisfaction meaning that in as much as it is vital to understand customer’s perception and expectation, it is also important for service provider firms to have and understanding of the concept of customer satisfaction and what is the yardstick of attaining higher level of customer satisfaction.

Customers are termed to be satisfied when their expectations are less than their perceptions, in a situation where customer’s perceptions are less than their expectations there is dissatisfaction. In a situation where customers’ expectations and perceptions of a product/service delivery do not match, consumers are faced with disconfirmation. Disconfirmation can be experienced in a situation where the customer’s perception is far lower than expectations and it is positive where the perceptions are better than expectations (Diehl & Poynor, 2010, p. 313-314). This is supported by a diagrammatical explanation as seen below.

![Expectations & Perceptions Diagram]

**Figure 1: Expectations & Perceptions**
Source: modified from (Oliver, 1983; Parasuraman et al., 1985).
SQ (Service Quality), PAO (Perceptions of Actual Outcome), PPE (Pre-Purchase Expectations), DA (Disconfirmation/ Assessment), P (Perceptions), E (Expectations), VS (Very satisfied), N (Neutral or indifferent), VD (Very Dissatisfied).

The above diagram explains the different interactive procedures that might lead to a customer being satisfied or not. It is seen that from the customer perceptions of the quality of service he/she actually acquired and that of the customer’s pre-purchase Expectations are being determined by the service quality. An assessment of the two that is perceptions of actual outcome and pre-purchase Expectations leads or derives a certain level of disconfirmation of assessment. At this stage, the customer is left with decision or an impression either expressing satisfaction, indifferent or dissatisfaction of the service quality delivered to them. In this case and as mentioned by many researchers in their studies, where Perceptions are greater than expectations the customers express satisfaction and where the perceptions are equal to expectations the customers expresses a manner of being indifferent and in a case where perceptions are far lesser than expectation the customers express dissatisfaction of the service quality delivered by the service firm (Oliver, 1993; Parasuraman, 1985).

### 3.1.5 Customer Satisfaction

Business objectives are not only to deliver products or services to customers, not only aimed at selling what they are offering but also to deliver the needs to customers in a satisfactorily. Companies and organizations with an in-depth understanding of how to satisfy customers and deliver satisfaction are in a better position to increase profitability than those that might be aware of customers’ needs but are unable to deliver them to a satisfactory level (Dominici & Palumbo, 2013, p. 88). Customer satisfaction is considered as an evaluation of the after-purchase perceptions and the pre-purchase expectations (Forsythe, 2012, p. 587). Customer satisfaction is a practical and theoretical aspect that is important for both researchers in consumers’ realm and marketers in general (Meuter et al., 2000). According to Patterson (1993), customer satisfaction is an important subject for organizations that desire to create and maintain competitive advantage in today's business competitive world. Customers who are satisfied will probably inform others about their satisfactory experiences and consequently participate in sharing their experience through positive word-of-mouth (Richens, 1983). According to Fournier & Mick (1999), customer satisfaction is defined as a decision or conclusion that a customer develops after the act of acquisition and consumption of a product/service. Other studies pointed out that customer satisfaction is affected by expectations (Moutinho and Goode 1995).

A customer is term satisfied when the outcome of performance is greater than expectations and termed satisfied when expectations exceed the outcome of performance this is simply referred to as positive and negative disconfirmation respectively (Goode, Davies, Moutinho, & Jamal, 2005, p. 758). Customer satisfaction is described as the consumer’s perceptive appraisal of a sensitive feedback in accordance to his/her observation of whether the characteristic of the acquired offering meets his/her expectation (Oliver, 1993). Customer satisfaction is an essential tool for survival in the business environment, the prime objective of a business is to create and maintain customer satisfaction in an optimum level (Kaura & Daura, 2012, p. 111). The concept of customer satisfaction is growing in everyday with different ideas and different definitions. Researchers have looked at
customers’ satisfaction in different ways. Many arguments have been made on the aspect of customer satisfaction with majority pointing out the fact that customer satisfaction is based on experience encountered with service provider and the outcome of service rendered (Parasuraman, Zeithaml, & Berry, 1988). Customer satisfaction in the health care service sector could be more complex since the service quality has a positive impact on behavioral outcome such customer satisfaction (Sichtmann et al., 2011, p. 6). These inconsistent arguments highlight the need for the extensive research in the domain of health care service providers, as the current study is focused in the health care area with the interest of knowing if consumers of health care services are satisfied with the quality of services rendered to them by the health care service provider and also if their experiences with the service quality influence satisfaction since satisfaction conclusions could be possibly based on an extensive series of issues (Rust and Oliver 1994).

However, limited research on customer satisfaction has stated that elements other than expectations, performance, past experience, disconfirmation, affect an equity in the formation process leading to overall customer satisfaction (Goode, et al., 2005, p. 759). Going through these definitions; it could be attested that consumer’s satisfaction is affected by their experience gained from services providers. Since this study deals with health care service provider as a case, customers in this area might also confirm as being satisfied with respect to their past experience, that is having a positive thought and experience about a certain health care service provider could make the customer to believe that the services delivered at a particular point in time is satisfactory. This is accredited by other researchers who acknowledged that customers’ level of satisfaction is determined by their accumulated rate experiences during acquisition of service from the service provider and added that customer satisfaction can be designed through sentimental evaluation process and this is possible following the purchase experience by the consumer (Wicks & Roethlein, 2009, p.89; Sureshchander et al., 2002, p.364). However, limited research on customer satisfaction has stated that elements other than expectations, performance, past experience, disconfirmation, affect an equity in the formation process leading to overall customer satisfaction (Goode, et al., 2005, p. 759).

3.1.6 Patients Satisfaction

Patient satisfaction could be described as the patient’s optimistic appraisal of the health care service he/she experienced. This appraisal is dependent on the patient subjective comparison of what he/she expects to receive as health care services and what is actually being rendered by the health care service provider (Desai, 2011, p. 41). In addition, satisfaction is likely to occur when the health care services rendered to the patient are perceived to be up to or more than the patient expectation. In a situation where the patient perceived health care services less than what he or she expects, dissatisfaction is likely to transpire (Desai, 2011, p. 41).

According to Otani et al., (2012, p. 277), patient satisfaction is considered customer satisfaction. In any arena, customer’s satisfaction is a crucial basis of an organization’s existence; healthcare is no exception. Satisfied customers or patients convey businesses (Otani, Waterman, & Dunagan, 2012, p. 277). In a study conducted by Fottler et al., (2011, cited in Otani et al., 2012, p. 277), indicated that; some observers suggested that hospitals and healthcare systems go that far to in regarding patients as guests who are looking not
only for constructive clinical results but also quality service experiences. In this study the terms customer satisfaction has been used as to refer to patient satisfaction this is supported by some authors as already mentioned. These authors attested that patients are considered customers. Patient satisfaction has been described by different authors for instances, patients satisfaction is acknowledged as ‘an expression of a patient’s verdict on the quality of healthcare services in all aspects but predominantly as concerns the personal process’ (Donabedian, 1988, p. 1746). Satisfaction in the realm of health care/ hospital experiences is sophisticated and multifactorial, comprising the relationship with medical personnel, physical surroundings or the health care organization itself (Johansson et al., 2002).

### 3.2 Service quality and Customer satisfaction

Service quality and customer satisfaction can be agreed to have a link, this is so because going through the works of other writers in the service literature and customer satisfaction literature, and it could be observed that customer satisfaction is derived when customers are satisfied with the services rendered to them by the service provider. In other words, this has also been mention in another way to mean the same that, in a situation where customers’ expectations are greater than their perceptions; they are classified as unsatisfied customers. Meanwhile, in a situation where customers’ perceptions exceed their expectations they are said to be satisfied (Zeithaml, 1988; Parasuraman et al., 1985). It has been attested by researchers how important the concept of service quality and customers satisfaction is for researchers, marketers and businesses as a whole and this has caused greater attention in this area of literature during the past years (Donnelly, et al., 2006). This debate has also been an issue in the marketing literature based on which to be given more attention to, service quality or customer satisfaction (Brady & Robertson, 2001; Roberts, Varki, & Brodie, 2003).

In the domain of service literature and customers satisfaction, there has been a lot of debate on how customers satisfaction and service quality are related this was confirmed by (Cronin Jr & Taylor, 1992, p. 56). Stating the differences between service quality and customer satisfaction is important to managers and researchers alike since it is also important for service providers to know whether their objective should be to have “satisfied” consumers with respect to their performance or whether their objective should be to deliver the maximum level of "perceived service quality." Due to the significance of the issue about the relationship between service quality and customer satisfaction, several effort has been made to illuminate the relationship between satisfaction and service quality (Parasuraman, Zeithaml, & Berry 1985, 1988; Bolton & Drew 1991). In as much as ample research and studies have been conducted on the relationship between service quality and customers satisfaction, Bolton, (1998, p. 47) confirms very little theoretical/empirical research on the relationship between customers satisfaction and service quality taking into consideration individuals and the duration he or she has acquired services from the services provider.

The concept of Service quality and customer satisfaction has been the two main points in the marketing theory and practice that draws the attention of both the researchers and marketers (Sureshchandar et al., 2002, p. 363). The delivery of optimum service quality by service provider could fetch competitive advantage if services delivered matches
consumers’ expectations and create customers satisfaction. Customers’ satisfaction is beheld as a criterion for companies to build customers loyalty and retention as this will go a long way to increase profitability and keep the business in a leading position in the market (Hackl & Westlund, 2000). According to Cronin & Taylor, (1992) customer satisfaction is regarded as ‘one-item’ scale that seeks to know how what customers think and hold as impression about a service provider. Customers’ satisfactions have been accredited by researchers as multi-faceted with general processes that enable the overall satisfaction of customers resulting from multiple experiences or encounters with the services providers Suresschandar, 2002, p. 366).

Service quality and customer satisfaction are dependent on each other, where service quality is perceived by customers as more than expected it turns to affect their level of satisfaction positively and in a case where customers perceptions is far more lesser than what they expects they turn to be dissatisfied. In a nutshell, a rise in one leads to a rise in the other and a fall in one leads to a fall in another (Oliver, 1997). A study conducted by Suresschander, (2002) indicated that despite the concrete connection between service quality and customer satisfaction, there two concept are different and demands the service provider to deal with these two concepts distinctively. According to Bitner & Hubert, (1994), customers’ satisfaction is expressed with respect to how customers feel about the service quality delivered by the service organization and their experiences encountered with the service provider. Meanwhile service quality is intangible and can be reflected by different set of factors for instance, through positive word of mouth from already existing customers, experienced customers and through advertising. Customers’ satisfaction is actually what the customer feels after acquiring services from the service provider and how he/she expressed these feelings which are derived after a comparison what is actually perceived and what was expected from the service provider.

In this study, since the patients are expected to express their feelings about what they think is been rendered to them by the employees of the NUS, an expression of these feeling will explain their level of satisfaction derived from the services rendered to them. Since it is concern with services, the patients cannot evaluate the quality of the services by touching neither are the features of the services spelled on it due to it intangibility nature. In this case, patients can benefit from experienced ones that is, those who have consumed the services before and also through personal experience. This is supported by the fact that due to the intangibility nature of a service, the qualities of that services is most at time difficult to evaluate before consuming or before paying for (Parasuraman et al., 1988). Parasuraman et al., (1985) supported that when perceived service quality is more than what is expected then an increase level of customer satisfaction is attained. They strongly hold together with other writers the point that service quality creates customer satisfaction and admitted that customer’s satisfaction is established depending on the level of service quality received from the service provider (Saravana & Rao, 2007, p.436- 437).

Hackl & Westlund, (2000), acknowledged that service quality and customer satisfaction have a strong effect on customer repeated purchase intention which indicates that both service quality and customer satisfaction are important aspects for organizations to pay attention to in order to deliver success over competition and capture greater market shares and profitability. Researchers confirmed that there has been a continuous investigation in
the realm of service quality and customer satisfaction to enable clarity about the link between customer satisfaction and service quality. Notwithstanding, countless results have shown that these two concepts are inter-related, that is an increase in one leads to an increase in the other. Where service quality ≥ expectations (satisfaction) is derived and where expectations > perceptions (unsatisfied) (Sureshchander, 2000; Su et al., 2002).

However, all these arguments are valuable and have contributed to the field of knowledge and practice immensely. What stands still is that a satisfied customer might not be loyal to a certain service company but might still give positive word of mouth depending on past experience. Companies in order to stay alive and running, should not neglect any aspects especially those that might have greater impact on their operations. Considering other literature and studies on this area, it could be seen that in all the attempts made to distinguish or bring out the differences between customers satisfaction and service quality there have either in one way or another mentioned customer satisfaction influenced by service quality or higher perceive service quality leading to customer satisfaction. In this case a picture of both having a link or one affecting the other is presented.

As earlier mentioned and digesting from other reviews, it is understood that organizations uncontestably used service quality to assess customer satisfaction. It could be agreed in line with other studies that service quality is an element that leads to customer satisfaction (Benlian, et al., 2011; Bolton & Lemon, 1999). Chang et al., (2012) examined the relationship between supplier-dealer marketing channels emphasizing on e-services. In this study they were able to prove that quality of e-services had a positive effect on the relationship between the supplier and the dealers, which contributed directly to the level of satisfaction that they derived from their transactions. In another study with an attempt to establish the causal relationship between service, relationship and design quality and customer satisfaction in the value chain of public services in the Republic of Korea showed that there is a causal relationship between service quality and customer satisfaction. In addition, to their findings, they proved that relationship and design quality had a stronger effect on satisfaction (Rha, 2012).

These notwithstanding several researchers have done a great deal of work trying to measure service quality. They consequently developed comprehensive models such as the SERVPERF (Cronin Jr & Taylor, 1992). Services had become a pivotal concern in the 1980s, and apprehensive with the idea that unlike tangible goods where quality is described and measured through the product features and the fact that quality of services remained unidentified and unsearched decided to explore this field. According to a Japanese philosophy quality is a case of “zero defects or doing it right the first time” Quality is “conformance to requirements (Farner, 1996). He was of the opinion that quality of services cannot be likened to quality of tangible goods because services were intangible, heterogeneous for services that require heavy personal involvement and that production and consumption of services was inseparable which is also the reason why it is important to consider consumers interaction with the service and the service provider when measuring service quality (Parasuraman, et al., 1985, pp. 41-42). In order to come up with a model they organized executive interviews, focus groups in order to identify service categories. They realized that even though there were key differences regarding how executives perceived service quality across industries, there were also common issues which provoked
the urge to come with an instrument for measuring service quality which was at the end achieved (Parasuraman, et al., 1985, p. 44).

These researchers developed the first model in which they identified ten determinants of service quality; Access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles and understanding. They built on measuring what consumers’ expect and what they think about the service after purchase or consumption. The gap between this expectations and the perceived quality were measured. Conclusions were made regarding the fact that when perceptions exceeded expectations it meant that the service was of good quality and they established different levels of quality depending on the gap between perception and expectations (Parasuraman, et al., 1985, p. 47). At the end they came up with the model.

The model has been adopted severally depending on what industry it is being applied to and has given rise to other models like the SERVPERF model. It has equally been used largely to measure service quality in all works of life. Nair, et al., (2010), in an attempt to study the quality of services provided by banks in Navi Mumbai used the SERVQUAL model. They used five determinants, tangibles, reliability, responsiveness, assurance and empathy. Based on these determinants and with a sample size of 101 respondents found out that consumers of banking services in Mumbai were generally not satisfied with the level of service quality in banks in Navi Mumbai. They however thought that the SERVQUAL was not an appropriate measuring instrument in their study and recommended that the SERVPERF measuring instrument be tested or used in the same arena of their study if they have to hold strong to the fact that the SERVQUAL instrument was not appropriate for that study at that particular point in time.

Another study what was aimed at “evaluating the implementation of work improvement teams in the hospital/clinics as a reform initiative adopted by the Botswana government to enhance the productivity, efficiency and performance of the public sector” used the SERVQUAL model. They employed descriptive and inferential statistics in their analysis and came out with the conclusion that even though these tools had been put in place to improve health services, patients still expected more from the health care than they actually got (J. Pansiri & R. N. Mmereki, 2010). Another study in the realm of health care was conducted by Hussey et al., (2013) titled “The Association between health care quality and cost”. In their study they wanted to find out if there is evidence that health care quality is associated with cost and came out with a result concluding that the association between the quality of health and cost is inconsistent. “An analysis of service quality at a student health center” is the titled of a study that was conducted by Cem Canel & Fletcher, (2001) in which their aim was to provide an analysis of the services rendered by the university health care center through an evaluation of the differences between students expectations and perceptions of the services of the health care center. In their findings they came out with the conclusions indicating that service dimensions are crucial to patient satisfaction and that the majority of the students who were respondents were said to have their perceptions equals to their expectations with respect to the different dimensions and the employees as well.

Relating to this study, there is a cause effect relationship between service quality and customer satisfaction because where service quality of a certain service provider meet the needs of the consumers, they are said to meet the level of customer satisfaction. “Measuring
Perceived Service quality using the SERVQUAL model “a case study of the Ugandan health and fitness sector” was also carried out by Soita, (2012) to be able to sort out customer’s perceptions about the service quality they get from the said sector. The SERVQUAL model has also been used to assess service quality in the ‘banking industry in Canada 2009’. In this study the authors used the psychometric properties of the performance measure of the SERVQUAL. They first of all investigated dimensionality, reliability, convergence reliability, discriminant reliability and predictive validity of this determinant after which they came out with the conclusion that the SERVQUAL was an appropriate instrument to be applied in measuring service quality in the banking industry in Canada at that period. Concerning their research question they concluded that the services provided by employees constituted the greatest proportion of customer satisfaction to the services provided by banks in Canada (Ladhari 2008).

3.3 The use of Models in Service literature

For decades now, the service sectors have taken severe measures to enrich their performance and effectiveness in the business world and due to globalization and liberalization; companies have become more quality conscious since consumers nowadays are much more educated about what they should consume and also exercise consciousness about the procedures involved in a service delivery chain. With respect to this increased in quality consciousness in the service sector, the need to measure the quality of service was raised and provoked the need to create an instrument that will be used to measure service quality (Bogomolova, 2011, p. 794-795). Ample research bodies have made immense efforts to identify variables and instruments that are suitable to measure service quality and came up with a good number of these instrument. The issue here is not how many of these instruments are available, but which of these instruments are more reliable and valid in measuring service quality. Amongst these instruments the most prevalent are the SERVQUAL and SERVPERF (Rodrigues, Barkur, Varambally, & Motlagh, 2011, p. 630).

There have been much more effort by researchers trying to develop a dependable and replicable mechanism for measuring the service quality. Regardless of these efforts, there is an acceptable instrument which is known and have been used and confirmed in other study as the best and most frequently used in when measuring service quality “SERVQUAL” measuring scale and this was originated from the famous writer Parasuraman et al., (1985, 1988). This instrument has been used in many different studies by both academicians and management in trying to measure service quality both in the service sectors and service sectors (Asubonteng et al., 1996). Prior to this great amount of application of the instrument, several authors indicated prospective hitches with the theoretical groundwork and practical maneuvers of the measuring scale (Badri et al., 2005; Landrum et al., 2007). The SERVQUAL instrument was revisited and polished by the author after the development and implementation (Parasuraman et al., 1991, 1994).

This study is supported by the use of a model to assess service quality and customer satisfaction in a given case as mentioned above. There are several different models in the realm of service sectors among which the most popular is the SERVQUAL and SERFPERF as mentioned by Rodrigues et al., (2011). The SERVQUAL model which was developed by a famous researcher named Parasuraman will be used to accomplish this study. Following
the statement made by Rodrigues et al., (2011), pointing out that the SERVPERF and SERVQUAL models are the most prevalent, I therefore think that a brief introduction of the SERVPERF model will be important to clear doubts if need be and give depiction of the reason behind the chosen model.

3.3.1 The SERVPERF Model

The SERVPERF is illustrated as purely performance grounded method to measure service quality (Cronin and Taylor, 1992). They argued that their measure of service performance (SERVPERF) produced ‘better outcome, more reliable estimations, greater convergent and discriminant validity, greater explained variance, and subsequently less bias than the SERVQUAL. The SERVPERF has mostly been applied in research areas such as retail sectors, higher education, libraries, and fast food restaurants (Mehta et al., 2000; Abdullah, 2006; Nejati & Nejati, 2008; Qin et al., 2010) respectively.

There is confirmation on studies conducted comparing the SERVQUAL and SERVPERF instruments and decisions on which of them to apply in a specific sector. Even though this issue has not still been fixed, some studies are making endeavors to answer or clear these doubt with respect to specific sectors (Rodrigues, et al., 2011, p. 630). Quester and Romaniuk (1997) in conclusion of their empirical study discovered that using the SERVPERF to measure performance in advertising industry outstripped the SERVQUAL capacity. Mehta et al., (2000), in their study argued that in a “more product and “less service” milieu, for instance, supermarket, SERVQUAL was superior for a retailing environment, while the SERVPERF was healthier for a retailing sector that service component becomes more significant. In the higher education sector the SERVPERF was also viewed to present the best measurement competence and this was confirmed by Brochado, (2009) in a comparative study carried out in higher educational institute with reference three measurements used including the SERVQUAL.

The SERVPERF model is introduced in this study not as the main model or instruments used but as an example of the many other models that have been developed and used when measuring services in both product and service sectors. There are lots of different models that have been used in different studies to measure the quality of services rendered to customers and how satisfied these customers are. The SERVPERF as mentioned above seeks to measure the service performance of an organization. Studies have been carried out using the two models to evaluate which one best fit the situation or which one best produces a reliable results but that is not the case in this study. It is only introduced to make the reader know that apart from the SERVQUAL model which is the main instrument used in this study, there are other models too and could be used in measuring service quality and has no major role in the study.

This study is concern with the measurement of service quality. There exist according to literature review from other research sources, three main methods used when measuring perceived quality and these includes; the SERVQUAL model, SERVPERF model and Evaluated Performance model (Parasuraman et al., 1988; Cronin and Taylor, 1992). It is important to make mention of these different models but not very necessary give details on all of them in this study since the study is considering just one out of the three mentioned.
The SERVPERF model has been briefly introduced because it is concerned with service measurement while nothing has been mentioned about Evaluated Performance (EP) because this study is not trying to evaluate performance rather it is meant to measure the quality of services rendered to patients at the NUS and their level of satisfaction. Despite the fact that these models share the same concept of perceived quality, there exists some difference amongst them. The main difference lies in the design implemented and how suitable it could be in a particular case. The SERVPERF appraises the perception of quality services based on the customers’ perception of performance while the SERVQUAL model is based on ideal expectations or norms (Llusar & Zornoza, 2000, p. 901). These authors further added that expectations present issues based on the point that the use is insufficient under certain circumstances.

### 3.3.2 SERVQUAL model

Pioneers of service marketing in Europe established that service quality consists of physical and interactive quality, technical, functional dimensions and the image of the firm (Gerhard, Christ, & Deon, 1997, p. 173). Parasuraman et al., (1985), mindful of the fact that quality is an “elusive and indistinct construct” embarked on an exploratory journey that has revolutionized research and given service quality a face value in a way. SERVQUAL is a mechanism used to measure quality that sprouts from this model and works with the differences in the gaps scores derived from a questionnaire. The SERVQUAL scale (questionnaire) has two sections; one designed to record client expectation and the other to measure client perception in relation to a service segment and a service firm. The SERVQUAL model is important to managers in service firms as it enables them to appreciate the sources of problems in quality and how they can resolve or improve on these problems (Nair, Ranjith, Bose, & Shiri, 2010, p. 38). Despite the importance of the SERVQUAL approach to managers in resolving issues concerning the quality of services rendered to customers and also the fact that the SERVQUAL approach is the most well-known model used in measuring perceived service quality, there have been several criticisms by intellectuals of the universality of its five dimensions (Fick & Ritchie, 1991).

Brown and Bond (1995) assumed that the model has conquered the service quality literature since it was founded and it is a real-world means with an affluence of value to the industry. Studies approved that the model is a reliable apparatus in measuring service quality and has appreciated theoretical involvement in this respect. The model is also observed to be a practical and a good forecaster for service quality measurement (Fick and Ritchie, 1991; Sureshchandar et al., 2002). Nevertheless, no model can be said to be faultless and SERVQUAL model is not an exemption and thus has its boundaries as this is justified in a study by Brown, Churchill, and Peter (1993), who emphasized low reliability of the scoring recorded. Tea (1993) proclaimed that the SERVQUAL model is a tricky one as the respondents might be unable to differentiate between the different types of expectations. Notwithstanding the critics of the SERVQUAL model, it is still widely and continuously used in numerous sectors.

This model was briefly introduced in the previous chapter but in this chapter, it will be re-examined in detail that is an examination of the different dimensions of the model will be presented in detail. An introduction of the twelve dimensions and the gap method used to
assess service quality as discussed in their work. In relation to the general introduction I precede into the intricacies that underlay this model. Parasuraman et al., (1985) in trying to develop the model for measuring “service quality in retail banking, maintenance, phone repairs and security brokerage” firms realized that there were core differences regarding executive perceptions of service quality and the responsibilities involves when delivering services to consumers. These inconsistencies in executive perceptions were likely going to affect consumers’ ‘perception of service quality’.

Despite these differences about what the management perceives, it is of great importance for the management to know what exist as a gap between customer expectations and management perceptions in the process of measuring service quality this is because some management in service sectors does not certainly know what their customers’ expectations are. In addition, it is important for management to differentiate the customers expected service quality and the actual quality delivered not leaving out the customers’ perception of the services rendered to them (Wolniak & Skotnicka-Zasadzien, 2012, p. 1239-1240). Researchers have come to a consensus with the point that customers’ expectations serves as a tool against which the services delivered are compared or the quality of services delivered are analyzed using the expectations of customers. Hence, this point has also been in argument among researchers if actually customers’ expectations should be considered as a principal constituent of quality in services offered (Mishra et al., 2013, p. 45).

3.3.3 The GAP Score between Customer expectations and perceptions

Parasuraman et al., (1988) acknowledged that the difference between customer’s expectation and customer perceptions is called the ‘performance gap’. This gap determines the level at which customers are satisfied, that is, this gap serves as a yardstick for management to know their performance and if the services delivered are up to customers’ expectations or not and if they are satisfied with the services delivered to them. In order to easily determine the gap between customers’ expectations and perceptions, they came up with statements that were set in two parts each part having twenty two statements expectations and perceptions respectively. This statements are subdivided to measure five dimensions of service quality; “Reliability, Assurance, Tangibility, Empathy, Responsiveness (RATER)” (Mishra et al., 2013, p. 45). In addition, the Gap is determined as thus,

\[ E - P = Gap \quad \text{and} \quad CE - CP = SQ \]

Where; 
- \( E \) = Expectations
- \( P \) = Perceptions
- \( SQ \) = Service Quality
- \( CE \) = Customers’ Expectations
- \( CP \) = Customers’ Perceptions

Customers’ expectations are value points that the customers brings into the service capability. Customers’ perceptions are independent appraisal of the real service capability.
Customers’ expectation is considered as what the customers feels that the service provider should deliver. The gaps the difference between the expected services and the actual services, this gap enables the service provider to figure out the area which they seem to be incompetent or areas that are lacking and develop new strategies to fulfill this gap so that customers will attain satisfaction (Mishra et al., 2013, p. 43-44). Service quality is the gap between customers’ expectation of the services intended to or acquired and what they hold as perception of the service capability (Gerrard and Cunningham, 2001). There are five gaps that are viewed in the model and these are as follows:

Gap 1: CE – MPCE  
Gap 2: MPCE – SQS  
Gap 3: SQS – ASD  
Gap 4: SD – CSD  
Gap 5: CE – PS

Where, CE = Customers’ Expectations  
MPCE = Management Perceptions of Customers’ Expectations  
SQS = Service Quality Specifications  
ASD = Actual Service Delivered  
SD = Service Delivery  
CSD = Communication about Service Delivered  
CE = Customers’ Expectations  
PS = Perceived Service

3.3.4 Dimensions of the SERVQUAL instrument

In this study, five dimensions of the SERVQUAL measuring instrument have been applied but there are originally ten dimensions of this instrument. The author of the instrument came out with the ten different dimensions which include:

1) Reliability  
2) Responsiveness  
3) Competence  
4) Access  
5) Courtesy  
6) Communication  
7) Credibility  
8) Security  
9) Understanding  
10) Tangibles

(Parasuraman et al., 1985, p. 48).

The original ten dimension of the SERVQUAL measuring instrument was reduced to five dimensions after a refined empirical study conducted by the authors (Parasuraman, et al., 1988). These five dimensions include Tangibility, Reliability, Responsiveness, Assurance and Empathy (‘RATER’).
Tangibility: Due to the intangible nature of a service which makes it difficult for customers to evaluate the services before decisions are made, customers then turned to evaluate the tangible aspects of the service firm to have a clue about what the service firm might be capable to delivering. Reliability: This dimension enables a check of whether or not the service provider is reliable in delivering services as promised. Responsiveness: In this dimension questions are asked in relation to what the consumers think about company’s employees. That is if the company’s employees are supportive and able to provide services as fast as it is demanded by the consumers. Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence. Empathy: thoughtful individualized attention the firm provides to its customers. According to Nair et al., (2010, p. 37), these dimensions have an independent influence to the one who consumes the services rendered. The five dimensions are originally broken in to twenty two statements (Parasuraman et al., 1985). The respondents will be asked twenty two questions in which they will be required to rate their expectations when they visit Norrlands Universitets Sjukhuset (NUS) and their perceptions after they have been there. All the questions will be grouped under each dimension to facilitate the determination of the gap between perceptions and expectations. (Mukesh, Fong Tat, & Amat Taap, 2009, p. 214).

3.4 The use of SERVQUAL model

Another way of incapacitating the complications that may arise when framing questions, the insufficient manners in which samples relate to the populations from which they are drawn, the evasion of evaluation of clinical practice, inconsiderate management of non-response rates, and the shallowness of old fashion reviews is to put in practice with the help of the SERVQUAL model (Hart, 1999, p. 68). The SERVQUAL model was originally created as a quality model to measure process quality in private service, where individual encounters are critical to deliver quality service (Dabholkar & Overby, 2005; Parasuraman, Zeithaml, & Berry, 1988). The SERVQUAL model has been used to carry out several studies for instance, Pansiri & Mmereki, (2010), used the SERVQUAL model to evaluate the implementation of Work Improvement Teams (WITs) in the hospital/clinics as a reform initiative adopted by the Botswana government to enhance the productivity, efficiency, and performance of the public sector (particularly the health sector). They used the SERVQUAL model to measure the level of service quality and customer satisfaction with a sample size of 151 hospital/clinics hospital customers. Their finding proved that the adoption and implementation of reforms in the public health sector have not improved the level of service quality and the customer satisfaction which was indicate by the gap between customer satisfaction and perception (J. Pansiri & R. Mmereki, 2010, pp. 219-234). Badri et al., (2005) applied the SERVQUAL model in their study “Information Technology Center Service Quality”. This model was used to permit them figure out the gap in the chain of the services rendered by the ‘Information Technology resources’. The analysis was based on the use of the factor analysis and the gap score between expectations and perceptions. Alongside their results, they acknowledged that respondents felt the SERVQUAL instrument was a useful indicator. Chand, (2010) also used the SERVQUAL measuring instrument in “Measuring the Service Quality in in Indian tourism Destination”. He used the 22-statement of the original standard SERVQUAL questionnaires and the statements were classified based on the five dimensions of the SERVQUAL and the study indicated that the SERVQUAL measuring instrument as an important role when assessing
and monitoring service quality. There are lots of studies that have been carried out using the SERVQUAL model, although a limited number of them are mentioned above. In this study this instrument will be applied using the health care service sector as a case to discover if its dimensions measures and if the dimensions are suitable to measure the constructs. This instrument will also assist in identifying gaps in the service quality and investigate the dimensions that customers are satisfied with. Although the SERVQUAL model have been used by ample research bodies and came out with results that proved positive weights attached to the model when used as an instrument to measure service quality and customer satisfaction in different sectors, there have also been condemnations in applying this model by other portions of researchers too (Cronin & Taylor, 1992).

3.5 Conceptual Framework

The conceptual framework brings out the picture of the existing theories that were used in this study and what have been put in as contribution to the study with the help of knowledge gained from past works in this domain. This study is about service quality and patients satisfaction and this has been in a continuous research trend with researcher trying to come out with appropriate instrument to measure service quality and customer satisfaction in service sector. It is justified by different research bodies the issue on how service quality could be measured accurately unlike product quality where the features of the product are rightly spelled on it making it easier for consumers to know what they are actually going to consume. This gave birth to different instruments that could be used to measure service quality. The SERVQUAL model as previously explained is an apt instrument to measure service quality and customer satisfaction in health care service sector and this has also been backed by different researchers who used the SERVQUAL model to measure service quality in health care service sectors in different times, places and different samples.

This study deployed the modified SERVQUAL model with the five refined dimensions which include Tangibility, Reliability, Responsiveness, Assurance and Empathy to guide the study. These dimensions were used to measure service quality and patients satisfaction at NUS alongside arguments by different researchers about the link between service quality and customer satisfaction. Since this study deals with measuring service quality in a hospital, it services are described as being intangible that physical aspect of the hospital was taking into consideration when measuring service quality in this dimensions unlike the other four. The SERVQUAL instrument deals with the theory of services quality, and customer satisfaction and also customers’ perceptions and expectations are included in order to explain the link between the service quality and customers satisfaction. In this study, these concepts have been explained to ease understanding of the SERVQUAL instrument when measuring service quality in a service firm. The chosen dimensions were used according to the modified SERVQUAL model by the author (Parasuramann et al., 1985).
CHAPTER FOUR

4 EMPIRICAL DESCRIPTION

This chapter will present discussions of the empirical tools including explanation of the questionnaire, collected data, the sample, measurement of variables, data coding and also explain the coded language.

Norrlands Universitets Sjukhuset (NUS)

Norrlands Universitets Sjukhuset is the regional hospital for the Northern Health Care Region created in 1907. It is engaged with the task to perform qualified medical care, Research and Training and a number of 5,700 employees. This hospital has a great level of expertise with advanced technological equipment. Doctors and nurses at the NUS retain their skills and expertise by providing treatment to difficult or uncommon illnesses in an ample number of patients (Västerbottens Läns Landsting, 2010).

4.1 Questionnaire designed

The designed questionnaire used in this study is an already designed questionnaire that is commonly used when applying the SERVQUAL instrument to measure service quality and customers satisfaction. This was modified from the work of the famous writer of the SERVQUAL model by name Parasuraman. These instrument were modified to enable the collection of data that will assist the provision of information suitable for achieving the research purpose which was mentioned in the earlier chapter as “The purpose of this study is to assess consumers of health care services (patient’s) perceptions of service quality at the Norrlands Universitet Sjukhuset (NUS) and to find out if they are satisfied with the services rendered to them. In other to accomplish this, the SERVQUAL model was used to enable the author determine which attributes of this model convey customer satisfaction in Norrlands Universitet Sjukhuset (NUS)”.

The first section of the questionnaire was designed to measure consumers of health care service (patients) expectations and the second section to measure perceptions of this segment of customers. Although the demographic information was also be provided it was not aimed to have any impact on findings. This area included the sex, level of education and the frequency (how often these customers visit the hospital or go for health or medical care). However, a pre-test was run to make sure the questions were not misleading and were easy for respondents to understand and provide their honest opinion. With these statements customers will first of all give what they might express as their expectations without seeing the other section which demanded them to provide answers regarding their perceptions.

The SERVQUAL model was chosen as the foundation of the designed questionnaire because the intention is to measure service quality and customers’ satisfaction and this can be done properly if the gap between what is expected and what is perceived is known. With
respect to the statement made by Cronin & Taylor, (1992), stating that the SERVQUAL model is a good instrument to use when making efforts to understand the service expectations and perceptions of customers for necessary improvements and also due to its level of reliability and validity.

In this study the five dimensions of the SERVQUAL model was chosen, according to Parasuraman et al., (1988), the SERVQUAL scale was purified with the help of the Cronbach alpha and the factor structure of the dimensions five were dropped and thus reduced the SERVQUAL dimensions to five which includes; Tangibles, Reliability, Responsiveness, Assurance and Empathy and these five dimensions are further divided to represent the twenty two statements used to measure service quality with respect to the case of this study.

4.2 Explanation of scale of measurement

The scale of measurement was chosen to be represented by a set of numbers that was established to enable the measurement of both customers’ expectations and perceptions of service quality at the Norrlands Universited Sjukhuset. A scale of 7 points was used to determine the level at which customers agreed or disagreed with the statements. This could be demonstrated as below;

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<thead>
<tr>
<th>Strongly Disagreed</th>
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</table>

As it is clearly seen above, the higher the number the higher the expectation and perception level as well. It is understood from other writers like Gibson, (2005) in his study came out with facts that customer satisfactions leads to repeat purchase of product/services and gives room for positive word of mouth recommendations from those with experience and that customers’ level of expectations can be built with respect to recommendations and positive word- of mouth received from those who have experienced about the service quality. In this study respondents were selected strictly on the fact that they have experienced or acquired health care services from Norrlands Universited Sjukhuset. That is, customers (respondents) perceptions are based on the fact that they have actually received health care services from the NUS.

The difference or the gap realized between the Expectations and Perceptions denotes the service quality rate. In a situation where Perceptions is higher than expectations, customer satisfaction is said to be attained and vice versa.

4.2.1. Relating the statements to the dimensions

The different dimensions were measured using the ranges of statement that were designed out of the 22 statements. The first set of questions which ranges from question number one to four is set to measure the interactions and/or what the customers have to say about the physical facilities at the NUS. This is termed as tangibles (Tangibility). Proceeding to the next set of questions stating from question number five to nine, these set of questions are set to measure how reliable the services rendered by the staff of NUS is (Reliability). The
dimension of Responsiveness is measured with the range of questions from number ten to thirteen. This section of the questionnaire seeks to measure the level at which the employees at NUS respond to patients’ call (Responsiveness). Question number fourteen to seventeen are designed to measure the extent to which employees at the NUS provide assurance to their patients for example assuring the patients of their safety and confidence instill in them (Assurance). The last but one dimension which is measured using question number eighteen to twenty two are used to measure empathy that is the level of individual attention employees at NUS provide to their patients (Empathy). Besides these questions were added questions that were designed to measure demographic factors of the respondent and included, gender, the level of education and how often these patients visit the NUS (frequency).

4.2.2 Questionnaire distribution

The process of distributing the questionnaires to respondents was not an easy task but at the end of it all I felt like printing more questionnaires and continue the process. However, due to past experience during my working days with a brewery company as a market developer. I only enjoyed the process at the end of it all; putting on a smile with an attractive manner of approach to capture attention was the strategy I used to get responds. Student of Umeå University were chosen as respondent and I also thought that it will be good if I get first hand responses from those who are in the process or just from the process of receiving health care services. Questionnaires were controlled both on campus and at the Norrlands Universitet Sjukhuset but it was strictly for those who have visited the Norrlands Universitet Sjukhuset and acquired health services in one way or another. The purpose of the questionnaire was presented to the respondent and brief explanation was given to regarding the instructions because some will not want to take the pain to read the instructions before commencing. After the completion of the questionnaire I went through to make sure the questions were all answered and some people took the pain to complete them when I noticed they were incomplete and some just went away even after pleading with them that they didn’t answer all questions. In a total of 210 questionnaires printed and distributed I got 201 completely filled.

4.3 Coding

The dimensions of the SERVQUAL model (Tangibility, Reliability, Responsiveness, Assurance, and Empathy) are the key elements that are applied and due to the fact that using the complete word as stated above makes it clumsy when running the data for analysis, the use of codes are been applied to facilitate the data entry and analysis.

The first four questions that measures the dimension of tangibility is coded as thus, assuming that tangibility is represented by TAN and involves the physical aspects at the NUS. Adding numbers to this makes it easier to identify the statements chronologically. This could be shown as follows:

NUS should have -to-date equipment (TAN1), Physical facilities are virtually appealing (TAN2), Employees are well dressed and appear neat (TAN3), Physical environment of the grocery store is clean (TAN4). Reliability which is represented by the (REL) includes regularity of performance and trustworthiness. Coded as; When NUS promise to do
something by a certain time, they do it (REL1). When patients have problems, NUS show sincere interest in solving the problem (REL2) NUS should perform the service right the first time (REL3). They provide their services at the time they promise to do so (REL4), NUS should keep their records accurately (REL5).

Responsiveness indicates the zeal of employees to provide service and is therefore coded using (REP); employees make information easily obtainable by customers (REP1), employees give prompt services to customers (REP2), employees are always willing to help customers (REP3), and employees are never too busy to respond to customers’ requests (RP4).

Assurance is represented by (ASR) and includes politeness, respect, consideration, and friendliness of contact personnel. These section of the questions are coded as, ASR1 (The behavior of employees instill confidence in customers) Customers feel safe in their transactions with the employees (ASR2), employees are polite to customers (ASR3), employees of NUS have knowledge to answer customers’ questions (ASR4).

Empathy; thoughtful individualized attention the firm provides to its customers and the coded as (EMP). NUS should give customers individual attention (EMP1), NUS operating hours should be convenient to customers (EMP2), NUS employees should give customers personal service (EMP3), NUS should have their customers’ best interest at heart (EMP4), NUS employees should understand the specific needs of their customers (EMP5). The last section of the questionnaires stated demographics and is represented by (DEM). Gender (male 1; female 0) Level of Education (undergraduate 1; masters 2; others 3)
CHAPTER FIVE

5. EMPIRICAL RESULTS AND ANALYSIS

In this chapter the empirical findings will be presented and analyzed based on the theoretical concepts to enable answers to the research question. This chapter begins with presentation of the data that were collected followed by the analyses of the data. **5.1 Data presentation and analysis**

The aim of this chapter is to analyze primary data that was collected from the survey and to enable answers to the research questions that were stated as how consumers (patients) perceive service quality and to find out their level of satisfaction from the services they acquired from the Norrland Universitets Sjukhuset. The objective of the study which is concerned with the description of the practical phenomena of service quality and customer/patient satisfaction will be accomplished. The Factor analysis is used to determine if the instrument for measuring service quality was applicable in the perspective of the health care sectors. The descriptive statistics is used to analyze the gap score and also to summarize the various means in relation to the perceptions and expectations of the patients. The gap are derived from calculations made considering the differences between perception and expectation score for each dimension (perception - expectation). It is also important to check the extent of reliability and validity if the instrument that is applied to facilitate the measurement of service quality at the Norrland Universitets Sjukhuset. The Factors analysis was to test validity meanwhile the Cronbach’s Alpha was to test reliability.

Table 1: Demographic presentation of respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Characteristics</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>64.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>35.8</td>
</tr>
<tr>
<td>Level of education</td>
<td>undergraduate</td>
<td>24.9</td>
</tr>
<tr>
<td></td>
<td>Masters</td>
<td>51.2</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>23.9</td>
</tr>
<tr>
<td>Frequency of hospital</td>
<td>Once a week</td>
<td>19.9</td>
</tr>
<tr>
<td>visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Once a month</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Once in six months</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>Once a year</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>50.2</td>
</tr>
</tbody>
</table>

The table above represents the demographic profile of the respondent. It could be seen from the table that male respondents had a percentage of 64.2 and 35.8% for female and others had a percentage of 23.9. The level of education had a higher score with student at masters level covering a percentage score of 51.2 and 24.9 for undergraduate students while others had 23.9%. The frequency for others had a percentage of 50.2 and once a week followed
with 19.9 and then once a month, once in six months and once a year with 10%, 11.4% and 8.5% respectively.

5.1.1 Gap score analysis

Originally, the sample size was 210 but due to some issues encountered during the process of the distribution of questionnaires to respondents the number was reduced to 201. Some respondents never returned their copy of the completed questionnaire reducing the number of the sample size from 210 to 201. However, this sample size is still an appropriate size for result to be drawn from.

Patient satisfaction

The various means from the descriptive statistic represent the differences between expectations and perceptions of patients per statement. When they are negative as discussed in the previous chapters it implies that there is dissatisfaction and as it is the case, the entire gap scores are negative. This means that patients on an average expected more from the hospital than they actually perceived. This already is a first glimpse to saying that patients are generally unsatisfied with the quality of services at the Norrlands Universitet Sjukhuset (NUS). The negative values are much closer to zero expressing that there is a gap range from -6 to 6. The highest score per statement came from the Tangibility dimension with the statement of TAN3 stating that the ‘employees are well dressed and appear neat’ with a gap score of 0.2488 and the least score came from the Responsiveness dimension with the statement on REP4 stating that the ‘employees are never too busy to respond to customers’ request’ and with a gap score of -1.7015. In this case patients are to an extent satisfied with the tangibility dimension and particularly the dimension that measures the physical appearance of the employees at the NUS.

Meanwhile, the least score came from the statement that measures the Responsiveness (REP4) stating that the employees are never too busy to respond to customers’ request. This simply explains that the patients are not satisfied in this area of the dimension and this is proven by the least score on this dimension meaning there is no customer/patient satisfaction achieved in the dimension. See appendix III. In addition, looking at the gap score per dimension, the results displayed in the statement scores are reflected as all the dimensions maintain negative gap scores with Tangibility having the highest score of -0.5 and Responsiveness having the average gap score of -1.398. This also gives weight to the fact that customer satisfaction is derived in the Tangibility dimension. See appendix IV.

5.2 Reliability Test

The Cronbach alpha is used as the coefficient to assess the level of reliability of the data. This allows an establishment and analysis regarding internal consistency that is; this helps to determines if there is internal consistency among respondents.

Table 2: Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
</table>

49
From the reliability statistics presented above, it could be clearly seen that the coefficient of the Cronbach alpha which is represented by the value 0.933. With respect to an acceptable established standard coefficient from 0.9 and above signifies an excellent level of internal consistency. This is supported by the fact that the famous author Parasuraman et al., (1988), in their analysis proved the level of internal consistency with a reliability coefficient rate of 0.92. In this study the reliability test shows that the reliability coefficient is 0.93 which is higher than the established standard coefficient of 0.9. Therefore the level of reliability is excellent and thus proves a high level of internal consistency. Zooming a little down on the dimensions it is equally realized that all dimensions have a good level of reliability coefficient between 0.8 and 0.9, except for Tangibility with 0.769 and which is also an acceptable coefficient.

Table 3: Reliability Coefficient

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Number of items</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>4</td>
<td>0.769</td>
</tr>
<tr>
<td>Reliability</td>
<td>5</td>
<td>0.872</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>4</td>
<td>0.801</td>
</tr>
<tr>
<td>Assurance</td>
<td>4</td>
<td>0.832</td>
</tr>
<tr>
<td>Empathy</td>
<td>5</td>
<td>0.811</td>
</tr>
</tbody>
</table>

To further examine the intricacies of this consistency other variables have been excluded to see how they affect the general level of consistency as shown in the results.

Focusing mainly on the last column to the right it is realized that all the coefficients are more than 0.9 and very close to the general cronbach alpha discussed earlier of 0.933. The variations in most of the cases are very small. The essence of this test is to find out if each statement has a reasonable contribution to the overall cronbach alpha. Generally if a deleted statement leads to a higher cronbach alpha it means the statement is not open but if it leads to a reduction in the general alpha it means the statement is open. Fortunately I will say all the coefficients are less than 0.933 and even though the difference is not much but it shows that they were important in the computation of the cronbach alpha and thus conclude that the Cronbach alpha of 0.933 is a true representation of all statements and the data are verified to have internal consistency. See appendix V.

5.2.1 Factor Analysis of the Gap Scores between customers expectation and perception

Factor analysis is a multivariate statistical technique that is used to reveal principal factors through summarizing the information contained in a large number of variables into a smaller number of subgroups called factors (Shiu et al., 2009, p. 630). Factor analysis is used to investigate relationships among variables which are often done across a set of individuals under specified conditions. Factor analysis can be used to reduce the number of
factors to be considered for further research and maximize the amount of information in the analysis (Shiu et al., 2009, p. 630-634). When measures are correlated they are often influenced by the same factors whereas when they are uncorrelated the likelihood that they are driven by different factors is high (Liu & Zumbo, 2012). A factor analysis can either be exploratory or confirmatory. It is exploratory when it seeks to find out the nature of factors influencing responses and confirmatory when it seeks to find out how the factors are influencing the responses (De Coster, 1998, p.1). This study is considered the confirmatory because the dimensions are already determined. Putting the Kaiser-Meyer-Olkin (KMO) test in practice, which has a score range between 0 and 1 where a value of 1 indicates low correlation implying that the factors affecting responses are distinct. Where the KMO test is given 0 it implies high correlation between variables which reduces their significance. In this case there is a KMO value of 0.909 implying that the SERVQUAL model is assumed to be good from the perspective of the KMO. A correlation test was done among variables and more than 90% of the cases had a Pearson’s Correlation Coefficient of less than 0.5 which shows relatively low correlation among variables.

The factor analysis is conducted from the twenty two statements as deduced from the modified SERVQUAL model with five dimensions. The test identified four component factors (1, 2, 3, and 4). These factors are defined as the natural affinity of an item for a group (Wal et al., 2002, p.32). The strength of the link between factors and each measure varies in that a factor could influence some dimensions more than others (Shiu et al., 2009). When a component loading is high it shows that the component is important in determining the factors measurement while negative values indicate opposite effects (Shiu et al., 2009). See appendix VI. Based on recommendations from statisticians and looking at past studies, I chose to delete all loadings less than .045 because they are of low significance.

From the result it is realized that items from the same dimension fall under more than one factor like ASR3, REP1, REL5, REL2 and REL1 (employees are polite to customers, employees make information easily obtainable by customers, NUS should keep their records accurately, when patients have problems, NUS show sincere interest in solving the problem, when NUS promise to do something by a certain time, they do it respectively); that have values above 4.5 under more than one component each. Other dimensions have items with a single factor but the different items from one dimension are not regrouped under the same factor but rather are affected by different factors. Normally I would have had items from the same dimension falling under the same factor which show that they are measuring the same thing. However items under empathy are regrouped under the same factor but only empathy is not enough to provide strong grounds. See appendix VII.

Patients’ expectations and perception

The likert scale was used to measure the level or extent of patient’s expectation and perception of the service quality rendered by the NUS. Scale points of one to seven with one representing the level of strongly disagree and strongly agree at the level of seven points. The higher the point the higher the expectation indicated and perceptions as well. Following the standard role established by different authors in their different studies as earlier mentioned, where consumer’s expectation exceeds their perception of the services acquired the gap score becomes negative. That is consumers turn be unsatisfied with the quality of services they get from the service provider. In the case of this study and with
respect to the results, it is clearly seen that customers’ satisfaction are not attained in all the dimensions that were used to measure their level of satisfaction.

In the tangibility dimension consumers expressed a certain degree of satisfaction as seen in the presentation of the results. However, the famous writer Parasuraman et al., (1988), stated that it is sometimes very obvious that consumers turn to expect more so at most cases the results are always shown with the expectation exceeding perceptions. Although in this study is the case but the statement cannot be strongly generalized since the sample size was drawn from students who have in one way or another acquired health care services from the hospital (NUS) but the results signifies a certain level of unsatisfied consumer. Testing the validity by the use of a factor analysis disqualifies the model used which implies that there other models should be applied in this kind of studies and choosing from a broad range of sample size including everybody who have acquired services from the NUS and not just students.

5.3 Analysis of the gap score in relation to the concept.

Table 4: Descriptive Statistics of the gap scores

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>201</td>
<td>-5.25</td>
<td>2.00</td>
<td>-.5000</td>
<td>1.04583</td>
<td>-1.171</td>
<td>.172</td>
</tr>
<tr>
<td>RE</td>
<td>201</td>
<td>-6.00</td>
<td>2.00</td>
<td>-.8060</td>
<td>1.22224</td>
<td>-1.414</td>
<td>.172</td>
</tr>
<tr>
<td>RP</td>
<td>201</td>
<td>-6.00</td>
<td>2.75</td>
<td>-1.3980</td>
<td>1.56909</td>
<td>-.492</td>
<td>.172</td>
</tr>
<tr>
<td>ASR</td>
<td>201</td>
<td>-6.00</td>
<td>1.75</td>
<td>-1.8333</td>
<td>1.12175</td>
<td>-1.038</td>
<td>.172</td>
</tr>
<tr>
<td>EMP</td>
<td>201</td>
<td>-6.00</td>
<td>1.80</td>
<td>-1.6776</td>
<td>1.17164</td>
<td>-1.277</td>
<td>.172</td>
</tr>
<tr>
<td>Valid N</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Going by dimension as stipulated on the table above it can be realized that all the gap scores are negative. This implies that people on an average expected more than they experienced. The dimensions which are representing the concept which are used to determine which attributes of the SERVQUAL model convey customer satisfaction at Norrlands University Sjukhuset (NUS).

**Tangibility** (physical facilities, equipment, and appearance of personnel) had an average score of -0.5 The highest score of the 201 people whose scores were recorded was 2 and the least score was -5.25 with a standard deviation of 1.046, this means that 68.27% of the data lies between -1.546 and 0.546 this shows a likelihood of several negative gaps and most probably a justification of the negative mean. The distribution is positively skewed implying that data spread to the right of the mean is farther or that the mean is further away from the maximum score than it is from the minimum score.

**Reliability** (ability to perform the promised service dependably and accurately) had an average score of -0.806 which is lower than tangibility. The maximum score was 2 and the least satisfied customer had a gap score of -6. The standard deviation of 1.222 signifies that
68.27% of the data lies between -2.028 and 0.416. The distribution is positively skewed with a skewness value of -1.414 indicating that data spread is more to the right.

**Responsiveness** (willingness to help customers and provide prompt service) had a mean gap of -1.398 with a maximum value of 2.75 and a minimum value of -6. The standard deviation is 1.569 which means that 68.27% of the data lies between -2.967 and 0.171 the data is positively skewed implying that there is more data spread to the right of the mean.

**Assurance** (knowledge and courtesy of employees and their ability to inspire trust and confidence) has a mean of -0.833 with a minimum and maximum gap score of -6 and 1.75 respectively. It has a standard deviation of 1.122 showing that 68.27% of the data lies between -1.955 and 0.288. The distribution has a skewness value of -1.038 meaning that most of the data is spread towards the right of the mean.

**Empathy** (thoughtful individualized attention the firm provides to its customers) has a mean score of -0.678 with a minimum score of -6 and a maximum score of 1.8 the standard deviation of the distribution is 1.172. Thus 68.27% of the data lies between -2.527 and 0.494. The data is spread to the right of the mean with a skewness value of -1.277.

### 5.3.1 Analysis of the overall Gap Score

Table 5: Descriptive Statistics of the overall gap score

<table>
<thead>
<tr>
<th></th>
<th>N Statistic</th>
<th>Minimum Statistic</th>
<th>Maximum Statistic</th>
<th>Mean Statistic</th>
<th>Std. Deviation Statistic</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSQ</td>
<td>201</td>
<td>-5.58</td>
<td>1.72</td>
<td>-0.8430</td>
<td>.99607</td>
<td>-1.433</td>
<td>.172</td>
</tr>
<tr>
<td>Valid N</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean of the entire population is -0.843 with a minimum and a maximum score of -5.58 and 1.72 respectively. The distribution has a standard deviation of 0.996 which indicates the spread of data around the mean. The data is positively skewed with a skewness value of -1.433 this implies that the data is spread to the right of the mean. The results indicate a total variance and this is traceable in the four factors as 62.741 and the first factor carries 41.992 this shows that most of the data is affected by factor one. Factor two has 8,771% and factor 3 carries 6.787% while factor 4 has the least with 5.180 other factors have an insignificant effect on the variations which show a low fit of data in the factors. See appendix VII.

### 5.4 Discussion

All along attempt have been trying to find out if patients of the NUS are satisfied with the quality of the services they receive while at the hospital and to determine which attributes of the model applied in this study convey customer satisfaction at Norrlands University Sjukhuset (NUS). Modification of the SERVQUAL model was adopted in order to achieve this purpose. Considering the results above, it could be realized that people generally expected more from the University hospital than is their actual perceptions. Analyzing the
concepts used in relation to the results obtained it could be seen that in the various
dimensions customers’ expectations and perceptions are different. Starting with the first
dimension which had questions that were aimed to measure how satisfied customers are
with the tangible aspects at the NUS, it is drawn that even though customers turn to expect
more than they actually perceive as proven by a majority of studies, customers in this study
proved to be to an extent satisfied with the tangible aspects at the NUS.

This is shown in the result which stated that tangibility had the highest score of -0.5 this is
fairly unsatisfactory, and shows that even though people expect quite much from the
hospital they think that the hospital offers quite a lot on this dimension. This could be
interpreted to mean that facilities are up to date; appealing as well as the hygiene of the
hospital is quite appreciable to patients. In this case customer’s satisfaction is achieved in
the area of tangibility. The reliability dimension had a score of -0.806 this score again is
negative implying that patients require more from the hospital (NUS). Based on personal
interpretations, this dimension is generally referred to administrative issues and reflects in
some way the values of the hospital. It is not so dependent on the services of individual
employees but more on the general attitude that the hospital has built towards its patients.
Even though it’s a negative score but based on an assumption that expectations are more
ideals, one can think that the hospital policies are tailored towards ensuring customer
satisfaction through quality services.

Responsiveness has a score of -1.398. Drawing allusion to one of the reasons for this study;
the present crises at the (NUS), and mindful of the fact that responsiveness is a dimension
that draws directly from personnel-patient interaction, this is where the lowest score comes
from. What cannot be inferred from the study is if this is a sign of disgruntled employees or
if it arises from the fact that interaction between people in a lot of cases never gets on
without hitch. However the management of the hospital has to put in a lot of effort to see to
it that its staff do represent the values of the hospital and give patients the care and concern
they need. This is equally important granted the role psychology plays on a recovery
process. Therefore, this can be interpreted as customers not being satisfied with the services
rendered considering the dimension of responsiveness. Since they express a greater level of
expectation in this dimension and in the real sense their expectations were higher than their
perceptions.

Assurance had a gap score of -0.833. This dimension is equally much more connected with
heterogeneous services as there is much dependence on the interaction between staff and
patient for patients to assess and make their judgments of the dimension. It is the second
lowest and again is a call to the staff of (NUS) to try to step up their commitment when it
comes to personal contacts with patients and as it concerns personal characteristics and
knowledge that is manifested when dealing with patients.

Empathy had a score of -0.678 this again depicts higher expectations to perceptions. It is
the second highest but still require that the staff at NUS should improve on the issues raised
by this dimension.

Considering other literature and studies on this area, it could be seen that in all the attempts
made to distinguish or bring out the differences between customers satisfaction and service
quality there have either in one way or another mentioned customer satisfaction influenced
by service quality or higher perceive service quality leading to customer satisfaction. In this case a picture of both having a link or one affecting the other is presented. Haven adopted the view that service quality has a positive relationship with customer satisfaction, it is logical to conclude here that patients of the Norrlands Universitetet Sjukhuset are unsatisfied with the services rendered by the hospital. However, it is worth going back to former studies and revisiting our research question and research purpose alongside other analysis before coming to a conclusion. 

Zooming down on our research questions; 

How do patients perceive service quality at the Norrlands Universitets Sjukhuset? Are patients satisfied with the quality of services acquired from the Norrlands Universitets Sjukhuset? 

With respect to this, it could be stated that patients perceive services at the NUS to be lower than what they expect and are therefore unsatisfied with the quality of services. A study carried out on grocery stores in Umeå using the SERVQUAL model, came to a conclusion that the overall service quality was not satisfactory. This was because perceptions were more than expectations. These results were however not considered as reliable because they failed the factor test. In this study the factor tangibility passed the factor test and also all items under empathy were regrouped under the same factor. However model could be termed as not application to this area because it also failed the factor test as items from one dimension appeared under more than one component and some items even had two determinant factors. 

Other studies carried out on health care include “evaluate the implementation of work improvement teams in the hospital/clinics as a reform initiative adopted by the Botswana government to enhance the productivity, efficiency and performance of the public sector” used the SERVQUAL model. They employed descriptive and inferential statistics in their analysis and came out with the conclusion that even though these tools had been put in place to improve health services, patients still expected more from the health care than they actually got (J. Pansiri & R. N. Mmereki, 2010). Nair, et al., (2010), on their part in an attempt to study the quality of services provided by banks in Navi Mumbai used the SERVQUAL model. They used five determinants, tangibles, reliability, responsiveness, assurance and empathy. Based on these determinants and with a sample size of 101 respondents found out that consumers of banking services in Mumbai were generally not ok with the level of service quality in banks in Navi Mumbai. Studies reveals that consumer level of expectations are always in most cases higher than satisfaction which is justifiable by the axiom that expectations tend to be ideal and in most of the cases will deviate from reality. This makes it difficult to actually conclude that a negative gap score leads to dissatisfaction. It might be suggested that the SERVQUAL model be re-examined and tested to justify a certain level of a negative value as a significant of customer’s satisfaction. The SERVQUAL model is not at all condemned or denied to be a good model because the results which is the determinant of whether this model is fit or not might be tampered with in different ways that might affect the conclusion drawn from the use of this model. In this study, the SERVPERF if not strongly recommended as the best model that could fit this study since it has not been tested in the
same case and it wasn’t a comparative study trying to compare which of the two models are best to produce results unlike the other studies as mentioned above who tested the models and concluded recommending the SERVPERF in relation to their study. The SERVPERF model can only be recommended in this case to find out if using the SERVPERF in the same case like this and with the same sample might generate more valid and reliable results.
CHAPTER SIX

6. CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

In this chapter, answers to the research purpose will be provided by drawing conclusions from findings and analysis. This will be followed by a presentation of implications for a service provider, limitation of the study and finally suggestions for further research.

6.1 Conclusion

This study is aimed at assessing how patients perceive service quality at the Norrlands Universitetets Sjukhuset and to find out the level of consumer (patients) satisfaction. I could not accomplish this without the help of the work of other researchers and going through series of articles and publications from other writers. In the literature of Service quality many authors in their studies applied models when measuring service quality and this got me motivated to use the SERVQUAL model as the main instrument in this case and to also serve as pillar in streamlining the entire work. By means of administering questionnaires modified from the famous writer of the SERVQUAL model Parasuraman et al., (1985), were able to collect data from some 201 respondents which were analyzed to produce conclusions from findings.

Considering the factor analysis, it could be seen that items from the same dimensions fall under more than one factor and this was so for three different dimensions providing a value of 4.5 under more than one component each. Although the other dimensions had a single factor, items from one dimension are not regrouped under the same factor but are affected by the different factors. This makes it different from other cases as explained in the work of Parasuraman et al., (1985) that when items from the same dimensions fall under the same factors its shows that they are measuring the same indicator. With respect to the results, the SERVQUAL model could be termed as not appropriate or not the best to use as a measuring instrument for service quality at the NUS although this instrument has been applied in other health care services survey with positive results. However, the results are dependent on several different issues for instance, the sample size, the chosen sample population, the chosen case, the time of the research and other factors. In this study, only students from the Umea University were used in this survey and considered as patients who have or are still acquiring health care services at the NUS to be precise since there exist other health centers like the University health services and the Ålidhem Vårdsentral. With these results at hand one could make conclusions based on the applied variables and so therefore, there is a room for further study since the researcher could only realized if the instrument is an appropriate instrument to be applied in the settings only after collecting and analyzing data from a chosen population. This could therefore provide room for further research with the use of a different method in the particular case. Even though the items under the Empathy dimension were grouped correctly, the Empathy dimension alone cannot be used to determine the extent of validity of the model. In addition, patients expressed a certain level of satisfaction on the Tangibility dimension although just one dimension could not be argued to represent the general level of patient’s satisfaction at the NUS.
However the overall reliability coefficient was above the established standard reliability coefficient of the 0.9 which signifies an acceptable level of internal consistency. In this study the overall reliability coefficient is 0.933 more than 0.9 being the standard coefficient meaning that the level of internal consistency is acceptable. Looking at the different dimensions out of the five dimensions used only one of them had a low coefficient and that is the Tangibility dimension with a Cronbach alpha of 0.769 the rest of the dimensions (REL, REP, ASR, EMP) had a coefficient of 0.8 and above.

With the results at hand, it is proven that in all the dimensions expectations were higher than perceptions and as stated by Parasuraman and other researchers that, where expectations are higher than perceptions the services are termed as not being satisfactory and customers are unsatisfied. In other words, patients of at the NUS expressed more in their expectations than what is being rendered to them. With this at hand and in order to provide answers to the research questions that are concerned with; how consumers (patients) perceive service quality at the NUS and if they were satisfied with the services rendered to them by NUS. It could be concluded from the finding and analysis that consumers (patient’s that have acquired or are still acquiring services) from the NUS expectations were higher than perceptions implying that these consumers are not satisfied. Studies in the area of service quality indicated that it could be hard to make generalized statements when measuring service quality with the help of the SERVQUAL model this is so because a greater portion of the conclusions revealed that expectations were higher than perceptions signifying little or no satisfactions.

Other health care studies include that of J. Pansiri & R. N. Mmereki, (2010) who used the SERVQUAL model to “evaluate the implementation of work improvement teams in the hospital/clinics as a reform initiative adopted by the Botswana government to enhance the productivity, efficiency and performance of the public sector”. They employed descriptive and inferential statistics in their analysis and came out with the conclusion that even though these tools had been put in place to improve health services, patients still expected more from the health care than they actually got (J. Pansiri & R. N. Mmereki, 2010). Another study conducted by Butt & Run, (2010) titled “Private healthcare quality: applying the SERVQUAL model”, “aimed to develop and test the SERVQUAL model scale for measuring Malaysian private health service quality”. The results of their study indicated a moderate negative gap on each of the service quality dimension applied although in the scale development analysis, excellent results were generated. In relation to the five dimensions that were used to measure the gap between patients expectations and perceptions indicated a negative gap score but this doesn’t mean that or cant not be concluded as patients at the NUS are completely unsatisfied since the study is not generalizing the result. Patients expressed a higher level of satisfaction in the tangibility dimensions meanwhile the other four dimensions were expressed lower than that of the tangibility dimensions. This could be justified by the principle that tangibles are easier to measure the quality than that of intangibles. The intangibility nature of services could make consumers find it difficult to evaluate the quality of the services delivered by a service providing organisation (Khan, 2003, p. 110). Studies of this nature becomes relevant to services organizations in a constant bases since they have to consider the changing trending of technology, high level of competition and the fact that patients ideology with respect to health changes as time evolve. It is also important to a greater extend for service
organizations that considers customer satisfaction as a driving force towards a leading market position, maintaining long term relationship and customer loyalty. With respect to the outcome of this study, Reliability, Responsiveness, Empathy and Assurance dimensions of the SERVQUAL instrument relevant in delivering customer satisfaction despite the difficulties to measure they have an influence on satisfaction rate. This has also been proven in other studies like that of Marinkovic et al., (2013) stating that all these five dimensions leads to satisfaction but in their study the dimensions Reliability, Tangibility and empathy had a significant influence on satisfaction.

Studies acknowledged that expectations tend to be supreme and sometimes differs from reality this makes it hard to make conclusions that a negative gap score means customers are not satisfied or leads to zero level of customer satisfaction. The SERVQUAL model has its advantages and limitations as proven by other researchers, by these arguments It could be said that if the SERVQUAL model has to be used to measure service quality and the level of customer satisfaction, then the model should be amended to accept a certain level of negativity as satisfaction this will make it easier to make strong conclusions.

6.2 Limitations

In this study, the non-probability sampling technique was applied making it impossible for the study to be generalized to a widespread collection of related circumstances in the realm of health care service provider although the same method could be employed to situations that are similar or related to the study in question. With the non-probability sampling technique, study could provide foundation for further research (Bryman & Bell, 2003, p. 105). Another limitation of this study could be explained as, using a sample size of 201 respondents who were drawn from the population of student of the Umeå University with diverse ideology, cultural differences, and from different regions and continents. The sample haven been drawn from the population of students at the Umeå University also serves as a limitation since students most at times express very busy schedule of their academic works and this could in one way or another have an influence in their responses. The questionnaire had 22 statements apart from the demographic factors and with so many questions to answer some responses might be provided in a rush without a proper understanding of what is actually expected of them. In situation where respondents are stressed up or fine his/herself in a position where providing answers to the questions could be done just to help the researcher gather information at that particular point in time. Another case might be the timing too although it in study the author tried so hard to get those who were ready to corporate in in another case could also be seen as being selective in the type of respondent despite the fact that it is a convenient sampling technique. The method of data collection might have a significant part to play in the results and as mentioned above these are some of the situations that one can hardly avoid completely when gathering data especially primary data. However, this study could not be completed as well without respondents giving their responses.

The SERVQUAL model which was introduced at the beginning of the chapters is an already made model with dimensions. Originally, this model has 10 dimensions and due to the fact that in this study choses to modify these dimensions to use just 5 dimensions that were applied in the study is another limitation of the study that could weaken the
generalization of conclusions. The results would have been different if more or less dimensions were applied. Again this aim was to measure service quality with the 5 dimensions from the beginning but this also justifies the reasons why conclusion should not be generalized. The fact that not only students from the Umea University acquire health care services from the NUS gives another restraint point. If studies of this nature should be done in such a ways that will give more weight to the management in its strategic decision planning, then the sample should be drawn from all those who acquired health care service from the NUS and not only students, all class of patients should be involved and hence a larger sample size to be drawn from. As mentioned in the earlier chapter, the SERVQUAL model is extensively used to measure perceived service quality and customer expectation.

The factor analysis disqualifies the use of this model in this study although this statement does not generalize the fact that the model isn’t a good model at all and taking into consideration the limitation as mentioned above. Using a different approach for example using a probability sampling techniques in the same study will produce different result which might be generalized but the use of the non-probability sampling techniques makes the model not fit and limit the study to some extent regarding conclusions. The use of models in studies have their own dilemma and because models are already made structures to be used in a study limits the study also since the researchers only follows the structure with little or no modification. Models are commonly used in studies to guide the researcher but by so doing limit the researcher’s scope and results since it has to be guided by the structure of the model which is the case in this study. The results of this study would have been different obviously without the use of a model but that was not the intention of the researcher in the first place. It is also important for studies like this to be carried out without the use of a model but the aim of this study was use the model to measure service quality and customers’ satisfaction. However, the aim of this study was not solely to generalize but also to build knowledge in the domain of research.

6.3 Implications

The objective of this study was stated as; to find out consumers (patients) perceptions of service quality at the Norrlands Universitets Sjukhuset and also the level of satisfaction derived from these services. This was accomplished with the help of the SERVQUAL model which was modified to suit the purpose for this study. In the process of this study and reading through other literature of service quality, it is realized that most researchers emphasized the usefulness for management in both service/product sector to better understand what their consumers actually need. The measurement of service quality can determine if consumers are satisfied or not. It is important for management to understand how to measure service quality and therefore determine if their consumers are satisfied. This could assist in decision making processes since after going through the procedures involved in measuring service quality, management could come up with a reliable parameter that could help them upgrade and improve on the services offered to consumers.

The SERVQUAL model was originally generated to measure service quality with ten dimensions and this model was later used by different authors in their studies either reducing or adding the dimensions. In this study the dimensions were rather reduced from ten to five and this could also have an impact in findings and conclusions as mentioned
above. Academicians have acknowledge that using this instrument to assess service quality and to determine the level of customer satisfaction could be significant to management of service sectors as it would help them get and understanding of the different dimensions with respect to what customers perceived and expect. If managers are aware of the level of satisfaction customers are expecting, it might permit them to adjust in their strategic decisions especially if customers are term unsatisfied. This could to an extent drive managers to check through with their competitors what they are offering thereby helping them to make some adjustments where necessary.

The SERVQUAL model was deployed to measure service quality and customer satisfaction. With respect to the results obtained, customers’ expectations were higher than perceptions except for the case of tangibility which had a score of -0.5 implying that although people expect quite much from the hospital they expresses some level of satisfaction with the tangibility dimension. Recalling back to what tangibility dimensions seeks to measure (physical facilities, equipment, and appearance of personnel). This could be interpreted as; facilities are up to date; appealing as well as the hygiene of the hospital is quite appreciable to patients. In a nutshell, management should understand those dimensions that need more attention and endeavor to make improvements where need arises taking into considerations the consumers’ expectations and this should be done in a ways that will not lead the business to a jeopardy but leads to customers satisfaction profitable.

6.4 Suggestion for further research

Studies have shown that there have been a continuous research on service quality and therefore, further research on this domain should be carried out for example measuring service quality without the use of a particular model. Since the SERVQUAL model is realized as not fit for this study it could be better if further research could be done using the SERVQUAL model and the SERVPERF to carry out a comparative study in the service sector to determine which of them rightly overrides the other and also without the use of the model. A study that is related to this may be conducted using the SERVQUAL model and SERVPERF with a larger sample size that will include not only students who have acquired services at NUS but also non-student and other categories of patients who are in one way or another acquiring health care services from the NUS.
**REFERENCE LIST**


Appendices

Appendix 1: Questionnaire

Questionnaire

I am a Master student in Marketing from the Business school, Umea University. I am carrying out a study on how students perceive service quality at Norrlands Universitet Sjukhuset (NUS). I will appreciate your honest opinions in filling the questionnaire. Thank you.

The questionnaire is in two parts, expectations and experience.

Expectations: This section deals with your opinion about Norrlands Universitet Sjukhuset. Please, show the extent to which you think Norrlands Universitet sjukhuset ‘should’ possess the following features. I am interested in knowing your expectations from an ideal Hospital. Please rank each statement as follows;

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>7</td>
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</table>

Please put a cross (X) on your choice of answer.

<table>
<thead>
<tr>
<th>Statement</th>
<th>scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Norrlands Universitet sjukhuset should have modern equipment.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2. Their physical facilities (furniture, counters, medical equipment, beds, and lights, pharmacy) should be visually appealing.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3. Their employees should be well dressed and appear neat.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4. The physical environment of the hospital should be clean.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>5. When Norrlands Universitet Sjukhuset promises to do something by a certain time, they should do so.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>6. When patients have problems, Norrlands Universitet Sjukhuset should show a sincere interest in solving it.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>7. Norrlands Universitet Sjukhuset should perform</td>
<td>1 2 3 4 5 6 7</td>
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<td></td>
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</tr>
<tr>
<td>8.</td>
<td>They should provide their services at the time they promise to do so.</td>
</tr>
<tr>
<td>9.</td>
<td>They should keep their records accurately.</td>
</tr>
<tr>
<td>10.</td>
<td>Employees should make information easily obtainable by the patients.</td>
</tr>
<tr>
<td>11.</td>
<td>Employees should give prompt service to patients.</td>
</tr>
<tr>
<td>12.</td>
<td>Employees are always willing to help patients.</td>
</tr>
<tr>
<td>13.</td>
<td>Employees in a Norrlands Universitet Sjukhuset should never be too busy to respond to patients' requests.</td>
</tr>
<tr>
<td>14.</td>
<td>The behaviour of employees at Norrlands Universitet Sjukhuset should instil confidence in patients</td>
</tr>
<tr>
<td>15</td>
<td>Patients should be able to feel safe in their transactions with employees in the Norrlands Universitet Sjukhuset</td>
</tr>
<tr>
<td>16</td>
<td>Their employees should be polite.</td>
</tr>
<tr>
<td>17</td>
<td>Employees of Norrlands Universitet Sjukhuset should have the knowledge to answer patients’ questions.</td>
</tr>
<tr>
<td>18</td>
<td>Norrlands Universitet Sjukhuset should give patients individual attention.</td>
</tr>
<tr>
<td>19</td>
<td>Their operating hours should be convenient to all their patients.</td>
</tr>
<tr>
<td>20</td>
<td>Employees should give patients personal service.</td>
</tr>
<tr>
<td>21</td>
<td>They should have their patients' best interest at heart.</td>
</tr>
<tr>
<td>22</td>
<td>The employees should understand the specific needs of their patients.</td>
</tr>
</tbody>
</table>
**Perceptions:** The following statements deal with the perceptions of service experienced at Norrlands Universitet sjukhuset. Please, show the extent to which these statements reflect your perception of service at the Norrlands Universitet

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
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please cross (X) on your choice of answer

<table>
<thead>
<tr>
<th>Statement</th>
<th>scores</th>
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<tbody>
<tr>
<td>1. Norrlands Universitet Sjukhuset has up-to-date equipment.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2. Physical facilities (e.g shelves, pharmacy) are visually appealing.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3. Employees are well dressed and appear neat.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4. The physical environment of the Norrlands Universitet Sjukhuset is clean</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>5. When they promise to do something by a certain time, they do.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>6. When a patient have a problem, they show a sincere interest in solving it.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>7. Norrlands Universitet Sjukhuset performs the service right the first time.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>8. Norrlands Universitet Sjukhuset provides services at the time they promised to do so.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>9. Norrlands Universitet Sjukhuset keep their records accurately</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>10. Employees make information easily obtainable by patients</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>11. Employees give prompt service to patients.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>12. Employees are always willing to help patients</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>13. Employees are never too busy to respond to patients’ requests.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
14. The behaviour of employees instil confidence in patients

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</table>

15. Patients feel safe in their transactions with employees in Norrlands Universitet Sjukhuset.

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</table>

16. Employees are polite with patients.

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</table>

17. Employees Norrlands Universitets Sjukhuset have the knowledge to answer patients’ questions.

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<th>4</th>
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<th>6</th>
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</thead>
</table>

18. Norrlands Universitets Sjukhuset gives patients individual attention.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

19. Their operating hours are convenient to all their patients

<table>
<thead>
<tr>
<th>1</th>
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<th>7</th>
</tr>
</thead>
</table>

20. Employees give patients personal service.

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</tr>
</thead>
</table>

21. Norrlands Universitets Sjukhuset has their patients’ best interest at heart.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
</table>

22. The employees understand the specific need of their patients

<table>
<thead>
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</tr>
</thead>
</table>

**Demographic questions**

23) Gender: Male [ ] Female [ ]

24) Level of Education: Undergraduate [ ] Masters [ ] Others [ ]

25) How many times do you visit Norrlands Universitet Sjukhuset?

- Once a week [ ]
- Once a month [ ]
- Once in six months [ ]
- Once a year [ ]
- Others [ ]
Appendix 2: Graphical presentation of the demographic factors.

Figure 2: FR- number if time you visit the hospital

Those who did not indicate the frequency is represented by 0 on the graph but in the table it is represented by “others”.

- 5 -
Figure 3: ED- level of education

On the diagram those who did not indicate their level of education is represented by 0 but in the graph they are joined to the category “others”
Figure 4: GR-- gender
Appendix 3: Statistical Tables

Table 6: Descriptive Statistics

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAN1-- NUS have up to date equipment</td>
<td>201</td>
<td>-.5124</td>
</tr>
<tr>
<td>TAN2--physical facilities are virtually appealing</td>
<td>201</td>
<td>-.6517</td>
</tr>
<tr>
<td>TAN3--employees are well dressed and appear neat</td>
<td>201</td>
<td>-.2488</td>
</tr>
<tr>
<td>TAN4--physical environment is clean</td>
<td>201</td>
<td>-.5871</td>
</tr>
<tr>
<td>REL1--when NUS promise to do something by a certain time they do it</td>
<td>201</td>
<td>-.7612</td>
</tr>
<tr>
<td>REL2--when the patients has a problem NUS should show sincere interest in solving them</td>
<td>201</td>
<td>-.6866</td>
</tr>
<tr>
<td>REL3--NUS perform the service right the first time</td>
<td>201</td>
<td>-.8259</td>
</tr>
<tr>
<td>REL4--they provide their services at the time they promise to do so</td>
<td>201</td>
<td>-.7861</td>
</tr>
<tr>
<td>REL5--they keep their records accurately</td>
<td>201</td>
<td>-.9701</td>
</tr>
<tr>
<td>REP1--employees make information easily obtainable by patients</td>
<td>201</td>
<td>-1.2736</td>
</tr>
<tr>
<td>REP2--employees give prompt services to patients</td>
<td>201</td>
<td>-1.4279</td>
</tr>
<tr>
<td>REP3-- employees are always willing to help patients</td>
<td>201</td>
<td>-1.1891</td>
</tr>
<tr>
<td>REP4--employees are never too busy to respond to patients requests</td>
<td>201</td>
<td>-1.7015</td>
</tr>
<tr>
<td>ASR1-- the behavior of employees instill confidence in patients</td>
<td>201</td>
<td>-.9204</td>
</tr>
<tr>
<td>ASR2-- patients feel safe in their transactions with the employees</td>
<td>201</td>
<td>-.8358</td>
</tr>
<tr>
<td>ASR3-- employees are polite to patients</td>
<td>201</td>
<td>-.7612</td>
</tr>
<tr>
<td>ASR4-- employees of NUS have the knowledge to answer customers questions</td>
<td>201</td>
<td>-.8159</td>
</tr>
<tr>
<td>EMP1-- NUS give patients individual attention</td>
<td>201</td>
<td>-.7861</td>
</tr>
<tr>
<td>EMP2-- their operating hours are convenient to patients</td>
<td>201</td>
<td>-.6020</td>
</tr>
<tr>
<td>EMP3-- employees give patients personal service</td>
<td>201</td>
<td>-.5274</td>
</tr>
<tr>
<td>EMP4-- NUS have their patients interest at heart</td>
<td>201</td>
<td>-.7562</td>
</tr>
<tr>
<td>EMP5-- the employees understand the specific needs of their patients</td>
<td>201</td>
<td>-.7164</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>201</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Descriptive Statistics of the five dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 8 -
<table>
<thead>
<tr>
<th>Item</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMP1</td>
<td>-17.5572</td>
<td>439.085</td>
<td>.635</td>
<td>.926</td>
</tr>
<tr>
<td>EMP2</td>
<td>-17.7413</td>
<td>445.530</td>
<td>.462</td>
<td>.929</td>
</tr>
<tr>
<td>EMP3</td>
<td>-17.8159</td>
<td>438.118</td>
<td>.621</td>
<td>.926</td>
</tr>
<tr>
<td>EMP4</td>
<td>-17.5871</td>
<td>439.301</td>
<td>.616</td>
<td>.926</td>
</tr>
<tr>
<td>EMP5</td>
<td>-17.6269</td>
<td>441.573</td>
<td>.601</td>
<td>.927</td>
</tr>
<tr>
<td>TAN1</td>
<td>-17.8308</td>
<td>444.019</td>
<td>.607</td>
<td>.927</td>
</tr>
<tr>
<td>TAN2</td>
<td>-17.6915</td>
<td>448.292</td>
<td>.498</td>
<td>.928</td>
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<tr>
<td>TAN3</td>
<td>-18.0945</td>
<td>449.884</td>
<td>.510</td>
<td>.928</td>
</tr>
<tr>
<td>TAN4</td>
<td>-17.7562</td>
<td>454.223</td>
<td>.483</td>
<td>.929</td>
</tr>
<tr>
<td>REL1</td>
<td>-17.5821</td>
<td>440.742</td>
<td>.604</td>
<td>.927</td>
</tr>
<tr>
<td>REL2</td>
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<td>.668</td>
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<td>438.818</td>
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Table 9: Rotated Component Matrix\textsuperscript{a}

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<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAN1-- NUS have up to date equipment</td>
<td>.733</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TAN2-- physical facilities are virtually appealing</td>
<td></td>
<td>.715</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAN3-- employees are well dressed and appear neat</td>
<td></td>
<td></td>
<td>.638</td>
<td></td>
</tr>
<tr>
<td>TAN4-- physical environment is clean</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>REL1-- when NUS promise to do something by a certain time they do it</td>
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<td></td>
<td>.513</td>
<td></td>
</tr>
<tr>
<td>REL2-- when the patients has a problem NUS should show sincere interest in solving them</td>
<td></td>
<td>.537</td>
<td></td>
<td>.573</td>
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<tr>
<td>REL3-- NUS perform the service right the first time</td>
<td></td>
<td>.635</td>
<td></td>
<td></td>
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<tr>
<td>REL4-- they provide their services at the time they promise to do so</td>
<td></td>
<td>.581</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL5-- they keep their records accurately</td>
<td></td>
<td></td>
<td>.507</td>
<td>.573</td>
</tr>
<tr>
<td>REP1-- employees make information easily obtainable by patients</td>
<td>.453</td>
<td></td>
<td>.635</td>
<td></td>
</tr>
<tr>
<td>REP2-- employees give prompt services to patients</td>
<td></td>
<td></td>
<td>.771</td>
<td></td>
</tr>
<tr>
<td>REP3-- employees are always willing to help patients</td>
<td></td>
<td></td>
<td></td>
<td>.678</td>
</tr>
<tr>
<td>REP4-- employees are never too busy to respond to patients requests</td>
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<td>.698</td>
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<tr>
<td>ASR1-- the behavior of employees instill confidence in patients</td>
<td>.545</td>
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<td></td>
<td></td>
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<tr>
<td>ASR2-- patients feel safe in their transactions with the employees</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ASR3-- employees are polite to patients</td>
<td></td>
<td>.544</td>
<td></td>
<td>.503</td>
</tr>
<tr>
<td>ASR4-- employees of NUS have the knowledge to answer customers questions</td>
<td></td>
<td></td>
<td>.686</td>
<td></td>
</tr>
<tr>
<td>EMP1-- NUS give patients individual attention</td>
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<td>.746</td>
<td></td>
</tr>
<tr>
<td>EMP2-- their operating hours are convenient to patients</td>
<td></td>
<td></td>
<td>.493</td>
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</tbody>
</table>
EMP3-- employees give patients personal service.  
EMP4-- NUS have their patients interest at heart.  
EMP5-- the employees understand the specific needs of their patients.  

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
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</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.  
Rotation converged in 19 iterations.